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

(11) EP 1 369 065 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
10.12.2003 Bulletin 2003/50

(51) Int Cl.[7]: **A47G 9/10**

(21) Application number: **03101628.0**

(22) Date of filing: **04.06.2003**

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

(30) Priority: **07.06.2002 GB 2131076**

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(54) Inflatable head support

(57) An inflatable head support (10) comprising: a pair of spaced apart air cushions (11,12); an interconnecting member (13) between the cushions (11,12), wherein each cushion (11,12) is formed from at least one cushioning part rolled or folded over itself and fixed, in use, in place.

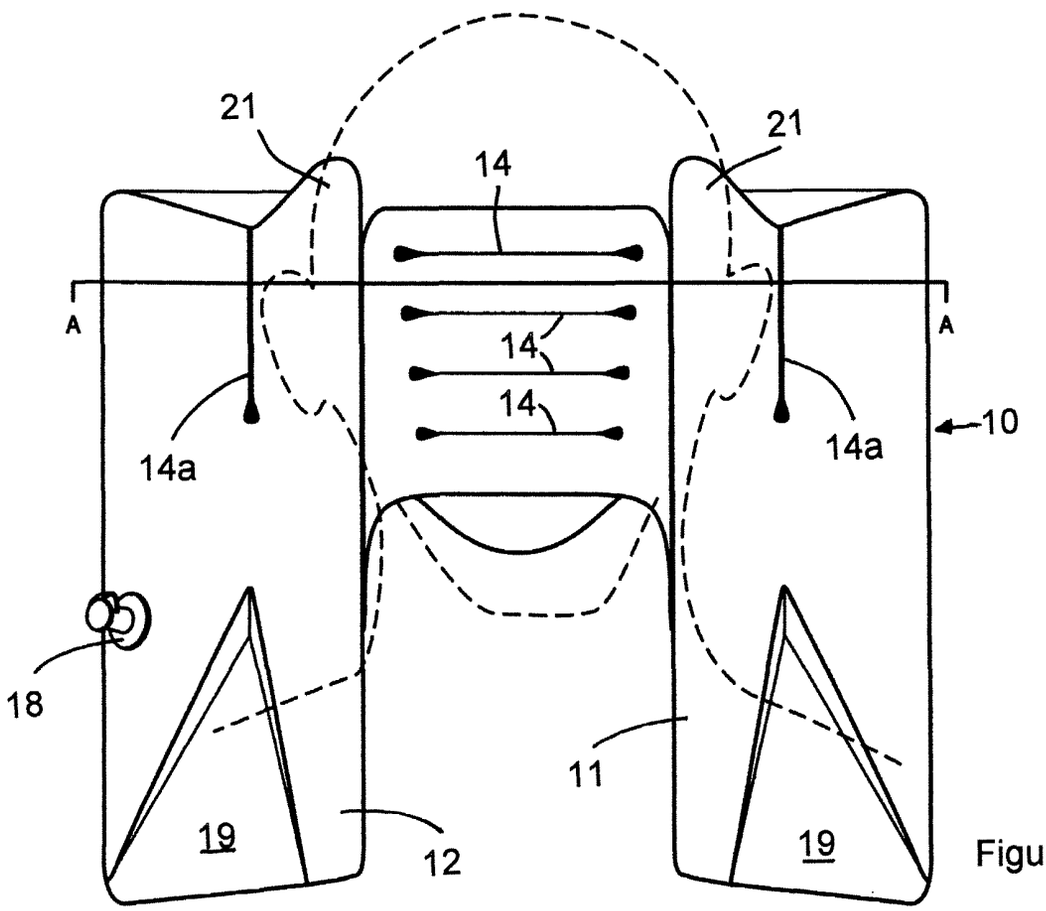

Figure 1

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Description

[0001] This invention relates to a head support, typically of the type which can be utilised by a person when travelling, for example on a train or in an aircraft, in order to support the head when the person is, for example, sitting in substantially upright, position.

[0002] It is well known for travellers to use some form of pillow to support their head and neck when travelling, as without such support, a person's neck can become tired and sore as the muscles on one side are stretched beyond the point to which they are normally used.

[0003] Whilst these pillows can be of the standard substantially oblong form, it is well known to provide a horseshoe shaped head support which surrounds a user's neck and provides support, by means of cushions, on either side of the user's neck and behind the head. Unfortunately, this form of head support forces a user's head forwards, due to the behind the head support, and this can lead to stress and strain on the neck, and also places the user's head in an unnatural position when attempting to rest or sleep.

[0004] It is also known to provide a similar shaped head support which has two curved elongate cushions, one on either side of a user's neck, the cushions being joined by an interconnecting member which is substantially thinner than the two cushions, thereby allowing a user's head to retain a more natural position.

[0005] Such head supports do not necessarily provide sufficient sideways support for a user's head, as, whilst the cushions are typically elongate in construction, they have a substantially circular or oval cross section, such that the cushion appears to support the user's head and neck, but in practice, as the surface of the cushion curves away from the user, the head and neck tend to tilt sideways further than is comfortable and this also leads to stress and strain on a user's neck.

[0006] Given that this form of head support is more often inflatable in order to minimise the space taken when not in use, it is necessary to minimise the volume to be inflated so that it can be easily and quickly inflated by a user without undue effort.

[0007] Thus, whilst the cushion described above provides some lateral support to a user's head, it is not possible to manufacture the cushions of a sufficient size to provide an adequate support, without providing a very large pillow which is difficult and time consuming to inflate. If the pillow is not inflatable, the additional size merely increases still further the size of the pillow which has to be transported by a user and increases still further the inconvenience of transporting the pillow.

[0008] Accordingly, it is the aim of the present invention to provide a head support which overcomes one or more of the problems described above.

[0009] According to the present invention, there is provided an inflatable head support comprising:

a pair of spaced apart air cushions; and

an interconnecting member between the cushions,

wherein each cushion is formed from at least one cushioning part rolled or folded over itself and fixed, in use, in place.

[0010] Thus, the present invention provides a head support in which the cushions provide a support to a user's head and neck which is more upright and substantial than the standard circular or oval cross sectional cushions.

[0011] Preferably the interconnecting member is thinner than each of the cushions. Preferably the head support is substantially U-shaped.

[0012] Preferably, the edge of one chamber is fixed to another chamber by means of heat sealing. Alternatively velcro® or other mechanical fastenings such as poppers or zips may be utilised to enable the head support to be flattened out for carrying or storage.

[0013] Preferably, at least one of the cushions or the interconnecting member are provided with an air inlet. It is preferable that a single air inlet is provided and that each of the cushions and the interconnecting member define internal volumes that are in communication with each other and the air inlet.

[0014] Each cushion preferably consists of three interconnected chambers such that, when inflated, the chambers form a triangular shape.

[0015] Alternatively, the cushion may comprise two interconnected chambers, such that, when inflated, one chamber is substantially in the same plane as the interconnecting member and the other chamber forms an inverted U-shape transverse to the plane.

[0016] The head support is preferably formed from a plastic material such as PVC. The underside of the head support and the external surface of the individual cushions may be formed from a different material to that of the other portions of the head support, for example a flocked plastic, and may be a different colour. The advantages of using a flocked plastic on the outer surfaces of the cushions are to prevent the head support slipping and to provide an increased level of comfort to the user. Additionally, by using a different material for the other portions of the head support, the cost can be reduced as cheaper plastics could be used.

[0017] Preferably, at least one of the cushions, and more preferably both cushions, extend over and beyond the interconnecting member in an upward and/or rearward direction, at least on the side of the cushion on which a user's head intended to rest so that support is given to the side of a user's head above the ears.

[0018] Preferably, in order to reduce the amount of material used, to reduce the volume to be inflated and to save bulk in the head support when in use, part of the cushions are cut away and this cut away portion preferably extends from the front base of the cushions forwardly towards the top of the cushions.

[0019] One example of the present invention will now be described with reference to the accompanying draw-

ings, in which:

Figure 1 is a schematic plan view of one example of the present invention;
Figure 2 is a cross section through A-A in Figure 1;
Figure 3 is a schematic side view of the head support of Figure 1;
Figure 4 is a schematic representation of how the air flow passes through the chambers in the head support of Figure 1;
Figures 5 and 6 show an alternative example of the head support shown in Figures 1 and 3;
Figure 7 shows a schematic open plan view of another example of the present invention;
Figure 8 shows a schematic front view of the head support of Figure 7; and
Figure 9 shows a schematic side view of the head support of Figure 7.

[0020] As can be seen from Figures 1 and 2, a first example of a head support 10 comprises two elongate cushions 11, 12 interconnected by a relatively thin member 13, on which a series of heat seals 14 are formed to prevent unwanted bulging of the interconnecting member 13. The heat seals 14 do not extend all the way across the interconnecting member 13 and thus do not interfere with the flow of air between the cushions. The outline of a user's head is shown in dotted line to indicate the normal positioning of the head support when in use. The elongate cushions 11, 12 typically rest on a user's shoulders, and the interconnecting member 13 passes behind the user's head and rests on the back of, for example, a chair, as do the upper rear portions of cushions 11, 12.

[0021] Each elongate cushion 11, 12 is formed from three interconnected chambers 15, 16, 17 which are rolled or folded over each other such that chamber 15 is connected to chamber 17 and to interconnecting member 13, thereby forming the substantially upright cushion. The support provided by the cushions is enhanced further when a user's head presses against interconnecting member 13, thereby forcing cushions 11, 12 to be even more upright. The cushions are typically formed by heat sealing the edge of chamber 15 to the edge of chamber 17, but, as shown in the second example, chamber 15 could be fixed to chamber 17 by mechanical fastenings, such as velcro®, zips or poppers. Heat seals 14a help define the shape of the cushions 11, 12.

[0022] The head support 10 is provided with an air inlet valve 18, which, in this example, is provided in one of the cushions, but may alternatively be provided in the interconnecting member 13, for introducing and removing air from the head support. In this example, the head support is formed from a plastic material which is heat sealed to provide the required shape and configuration.

[0023] As can be seen from Figure 4, air introduced through valve 18 can travel from chamber 16 in the left hand (in the Figures) cushion 12, into chambers 15 and 17 and from chamber 17, it can pass through the interconnecting member 13 into the right hand (in the Figures) cushion 11. Alternative flow paths through the chambers of the head support 10 could be utilised. In particular, if the valve 18 is provided in the interconnecting member 13, air can be directed to flow into both cushions 11 and 12 simultaneously.

[0024] Each cushion 11, 12 is provided with a cut away portion 19 at the front which starts at a lower portion 20 of the front of the support and rises rearwardly and upwardly, as shown in Figure 3. Additionally, each cushion is provided with a rearwardly projecting portion 21 which extends beyond the edge of the interconnecting member 13 and which provides important additional support to a user's head above the ears.

[0025] Figures 5 and 6 illustrate how the outer surface of the head support 10 can be a different material to that utilised for the front portion of the interconnecting member and the inner portions of the cushions 11, 12. In this example, the different material 22 on the outer side of the cushions 11, 12 is a flocked plastic which increases the comfort for a user and ensures that the underside of the head support on which the flocked plastic is also provided does not slip when in use.

[0026] An alternative example of the invention is shown in Figure 7. In this example, the head support, when constructed, takes a substantially similar form to that shown in Figures 1 and 2, but, in this example, is formed by folding three chambers 23, 24, 25, over each other and fixing chamber 23 to chamber 25 by means of, in this example, velcro® 26. Cut away portions 27 and rearwardly extending portions 28 are formed when the cushions are fixed in place. The mechanical fixings could, of course, be something other than velcro®, such as zips, poppers or buttons. An air inlet 30 is provided into one of the chambers 24 and various air passageways 31 allow air to pass into all chambers on the head support. One advantage of this second example is that, as can be seen from Figure 8 and Figure 9, the opened device is flat and therefore easy to carry and to store.

[0027] In the Figures, the elongate cushions 11, 12 are shown substantially parallel with each other. However, it should be appreciated that the cushions could diverge or converge. Furthermore, although not shown, the chambers 15, 23 could be provided with a recessed portion, formed by heat sealing in the region of the interconnecting member 13 into which a user's ears can be placed so as to reduce or prevent undue compression of the ears.

Claims

1. An inflatable head support comprising:

a pair of spaced apart air cushions;
an interconnecting member between the cush-

ions,

wherein each cushion is formed from at least one cushioning part rolled or folded over itself and fixed, in use, in place.

2. A head support according to claim 1, wherein at least one of the pair of cushions and the interconnecting member is provided with an air inlet to enable the support to be inflated.

3. A head support according to claim 2, wherein each of the cushions and the interconnecting member define internal volumes that are in communication with each other and with the air inlet.

4. A head support according to any one of the preceding claims, wherein each cushion comprises three interconnected chambers which, when inflated, form a cushion which is substantially triangular in cross section.

5. A head support according to any of claims 1 to 3, wherein each cushion comprises two interconnected chambers such that, when inflated, one lies substantially in the same plane as the interconnecting member and the other chamber forms an inverted U-shape transverse to the plane.

6. A head support according to any one of the preceding claims, wherein the cushions are formed by fixing one portion of a chamber to another portion of a chamber.

7. A head support according to any one of the preceding claims, wherein the cushions are formed using heat sealing.

8. A head support according to claim 7, wherein the cushions are formed by heat sealing one edge of a chamber to another edge of a chamber.

9. A head support according to any one of the preceding claims, wherein the fixing is carried out by one of velcro®, poppers or a zip.

10. A head support according to any one of the preceding claims, wherein the underneath of the head support and the external surface of each cushion is made of a different material to the remainder of the head support.

11. A head support according to claim 10, wherein the different material is a flocked plastic.

12. A head support according to any one of preceding claims, wherein at least one of the cushions is provided with a cut away portion such that the cushion is cut away from a lower rearward portion towards an upper forward portion.

13. A head support according to any one of the preceding claims, wherein the support is substantially U-shaped.

14. A head support according to any one of the preceding claims, wherein at least one of the cushions extends at least partially over and beyond the interconnecting member in a rearwardly direction.

15. A head support according to any one of the preceding claims, shaped so as to rest, in use, on a user's shoulders.

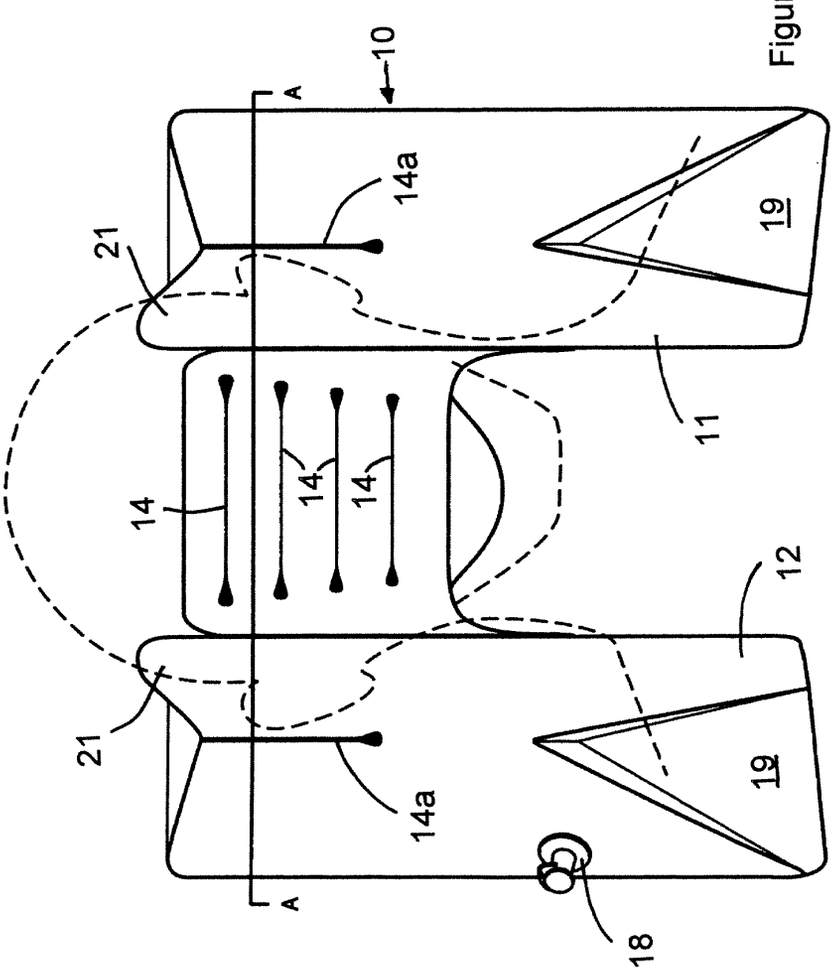

Figure 1

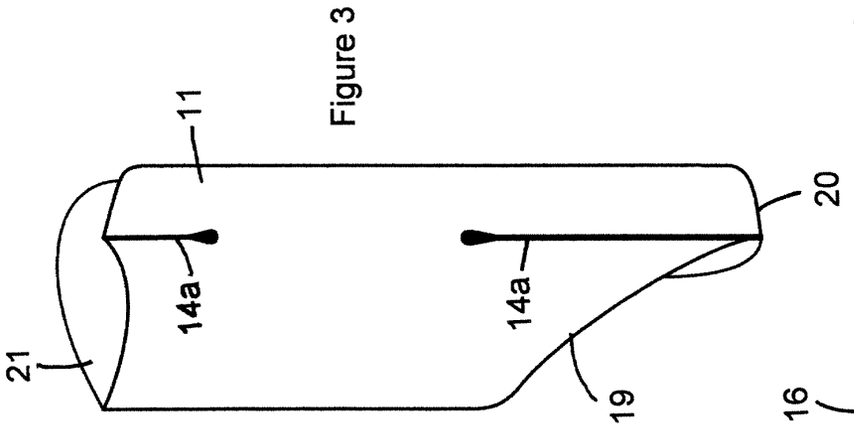

Figure 3

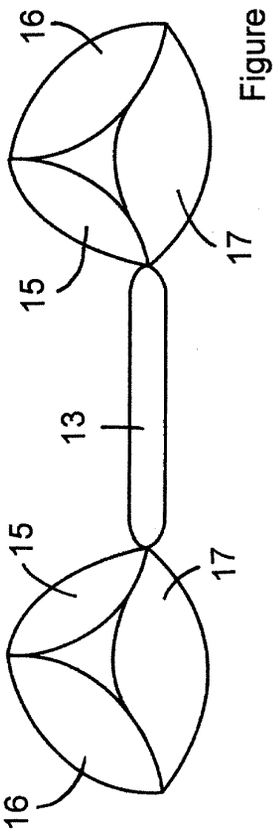

Figure 2

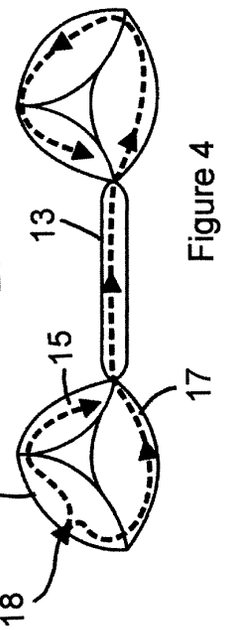

Figure 4

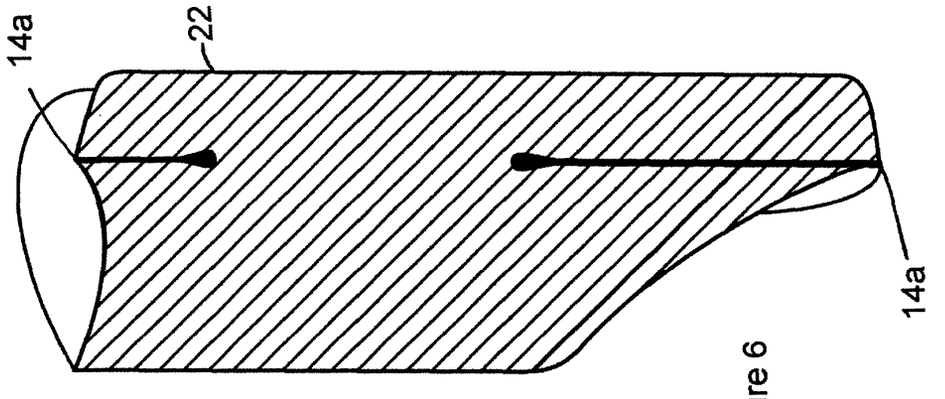

Figure 6

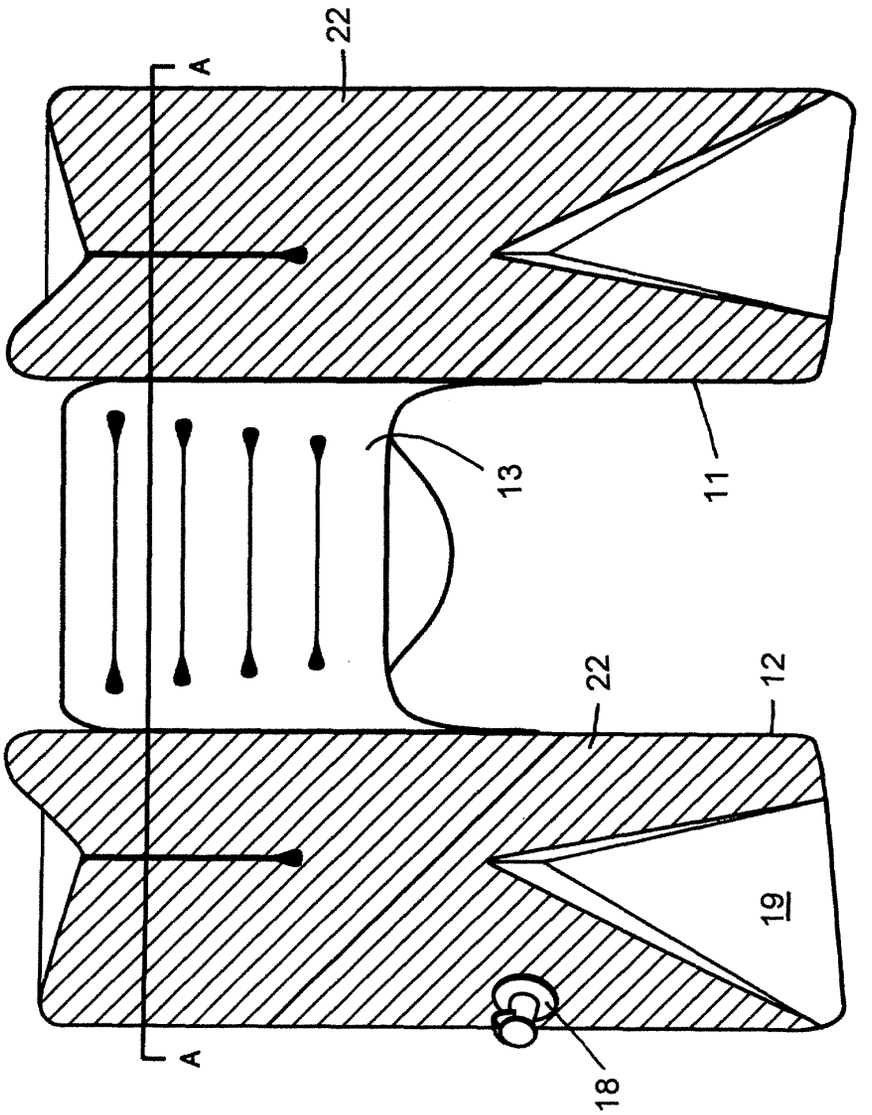

Figure 5

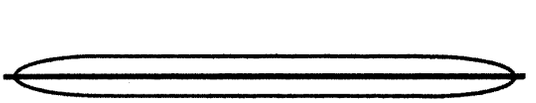

Figure 9

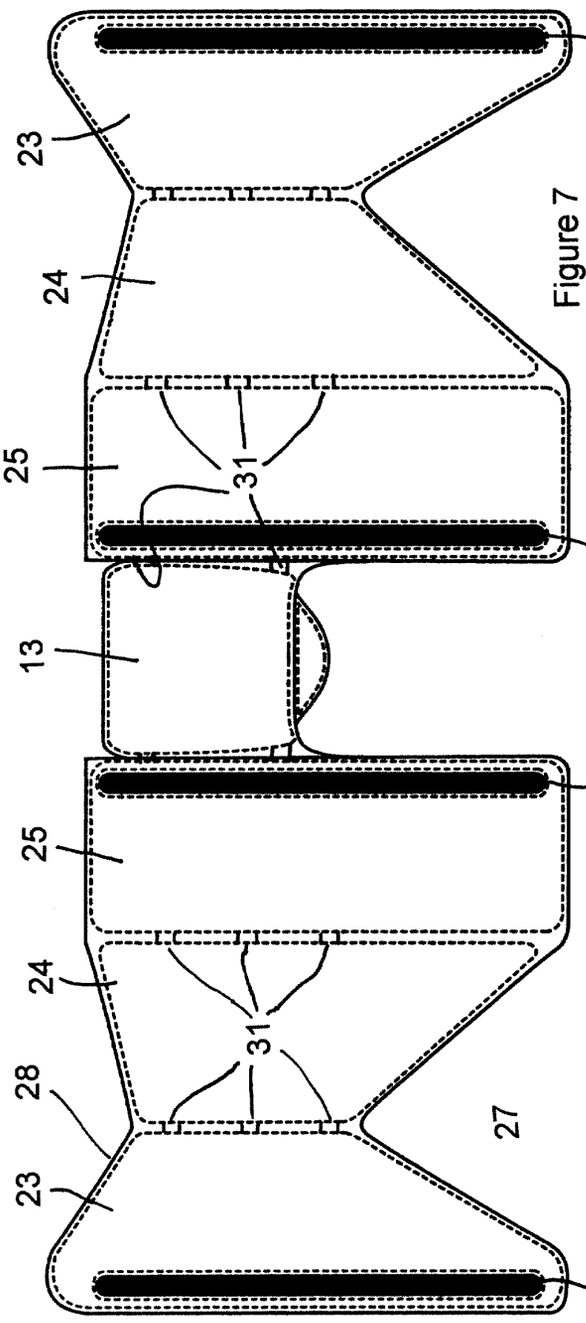

Figure 7

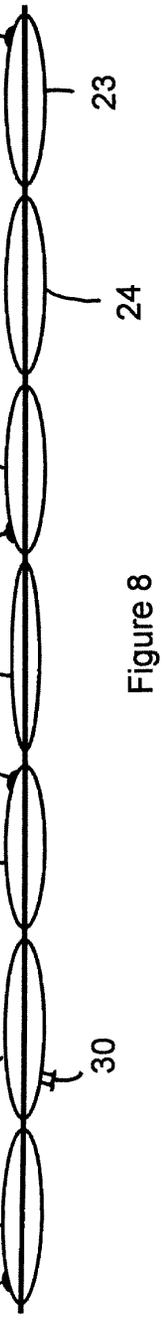

Figure 8

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 10 1628

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	3 September 2003	Klintebäck, D

CATEGORY OF CITED DOCUMENTS

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