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(54) **Title:** BLANKET FOR MOVING BEDRIDDEN PERSON

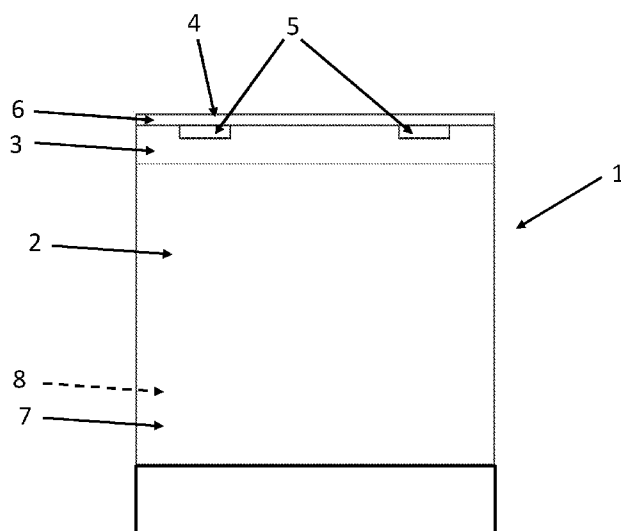


Fig. 1

(57) **Abstract:** The invention relates to a blanket (1) for moving or for shifting the position of a bedridden person. The blanket (1) comprises a main portion (2) and at least one side portion (3, 9). The at least one side portion (3, 9) comprises a side edge (4). The at least one side portion (3, 9) comprises at least two openings (5) for gripping the blanket (1). At least a part of the side portion (3, 9) comprises a reinforcement means (6) for improved grip and force distribution over the main portion (2).



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Blanket for moving bedridden person

Technical Field

- 5 The invention relates to a blanket for moving or for shifting the position of a bedridden person. The blanket comprises a main portion and at least one side portion. The at least one side portion comprises a side edge. The at least one side portion comprises at least two openings for gripping the blanket.

10 Background Art

- Bed pads or blankets for adjusting the position of a bedridden person or for moving a bedridden person between beds or medical tables are known in the art. As an alternative, lifts can be used to perform these manoeuvres. However, lifts are expensive and bulky and may only be available in hospitals or bigger nursing homes. For care takers who are still at
15 home or who are staying at a smaller nursing home only bed pads may be present.

- Usually in these locations a caregiver adjusting the position of or moving a bedridden person is required to lift the bed pad with the person lying on the bed pad. This requires that the bed pad is equipped with means for a caregiver to be able to properly grasp the bed pad.
20 Examples of such means can be found in US 2007/0056096 A1. Here a bed pad is equipped with a number of openings in the bed pad or straps attached to the bed pad for grasping the bed pad. However if the person lying on the bed pad is heavy or positioned in a way that is not optimal a lot of strain is exerted on the openings and/or straps which may lead to that the bed pad is damaged and has to be replaced prematurely.

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There is thus a need for an improved bed pad or blanket.

Disclosure of Invention

- The object of the present invention is to provide an inventive blanket for moving or for shifting
30 the position of a bedridden person where the previously mentioned problems are avoided. This object is achieved by the features of the characterising portion of claim 1, wherein at least a part of the side portion comprises a reinforcement means for improved grip and force distribution over the main portion.

- 35 The invention relates to a blanket for moving or for shifting the position of a bedridden person. The blanket comprises a main portion and at least one side portion. The at least one side portion comprises a side edge. The at least one side portion comprises at least two

openings for gripping the blanket. At least a part of the side portion comprises a reinforcement means for improved grip and force distribution over the main portion.

A blanket according to the invention is mainly intended for homecare usage, either by a relative or by a caregiver that attends the bedridden person. The reinforcement means of the blanket ensures that the force exerted on the blanket during use is spread more evenly along the same length of the blanket as the length of the reinforcement means. In a blanket without reinforcement the force is concentrated at or near the openings concentrating the stress on the blanket at only a small area. A blanket according to the invention allows for that the blanket may be used for heavier loads without damaging the blanket and/or that the blanket may be used more times before it is worn out. The reinforcement means further distributes the stress over the sides of the blanket that may otherwise risk breaking or ripping due to uneven loads.

In order to avoid bed sores a bedridden person needs to be rotated regularly. The bedridden person may also have to be moved for other purposes such as changing clothes. In a retirement home or hospital this may be done by using a lift. However in the home or in smaller facility a lift may not be available. The blanket according to the invention is intended to be placed on a bed with a bedridden person placed on top of the blanket. When the bedridden person needs to be moved or rotated a caregiver grasps the opening of the blanket and pulls the blanket in a way that rotates the bedridden person.

The reinforcement means may be positioned along at least a part of the side edge of the at least one side portion on the opposite side of where the openings are located with reference to the main portion. The reinforcement means is located along the side edge of the blanket, i.e. on the outermost edge of the blanket. The openings are located inside the reinforcement means on the side portion. The main portion of the blanket is in turn located inside the openings. This means that the reinforcement means are positioned on the opposite side of where the openings are located with reference to the main portion.

By having the reinforcement means located outside of the openings it can be ensured that the force is spread along the outermost edge of the blanket. It would of course be possible to have a reinforcement means located inside the openings, i.e. between the openings and the main portion of the blanket.

The blanket may comprise a first liquid absorbing layer. The blanket may be used as leakage protection in case an absorbent product such as an incontinence product on the care taker

leaks, for instance during the movement of the care taker. For this purpose the blanket may comprise a liquid absorbing layer. The material of the liquid absorbing layer may be any suitable material known in the art.

- 5 The blanket may further comprise a second liquid impermeable layer. In order to ensure that fluid does not pass through the blanket the blanket may comprise a liquid impermeable layer placed beneath the liquid absorbing layer. The liquid impermeable layer may be made of plastic or another suitable liquid impermeable material. The physical properties of the liquid impermeable layer may be adapted for different purposes. For instance the material of the
- 10 liquid impermeable layer may be chosen such that the friction between the liquid impermeable layer and a bed sheet is reduced in order to simplify the moving of the bedridden person.

- The whole side edge of the at least one side portion may comprise said reinforcement
- 15 means. The reinforcement means may be placed along the entire length of the side portion of the blanket. This means that forces arising from the use of the blanket are distributed over the entire length of the blanket thereby reducing the stress on the blanket even further.

- The at least one side portion may be detachably attachable to the main portion by means of
- 20 a fastening system. A side portion comprising the reinforcement means and the openings may be made as a separate part from the main portion of the blanket. This allows for that the side portion can be reused separately from the main portion. Should the main portion of the blanket be soiled and needs to be discarded the side portion can be used together with a different main portion.

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- The fastening system can be for instance a hook-and-loop fastening system where the hooks and loops may be placed on either the side portion or the main portion. The part of the main portion where the hooks or loops are placed can be made to protrude from the main portion or the side portion. The fastening system can also comprise buttons where the button part of
- 30 the side portion is facing upwards and the button part of the main portion is facing downwards. The opposite is of course also possible. The fastening system preferably extends along the length of the entire side portion and is adapted to handle the shear stress that arises during movement of a bedridden person.

- 35 At least one side portion may comprise the main portion folded over itself at least one time. Instead of having the side portion made separately from the main portion the side portion may be made by folding an edge of the main portion over itself. The reinforcement means is

in this case placed in the fold which makes up the side edge of the blanket. The size of the side portion is determined on how much of the main portion is folded over itself. The main portion can be folded more than once over itself back towards the first fold in order to increase the number of layers in the side portion, thereby increasing the durability of the side portion.

The at least one side portion may comprise four openings for gripping the blanket. If the bedridden person should be heavy or if the bedridden person is in a position where it is less suitable to use a blanket with only two openings a blanket with four openings is possible. The four openings may be distributed evenly along the length of the side portion or if the blanket is large be positioned such that the distance between the openings is suitable for grasping. This allows for two caregivers to move a heavy care taker with each caregiver being able to grasp two openings for a more ergonomic lift. If the person has moved into an adverse position the caregiver may select the two openings which allows for the best lift such that the care taker is not at risk of sliding of the blanket due to an improper position.

The reinforcement means may comprise a polymer. In order to have a reinforcement means that is strong and light the reinforcement means is preferably made of a strip of wood, paper or plastic material such as poly propylene.

The blanket may be fitted with a detachable handle being mountable into each opening to improve the gripping of the blanket. Each handle may be made by means of extrusion. Each handle may comprise a profiled notch. In order to improve the grip of the blanket and to reduce the load on each hand, the blanket may be used together with detachable handles. The handles are of a size such that they fit the openings of the blanket. The handles are preferably made in one piece by means of an extrusion technique and preferably comprise a polymer. The handles comprise a profiled notch into which the side edge of the blanket is intended to be inserted, i.e. the side portion in direct connection with each opening. The notch of the handle is intended to point towards the caregiver after the handle is inserted in the opening, i.e. the notch points towards the side edge when inserted into the opening. The notch may be arranged such that the handle encloses part of or the whole of the reinforcement means when finally fitted. The profile may be a straight profile or a tapered profile such that the handle pinches the material of the blanket in order to secure the handle to the blanket. The handles are reusable and can easily be washed if necessary.

At least one side portion may be straight or curved. In order to change the distribution of the load on the blanket the side portions may take different shapes. Besides having a straight

side portion the side portion may be curved. The curvature of the side portion may face towards the centre of the main portion or face away from the centre of the main portion. The curvatures may take any shape. This is further illustrated in the figures. The purpose of having curved side portions is that the load can be focused towards different points on the main portion. The sides of the main portion can have the same curvature as the side portion or they can be straight. In case the sides of the main portion are straight the side of the side portion being closest to the main portion is straight, leading to that only the side edge is curved.

- 10 The blanket may comprise two side portions on opposing sides of the main portion of the blanket. This leads to that the main portion of the blanket is made up of a square or a rectangular shape. The side portions can take any shape described above.

- A side portion may encircle the entire circumference of the main portion. In order to have a more versatile blanket the main portion of the blanket may be enclosed by a side portion. This leads to that for instance a rectangular main portion can have one side portion extending the entire circumference of the main portion or that the blanket comprise four side portions, one on each side of the main portion. This configuration also leads to that the blanket may be circular or oval with a side portion with reinforcement means enclosing the main portion.

Brief Description of Drawings

Figure 1 schematically shows a blanket according to the invention;

- 25 Figure 2 schematically shows a blanket according to the invention;

Figure 3 schematically shows a detachable handle to be used together with a blanket according to the invention;

- 30 Figure 4 schematically shows a cross section of a blanket according to the invention;

Figure 5 schematically shows a cross section of a blanket according to the invention;

Figure 6 schematically shows a blanket according to the invention;

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Figure 7 schematically shows a blanket according to the invention;

Figure 8 schematically shows a blanket according to the invention.

Detailed Description of Drawings

Figure 1 schematically shows a blanket 1 according to the invention. The blanket 1 comprises a main portion 2 and a first side portion 3. The first side portion comprises a side edge 4. The first side portion 3 comprises two openings 5 and a reinforcement means 6 placed along the side edge 4 of the first side portion 3. As discussed above the first side portion 3 may comprise more than two openings 5. The openings 5 are positioned at a distance from each other such that an ergonomical position can be achieved when gripping the blanket 1. The distance between the openings 5 in figure 1 and the following figures are thus merely illustrative.

In figure 1 the reinforcement means 6 cover the entire length of the first side portion 3. As described above the reinforcement means 6 may cover only a part of the length of the first side portion 3. In figure 1 the main portion 2 is essentially square. The main portion 2 may also be rectangular. At least the main portion 2 comprises a liquid absorbing layer 7. The liquid absorbing layer 7 can also extend all the way out to the side edge 4. The blanket may also comprise a liquid impermeable layer 8 which may extend all the way to the side edge 4 or only extend over the main portion 2.

Figure 2 schematically shows a blanket 1 according to the invention. The blanket 1 comprises a main portion 2 and a first side portion 3 and a second side portion 9 located on opposite sides of the main portion 2. Each side portion comprises a side edge 4. Each side portion 3, 9 comprises two openings 5 and a reinforcement means 6 placed along the side edges 4 of the side portions 3, 9. As discussed above each side portion 3, 9 may comprise more than two openings 5. The openings 5 are positioned at a distance from each other such that an ergonomical position can be achieved when gripping the blanket 1.

Figure 3 schematically shows a detachable handle 10 to be used together with a blanket 1 according to the invention. As can be seen from figure 3 the handle comprises a profiled notch 11. In figure 3 the profiled notch 11 is straight. As discussed above the profiled notch 11 can also be tapered, either broadening from the opening towards the bottom or narrowing from the opening towards the bottom. The function of the handle 10 is described in the summary of the invention.

Figure 4 schematically shows a cross section of a blanket 1 according to the invention. Figure 4 shows a side portion 3, 9 of the blanket 1 comprising the main portion 2. In figure 4

the main portion 2 is folded over itself two times to create the side portion 3, 9. The reinforcement means 6 is located in between the folded layers of the main portion 2. In figure 4 the reinforcement means 6 is placed between a first folded part 12 and a second folded part 13. The reinforcement means 6 can also be placed between the main portion 2 and the second folded part 13. The space created by the fold is merely to illustrate that the reinforcement means 6 does not have to be completely enclosed by the folded material of the main portion 2. While it is possible to have a configuration where the reinforcement means 6 is completely enclosed by the folded material of the main portion 2 it is not necessary. The main portion 2 in figure 4 comprises both a liquid absorbing layer 7 and a liquid permeable layer 8. It is as mentioned above possible for the main portion to comprise only a liquid absorbing layer 7. The liquid permeable layer 8 may have the same extent as the liquid absorbing layer 7, have an extension all the way to the side edge 4 or have an extension that ends before the folded parts of the side portion 3, 9. The last case is illustrated in figure 4. The thicknesses of the layers 7, 8 are not to scale but serve as an illustration.

The reinforcement means 6 may as an alternative be glued directly to the blanket 1 to the underside of the liquid absorbing layer 7. If the liquid impermeable layer 8 extends all the way out to the side edge 4 the reinforcement means 6 may as an alternative be glued directly to the underside of the liquid impermeable layer 8.

Figure 5 schematically shows a cross section of a blanket 1 according to the invention. Figure 5 shows a side portion 3, 9 of the blanket 1 where the side portion 3, 9 is separate from the main portion of the blanket 1. In case the side portion 3, 9 is separate from the main portion 2 the construction of the side portion 3, 9 is similar to the above mentioned construction with the difference that the material used to make the side portion 3, 9 is separate from the main portion 2. The blanket in figure 5 comprises a fastening system 14 comprising a first fastening means 15 located on the side portion 3, 9 and a second fastening means 16 located on the main portion 2. The side portion 3, 9 is oriented such that first fastening means 15 of the fastening system 14 located on the side portion 3, 9 faces upwards when the blanket 1 is oriented with the liquid absorbing layer 7 facing upwards. Correspondingly the second fastening means 16 of the fastening system 14 located on the main portion 2 is oriented such that the second fastening means 16 faces downwards when the blanket is oriented with the liquid absorbing layer 7 facing upwards. The opposite arrangement of the fastening system 14 is of course also possible. The main portion 2 in figure 5 comprises both a liquid absorbing layer 7 and a liquid permeable layer 8. It is as mentioned above possible for the main portion to comprise only a liquid absorbing layer 7. The liquid permeable layer 8 may have the same extent as the liquid absorbing layer 7, i.e.

the second fastening means 16 may be attached to the underside of the liquid impermeable layer 8. The side portion 3, 9 may be made of either liquid absorbing material or liquid absorbing material and liquid impermeable material. It is also possible for the side portion 3, 9 to be made of only a liquid impermeable layer. The liquid impermeable layer may also have an extension that ends before the second fastening means 16 as illustrated in figure 5. The thicknesses of the layers 7, 8 are not to scale but serve as an illustration.

Figure 6 schematically shows a blanket 1 according to a second aspect of the invention. In figure 6 the side edges 4 are curved inwardly towards the centre of the main portion 2.

Figure 7 schematically shows a blanket 1 according to a third aspect of the invention. In figure 7 the side edges 4 are curved outwardly towards the centre of the main portion 2.

Figure 8 schematically shows a blanket 1 according to a fourth aspect of the invention. In figure 8 the main portion 2 is essentially circular. Side portion 3 is similarly circular and covers the entire circumference of the main portion 2. Openings 5 are distributed round the main portion 2.

Reference signs mentioned in the claims should not be seen as limiting the extent of the matter protected by the claims, and their sole function is to make claims easier to understand.

As will be realised, the invention is capable of modification in various obvious respects, all without departing from the scope of the appended claims. Accordingly, the drawings and the description thereto are to be regarded as illustrative in nature, and not restrictive. For instance producing a blanket with reinforcement means as described above in another shape than explicitly mentioned herein is deemed to lie within the competence of the person skilled in the art. Similarly, the choice of material for the different components of the blanket and/or handle is deemed to be part of the skill set of a person skilled in the art.

CLAIMS

1. Blanket (1) for moving or for shifting the position of a bedridden person, the blanket (1) comprising a main portion (2) and at least one side portion (3, 9), the at least one side portion (3, 9) comprising a side edge (4), the at least one side portion (3, 9) comprising at least two openings (5) for gripping the blanket (1), **characterized in that** at least a part of the side portion (3, 9) comprises a reinforcement means (6) for improved grip and force distribution over the main portion (2).
2. Blanket (1) according to claim 1, wherein the reinforcement means (6) is positioned along at least a part of the side edge (4) of the at least one side portion (3, 9) on the opposite side of where the openings (5) are located with reference to the main portion (2).
3. Blanket (1) according to claim 1 or 2, wherein the blanket (1) comprises a first liquid absorbing layer (7).
4. Blanket (1) according to claim 3, wherein the blanket (1) further comprises a second liquid impermeable layer (8).
5. Blanket (1) according to any one of the preceding claims, wherein the whole side edge (4) of the at least one side portion (3, 9) comprises said reinforcement means (6).
6. Blanket (1) according to any of the preceding claims, wherein the at least one side portion (3, 9) is detachably attachable to the main portion (2) by means of a fastening system (14).
7. Blanket (1) according to any one of claims 1-5, wherein the at least one side portion (3, 9) comprises the main portion (2) folded over itself at least one time.
8. Blanket (1) according to any one of the preceding claims, wherein the at least one side portion (3, 9) comprises four openings (5) for gripping the blanket (1).
9. Blanket (1) according to any one of the preceding claims, wherein the reinforcement means (6) comprises strip of wood, paper or plastic material such as poly propylene.
10. Blanket (1) according to any one of the preceding claims, wherein the blanket (1) comprises a detachable handle (10) being mountable into each opening (5) to improve the gripping of the blanket (1).

11. Blanket (1) according to claim 10, wherein each handle (10) is made by means of extrusion.

5 12. Blanket (1) according to claim 10 or 11, wherein each handle comprises a profiled notch (11).

13. Blanket (1) according to any one of the preceding claims, wherein the at least one side portion (3, 9) is straight or curved.

10 14. Blanket (1) according to any of the preceding claims, wherein the blanket (1) comprises two side portions (3, 9) on opposing sides of the main portion of the blanket.

15. Blanket (1) according to any one of claims 1-13, wherein the at least one side portion (3) encircles the entire circumference of the main portion (2).

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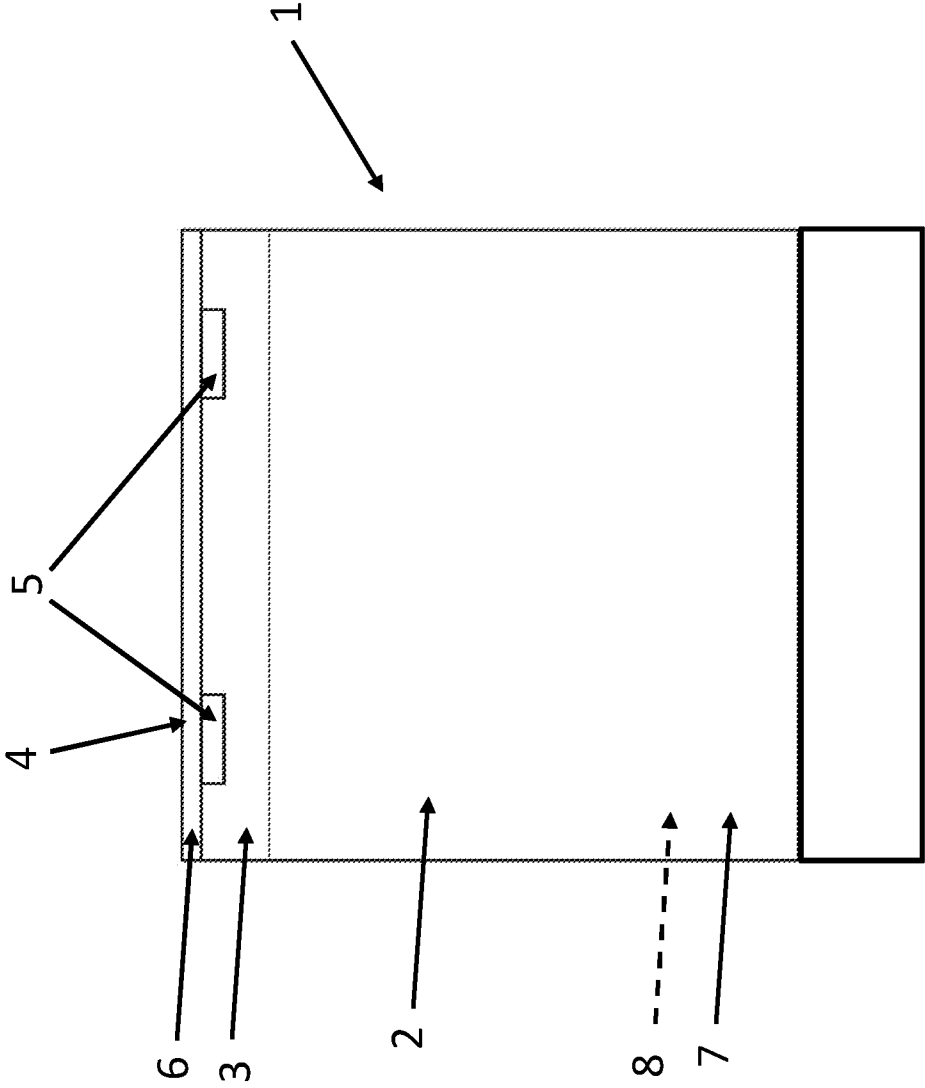


Fig. 1

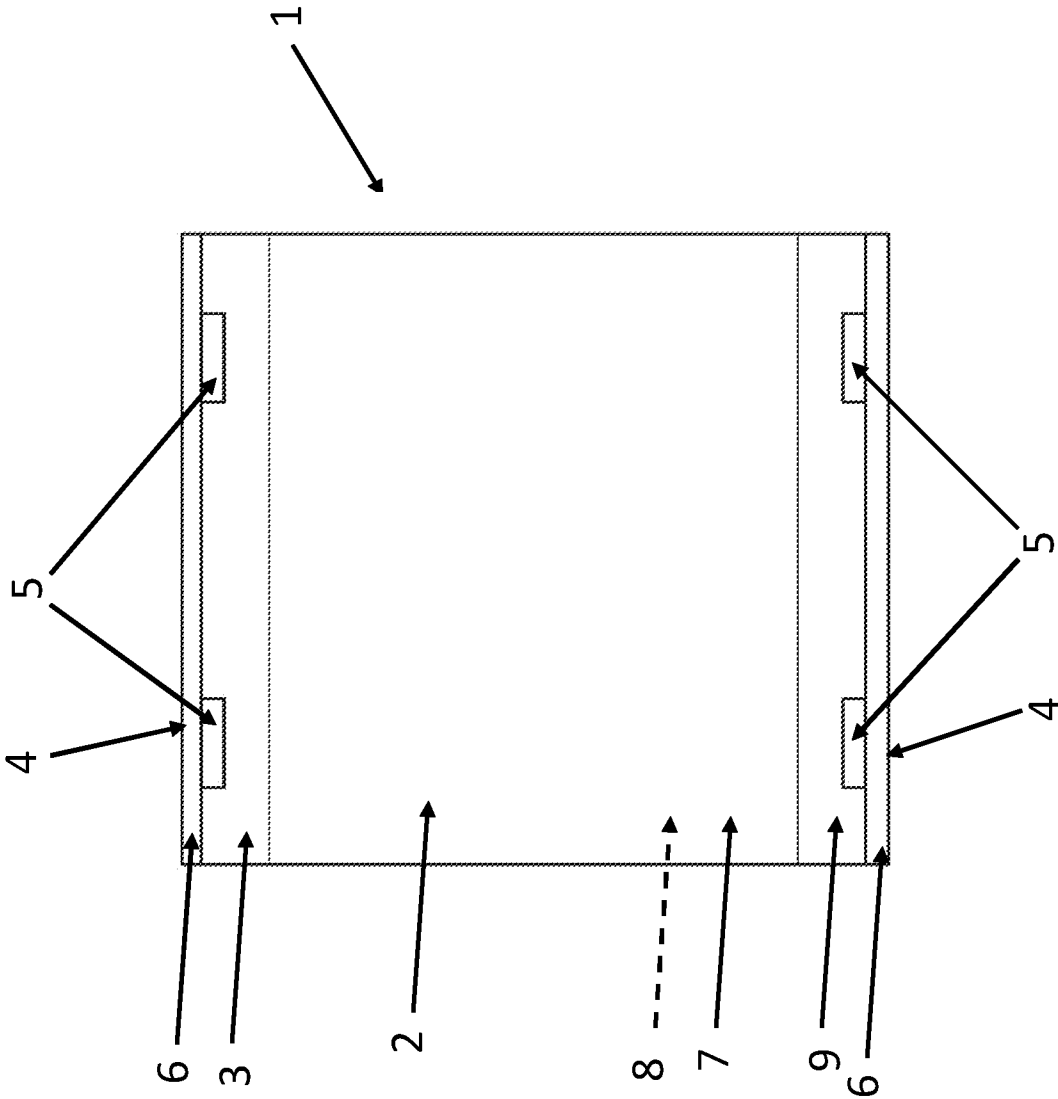


Fig. 2

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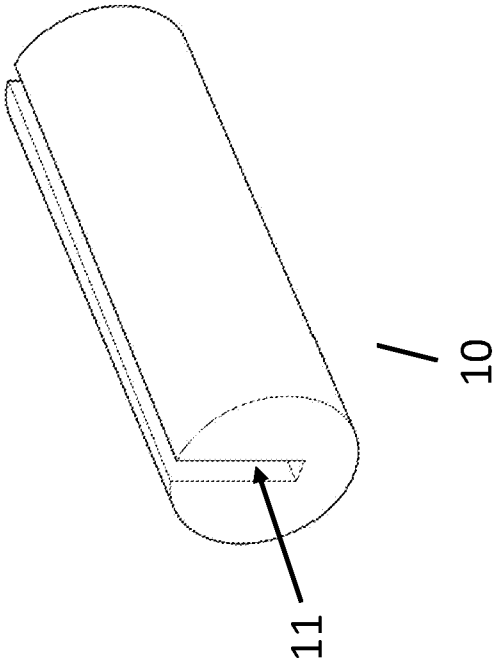


Fig. 3

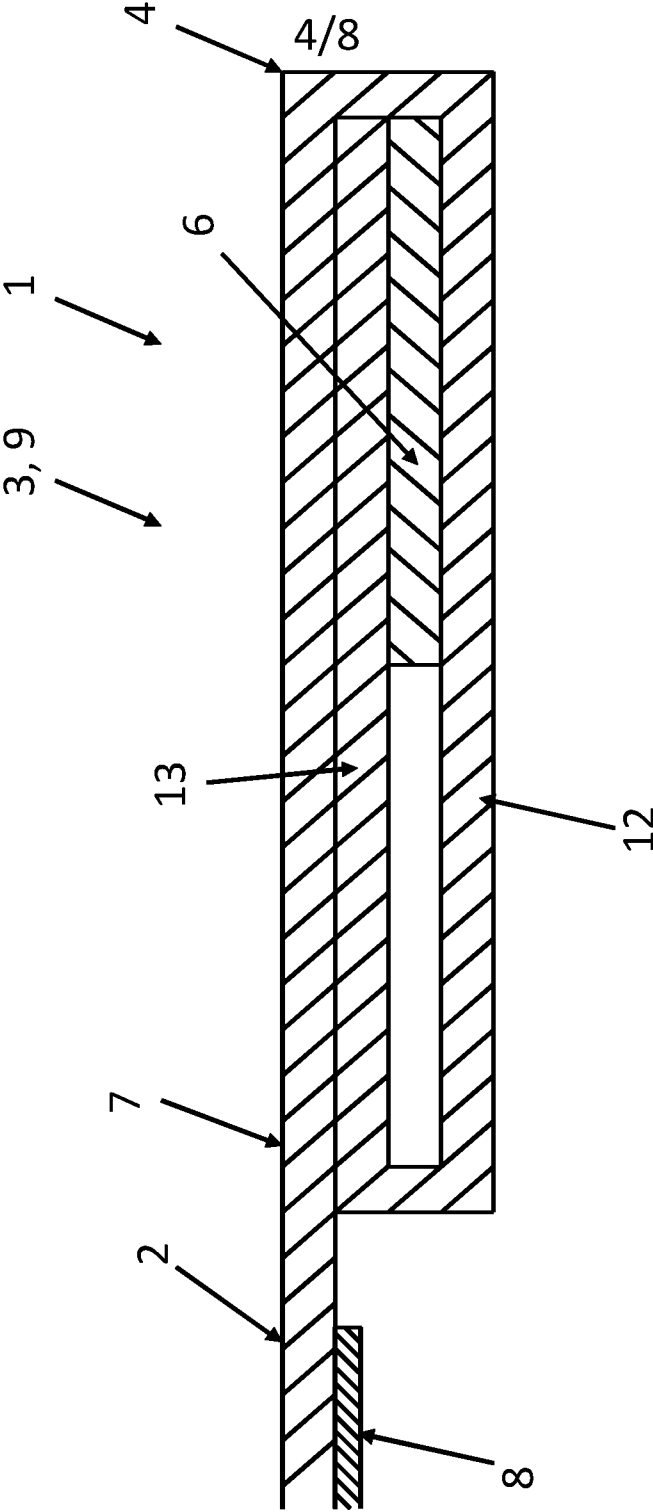


Fig. 4

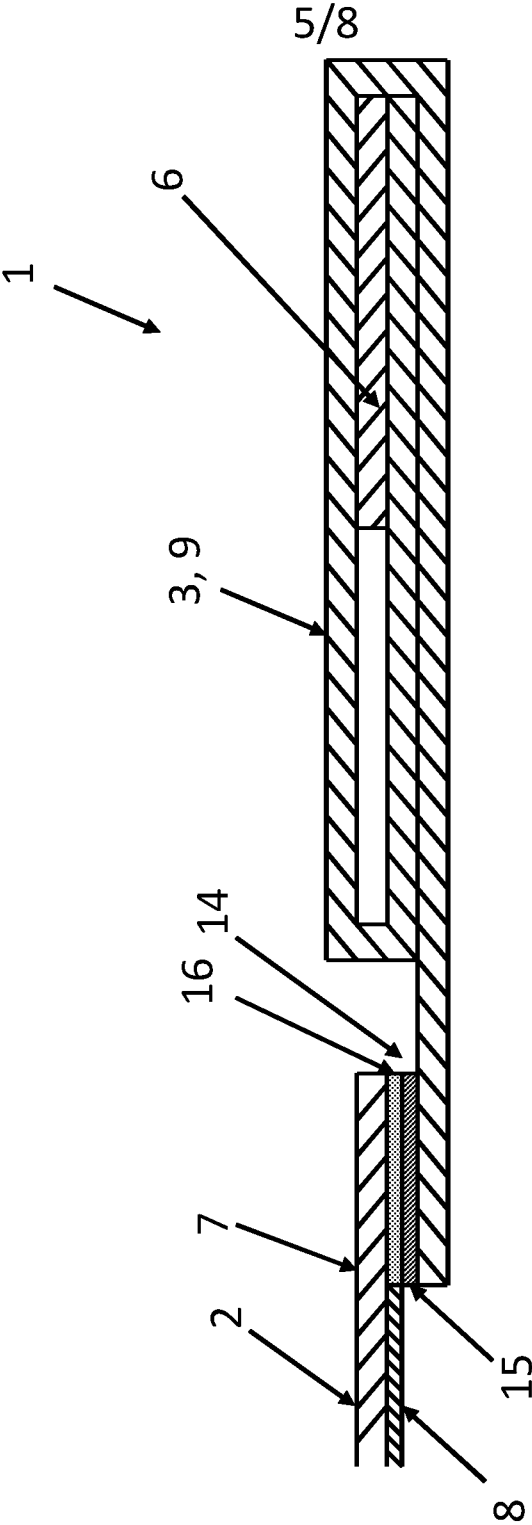


Fig. 5

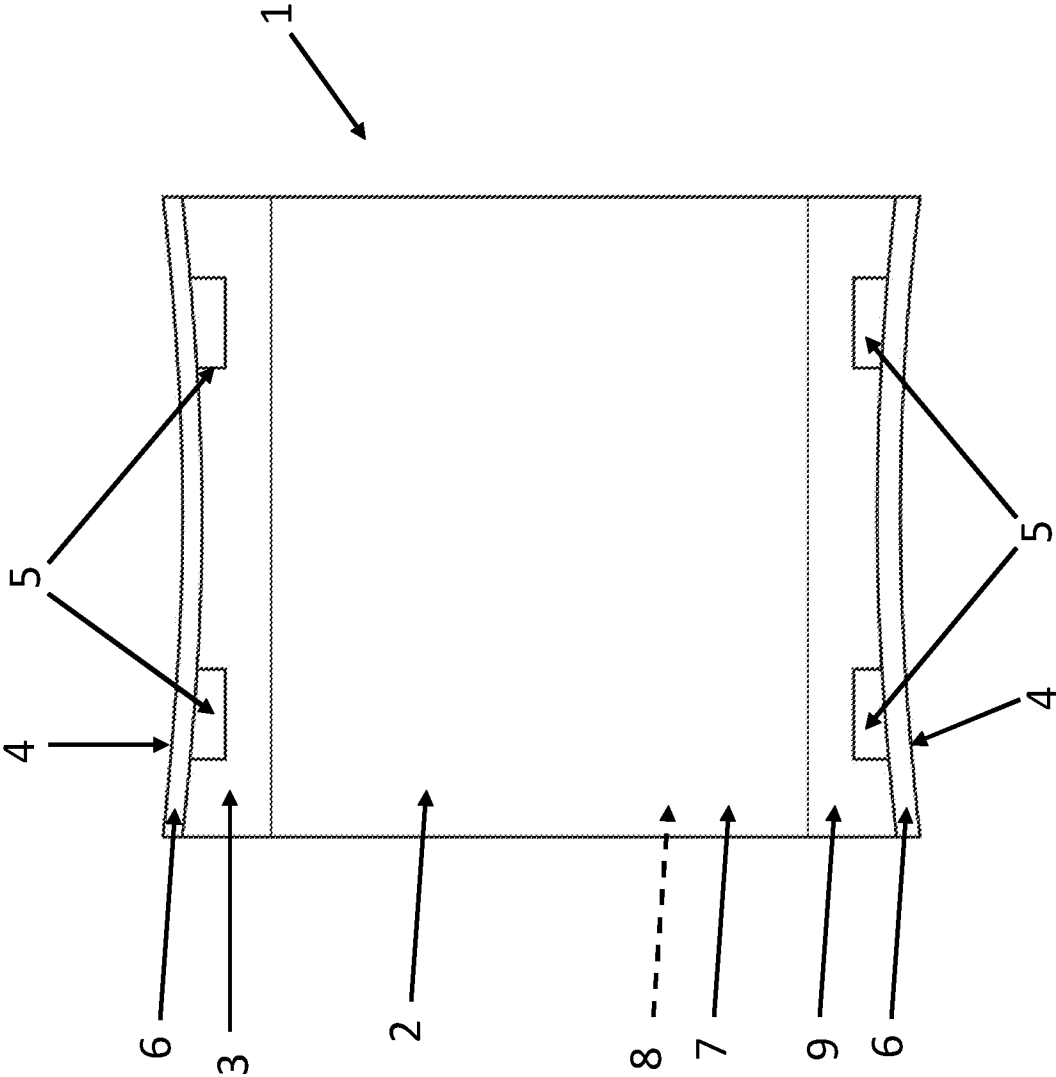


Fig. 6

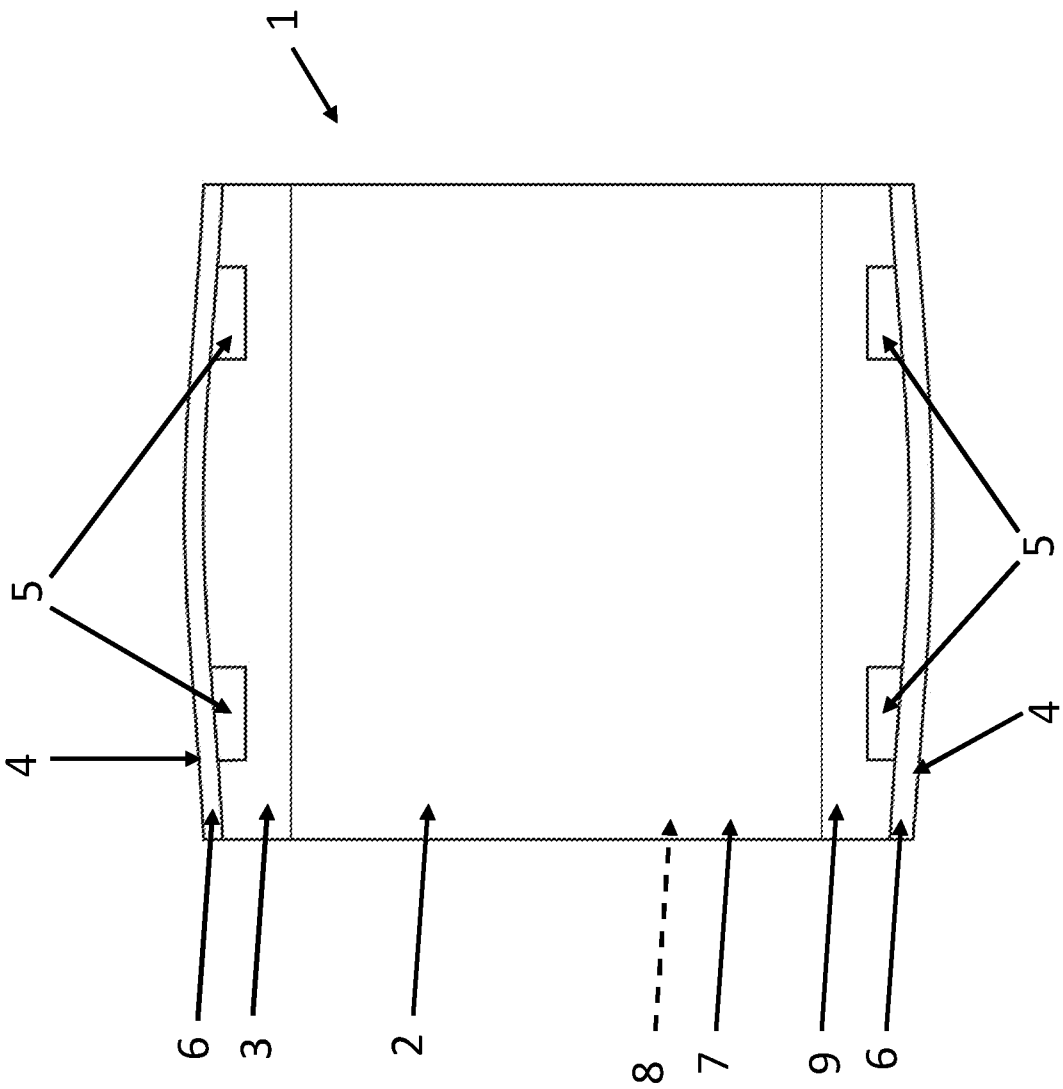


Fig. 7

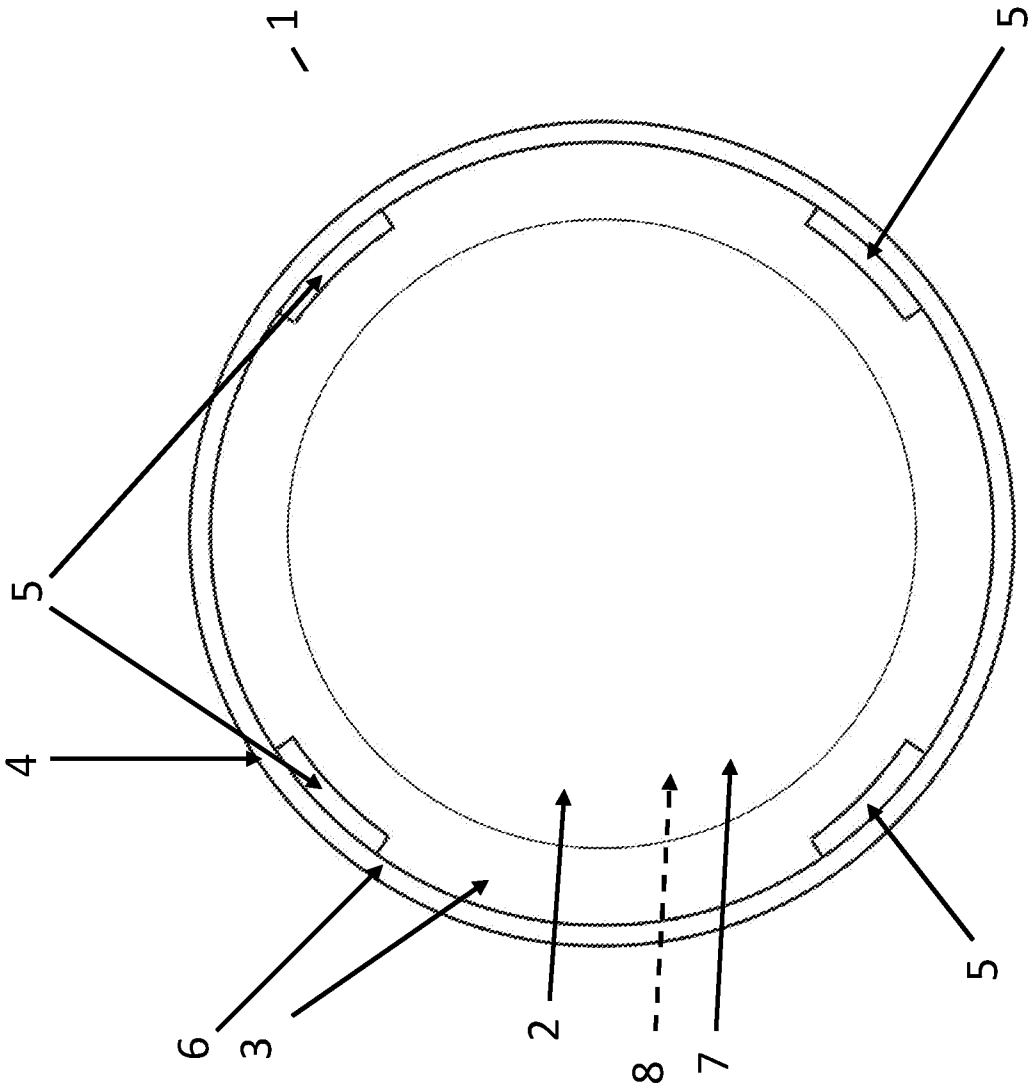


Fig. 8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2012/050576

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: A47C, A61G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE, DK, FI, NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, PAJ, WPI data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 20070240260 A1 (WHITE ELIZABETH ET AL), 18 October 2007 (2007-10-18); abstract; figure 8; [0060] --	1-5, 7-15
A	US 5787523 A (LINDBERG EVA), 4 August 1998 (1998-08-04); abstract; figures --	1-15
A	DE 19501225 A1 (ORTNER KLAUS), 18 July 1996 (1996-07-18); abstract; figures --	1-15
A	US 3829914 A (TREAT C), 20 August 1974 (1974-08-20); abstract; figures --	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

30-01-2013

Date of mailing of the international search report

30-01-2013

Name and mailing address of the ISA/SE

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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/SE2012/050576

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 29803192 U1 (HAAMANN FRANK), 9 April 1998 (1998-04-09); abstract; figures -- -----	1-15

Continuation of: second sheet

International Patent Classification (IPC)

A61G 7/10 (2006.01)

A47C 27/15 (2006.01)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/SE2012/050576

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