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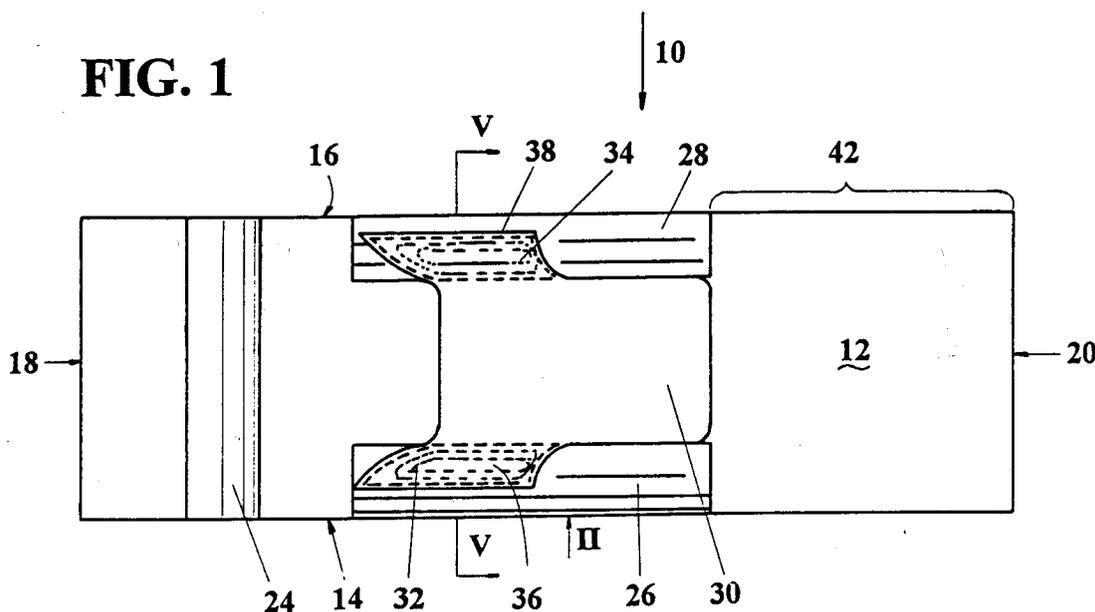
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54 Body support structure.

57 The invention is directed to a body support structure for supporting a person when lying thereon or abutting against it. It includes a panel (12) of resilient, compressible material, the panel (12) having longitudinal sides (14, 16), a top end (18) and a bottom end (20). It further includes a wedge shaped head end part (22) extending substantially from the top end (18) of the panel (12) towards the bottom

end (20) of the panel; a neck rest part (24) extending substantially transversely across the panel (12) near the top end (18) of the panel; two elongated waist side members (26, 28) extending along the opposite longitudinal sides (14, 16) of the panel; and a back rest part (30) being made of resilient material and extending between the waist side members (26, 28).

FIG. 1



EP 0 674 864 A1

FIELD OF INVENTION

The present invention relates to a body support structure.

More particularly, the invention relates to a body support structure which includes a panel of resilient, compressible material, the panel having longitudinal sides, a top end and a bottom end.

BACKGROUND TO INVENTION

The conventional type of mattress or back rest does not provide sufficient comfort to persons suffering from lumbago pains and other back problems when lying thereon or when backresting against it.

It is an object of the invention to suggest an improved body support structure, preferably in the form of a mattress or back abutting structure or member, which will assist in providing comfort when lying thereon or when backresting against it.

SUMMARY OF INVENTION

The object in accordance with the invention is obtained by means of a body support structure as defined in the characterizing part of claim 1.

Further advantageous embodiments of the invention are set out in the subsidiary claims.

BRIEF DESCRIPTION OF DRAWINGS

The invention will now be described by way of example with reference to the accompanying schematic drawings.

In the drawings there is shown in:

FIGURE 1 a plan view of a body support structure in the form of a mattress in accordance with the invention;

FIGURE 2 a side view seen along arrow II in Figure 1;

FIGURE 3 an end view seen from the head end of the mattress along arrow III in Figure 2;

FIGURE 4 an end view seen from the foot end of the mattress along arrow IV in Figure 2;

FIGURE 5 a sectional end view seen along arrows V - V in Figure 1; and

FIGURE 6 on an enlarged scale, a sectional view of part of the upper resilient layer seen in the direction of arrows VI-VI in Figure 2.

DETAILED DESCRIPTION OF DRAWINGS

Referring to the drawings, the body support structure, generally indicated by reference numeral 10, is in the form of a mattress.

It includes a rectangular base panel 12 made of resilient material and having longitudinal sides

14 and 16, a top end 18 and a bottom end 20.

Below the upper end of the panel 12 extending from the top end 18 a wedged shaped head part 22 is provided. As shown it narrows from the top end 18 towards the bottom end 20.

A neck support ridge 24 is provided on top of the panel 12 near the head end 18 to extend transversely across the panel 12. It is curved along its upper side as can be seen in Figure 2.

Two waist side members or ridges 26, 28 are provided respectively along the opposite longitudinal sides 14, 16. They are curved seen in end view to be of substantially semi-circular shape as can be seen in Figures 3 and 4.

A back support layer 30 is provided extending between the ridges 26 and 28. It has two side flaps 32, 34 between which and the ridges 26, 28 side support parts 36, 38 are provided (see also Figure 5). These side support parts 36, 38 preferably are constructed of three superimposed layers of different resiliency and density foam material, the softer layer being on top.

The total upper surface of the mattress 10 is covered by means of a resilient layer 40. The layer is indicated in dotted lines in Figure 2 at the bottom part of the mattress but for clarity sake is left out in the remainder of the drawings. This layer 40 is made of resilient low density material, which is less soft than the material of the other layers.

The undulating surface of the upper layer 40 as shown enlarged in Figure 6 assists in providing ventilation paths when a person lies thereon and also a proper pressure distribution.

The structure of the mattress 10 is specifically designed to provide a comfortable support to the body of a person, in particular in the lumbar regions of the body and thereby to assist in relieving lumbago pains, that is muscular pains in the lumbar region.

Although the structure is shown to be in the form of a mattress 10 it also can be shorter so serve as back support placed against the back rest part of a chair or of a motor car seat. In such a case the length of the body between the top end 20 and the bottom end 18 will be considerably reduced and will not include the part indicated by reference numeral 42 in Figure 1.

The different layers may be heat sealed or fused together, e.g. along the borders.

Claims

1. A body support structure for supporting a person when lying thereon or abutting against it, including a panel (12) of resilient, compressible material, the panel (12) having longitudinal sides (14, 16), a top end (18) and a bottom end (20);

characterized thereby that it includes

- a) a wedge shaped head end part (22) extending substantially from the top end (18) of the panel (12) towards the bottom end (20) of the panel, the head end part narrowing in thickness from the top end (18) of the panel towards the bottom end (20) of the panel; 5
 - b) a neck rest part (24) extending substantially transversely across the panel (12) near the top end (18) of the panel, the neck rest part (24) being curved along its upper surface seen in side view; 10
 - c) two elongated waist side members (26, 28) extending along the opposite longitudinal sides (14, 16) of the panel, the waist side members (26, 28) being curved along their upper surface seen in end view; and 15
 - d) a back rest part (30) being made of resilient material and extending between the waist side members (26, 28). 20
2. A structure as claimed in claim 1, characterized thereby that it is in the form of a mattress (10). 25
 3. A structure as claimed in claim 1, characterized thereby that it is in the form of a back support for a chair. 30
 4. A structure as claimed in claim 1, characterized thereby that it is in the form of a back support for a vehicle seat back rest.
 5. A structure as claimed in any one of the preceding claims, in which side support parts (36, 38) are provided on the waist side members (26, 28), these side support parts (36, 38) being constituted by various superimposed layers of foam material having different resiliencies. 35 40
 6. A structure as claimed in any one of the preceding claims, characterized thereby that the panel (12), the back rest part (22), the side members (26, 28) and the back rest part (30) are covered by means of a surface layer (40) of resilient soft material. 45
 7. A structure as claimed in claim 6, characterized thereby that the surface layer (40) is constituted by undulations in the form of alternating cups and caps. 50

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FIG. 1

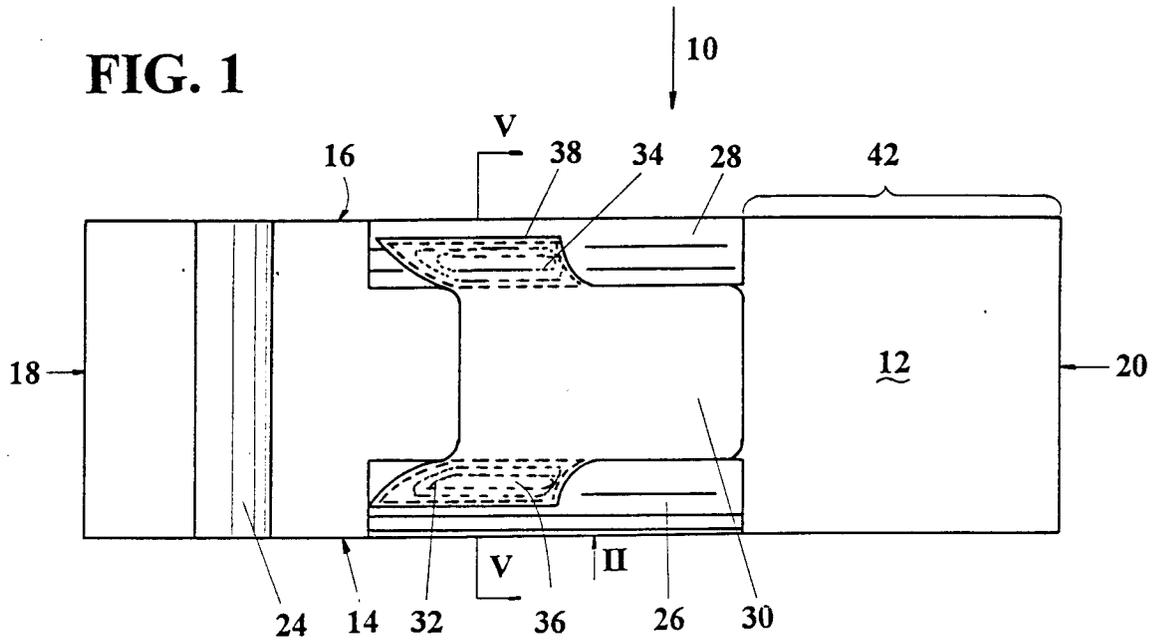


FIG. 2

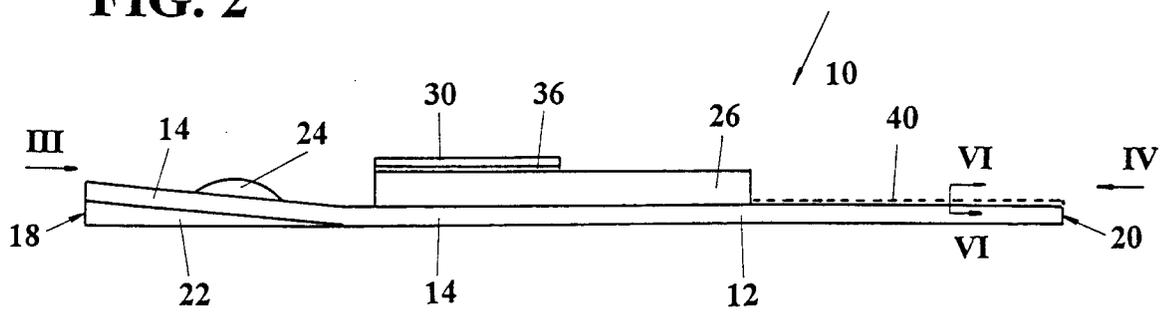


FIG. 3

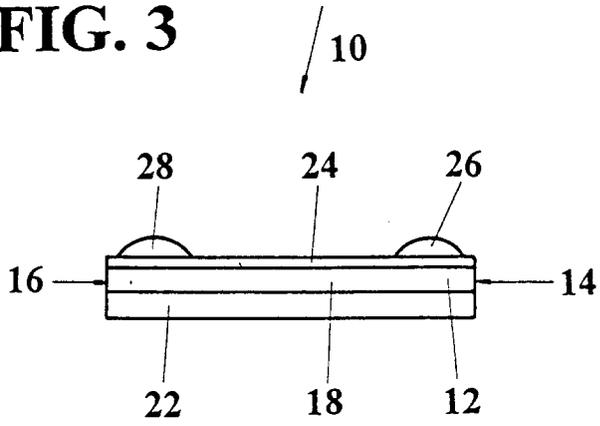


FIG. 4

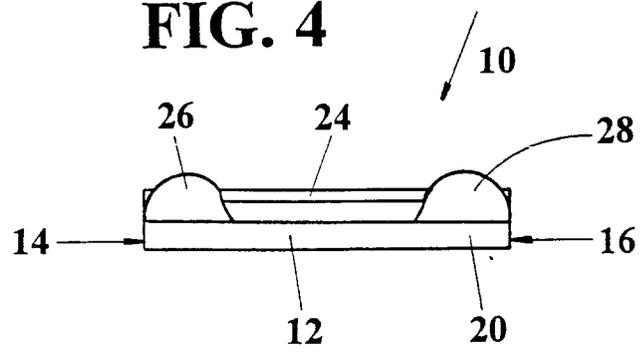


FIG. 5

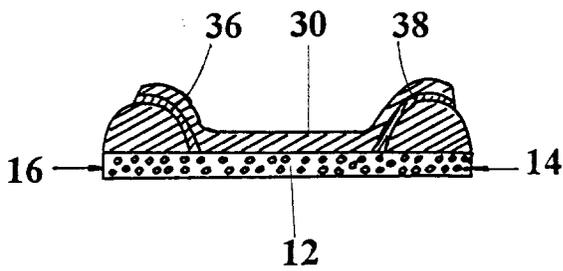
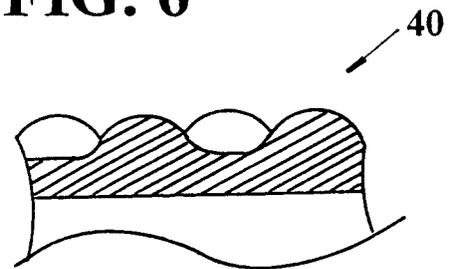


FIG. 6





DOCUMENTS CONSIDERED TO BE RELEVANT			EP 95101738.3
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 6)
X	<u>US - A - 5 224 226</u> (GROENEWALD) * Totality * --	1-7	A 47 C 27/14
A	<u>US - A - 4 383 342</u> (FORSTER) * Fig. 4,6 * --	1-7	
A	<u>GB - A - 2 194 882</u> (TACHIS CO.) * Totality * --	1-7	
A	<u>US - A - 5 317 768</u> (KLANCNIK) * Totality * --	1,2	
A	<u>US - A - 5 308 141</u> (ROBINSON et al.) * Fig. 1,2 * --	1	
A	<u>US - A - 5 327 597</u> (ROTHBARD) * Fig.; claims * ----	1,2,7	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 6) A 47 C
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
VIENNA	18-05-1995	SEIRAFI	
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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