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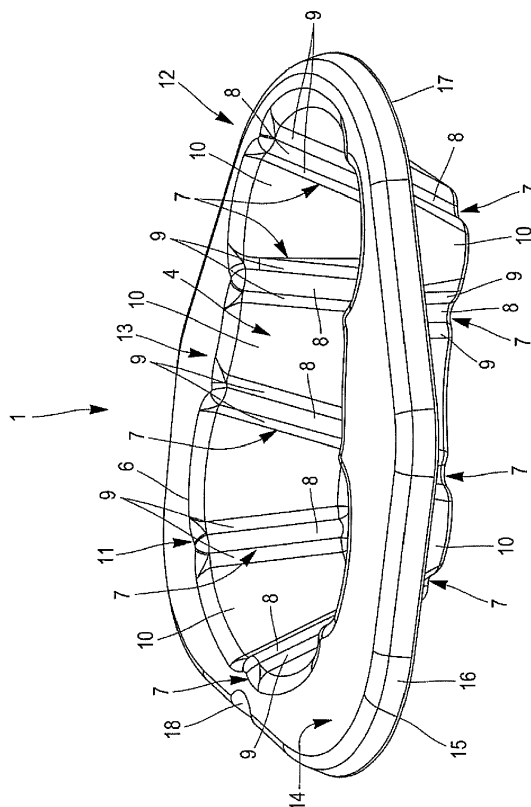
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(54) **COLLECTION CONTAINER AND MOULD FOR MANUFACTURING SUCH A CONTAINER**

(57) A moulded paper collection container (1), in particular for collecting effluent from a person, the container (1) comprising a bottom wall (2) and a side wall (3) rising from the bottom wall (2) to define a reception volume (4), the side wall (3) comprising a lower edge (5) joined to

the bottom wall (2) and an upper edge (6), the side wall (3) being provided with at least two (7) reinforcing ribs distributed along the entire side wall (3), each rib (7) extending from the lower edge (5) to the upper edge (6) of the side wall (3).

[Fig. 1]



Description

FIELD OF THE INVENTION

[0001] The present invention refers to a container of the type found in hospitals, for use by patients.

TECHNOLOGICAL BACKGROUND

[0002] More precisely, the invention refers to a moulded paper container for collecting a patient's effluents.

[0003] In the field of hospital containers, it is known to use moulded paper containers, intended for a single use, in order to avoid any contamination between patients. These containers must then be able to be crushed in a macerator and discharged into the waste water disposal system.

[0004] There are several types of containers for use in hospitals.

[0005] For example, a container, called a washing tank or "washbowl", is designed to hold soapy water for the purpose of washing a patient's body. Document GB2446793 describes an example of such a container. The washing tray is filled by the nursing staff and then brought to the patient for washing. In particular, the washing tank must be sufficiently rigid to retain soapy water for a specific period of time, while allowing it to be crushed beyond that period.

[0006] It is also known to use containers called pans designed to be placed under a person to collect his/her effluents.

[0007] Such pans are intended, for example, to be positioned under an opening in a chair or directly on a bed.

[0008] However, it happens that a person cannot get up from the bed to sit on the chair, and/or that the bed does not have an opening to place the pan in. In this case, it is known to place the pan directly under the person. However, since these pans are made of moulded paper, their rigidity is generally not sufficient to support the weight of a person.

[0009] In addition, when a moulded paper container is wet, the loss of stiffness can make handling difficult, as the container tends to bend when grabbed by the hospital staff after use.

[0010] Document GB 2 508 663 is an example in which the moulded paper container is associated with a rigid support, the latter not being for single use. It is immediately understood that such a solution makes the term "single-use" not perfectly applicable, and therefore does not properly eliminate the risk of contamination between two people using the same equipment.

[0011] It is also known to place a cover on the opening of the container, so as to leave sufficient space for the passage of effluents, and to form a support for a person's seat. The cover is supported on the bottom of the container, so as to provide rigidity. Document WO 2017/099850 describes an example of such a container with a cover.

[0012] However, the cover increases the cost of manufacturing the container. It also involves thinking about positioning same, which can be tedious in an emergency situation.

[0013] The invention thus aims to provide a solution, in particular to the above-mentioned disadvantages, and in particular to provide a single-use container which is adapted for many different situations.

SUMMARY OF THE INVENTION

[0014] Thus, according to a first aspect, the invention refers to a moulded paper collection container more particularly intended to collect a person's effluents. The container consists of a bottom wall and a side wall rising from the bottom wall to define a reception volume. The side wall consists of a lower edge joined to the bottom wall and an upper edge. The side wall is provided with at least two reinforcing ribs distributed along the entire side wall. Each rib extends from the lower edge to the upper edge of the side wall.

[0015] Thanks to these provisions, the side wall of the container is more rigid, so as to resist compressive forces, particularly under the weight of a person. The container can thus be used by being slid directly under a person, making it particularly suitable for use in hospitals for patients with reduced mobility. The container can then in particular be used for a patient who cannot be seated, but must remain lying in a bed, without any additional support or any cover required in order to provide a higher rigidity.

[0016] According to different aspects, it is possible to provide for one and/or other of the following provisions.

[0017] According to one embodiment, each reinforcing rib is formed by a reinforcement on the side wall towards the inside of the reception volume. For example, each rib has a curved bottom, which is concavity turned towards the inside of the reception volume. The stiffness of the side wall is thus particularly increased to withstand compressive forces.

[0018] In one embodiment, the lower and upper edges of the side wall describe an anatomical oblong profile for a person's seat.

[0019] According to one embodiment, the upper edge is extended by a flange, the flange extending outwards from the reception volume. Every rib touches the flange. The flange can then form a support surface intended to come into contact with a person's seat. It also makes it easier to handle the container.

[0020] According to one embodiment, the flange includes a rim curved towards the bottom wall, forming a skirt, avoiding any edge that could come into contact with the skin of a person using the container, and thus increasing comfort. The curved edge also contributes to the increased stiffness of the flange, limiting the risk of it bending and the contents in the reception volume spilling over.

[0021] According to one embodiment, the container

has nine reinforcement ribs distributed over the side wall, ensuring sufficient rigidity for a container that meets the standards.

[0022] According to a second aspect, the invention relates to a mould for manufacturing a moulded paper container as presented above.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] Embodiments of the invention will be described below while referring to the drawings, briefly described below:

Figure 1 shows a three-dimensional elevation view of an exemplary embodiment of an effluent collection container according to the invention.

Figure 2 is a top view of the container of Figure 1.

Figure 3 shows a three-dimensional bottom view of the container of figure 1.

figure 4 shows a front view of the container of figure 2;

Figure 5 is a side view of the container of Figure 1.

[0024] In the drawings, identical numbers refer to identical or similar objects.

DETAILED DESCRIPTION

[0025] Figures 1 to 5 show a pan type container 1, intended to collect effluents from a person, and in particular from a patient in a hospital. The container is manufactured by moulding a shreddable and biodegradable material, especially paper. Paper here refers to any material containing cellulosic fibres, possibly mixed with components suitable for forming the container.

[0026] The container consists of a bottom wall 2 and a side wall 3 rising from the bottom 2 to delimit a reception volume 4.

[0027] In the following, the terms upper, lower, under, above horizontal, vertical and their variants shall be understood with reference to the natural orientation of figures 1 and 5, representing the container 1 resting on the substantially horizontal bottom 2.

[0028] Thus, the side wall 3 vertically rises between a lower edge 5 and an upper edge 6, widening towards the upper edge 6, which defines an opening for the reception volume 4. In other words, the perimeter of the lower edge 5 is smaller than the perimeter of the upper edge 6. The lower edge 5 is joined with the bottom wall 2.

[0029] In order to increase the rigidity of the side wall 3 to compressive forces, the container 1 is provided with a plurality of reinforcing ribs 7. Each reinforcing rib 7 extends from the lower edge 5 to the upper edge 6, following substantially the rising direction of the side wall 4. Each rib 7 thus extends substantially in a straight line.

[0030] According to the example in the figures, each rib 7 is formed by a hollow or recessed part, towards the inside of the reception volume 4. Thus, according to the example of the figures, each recess forming a rib 7 leads vertically to the lower edge 5 and the upper edge 6.

[0031] More precisely, each rib 7 includes a curved bottom 8 extending from the lower edge 5 to the upper edge 6. In other words, each rib 7 has a concave bottom 8, the concavity of which is turned towards the inside of the reception volume 4. Preferably, the radius of curvature of each rib 7 is between 15 and 20mm (millimetres), and is for example equal to about 17mm. The bottom 8 of each rib 7 is laterally bordered by two curved portions 9, extending from the lower edge 5 to the upper edge 6, and having opposite concavity to that of the bottom 8: the two curved portions 9 have a concavity facing outwards from the reception volume 4. The radius of curvature of the curved portions 9 is smaller than that of the bottom 8. It is preferably between 5 and 15mm, and is for example equal to about 10mm.

[0032] According to the example shown in the figures, the radius of curvature of the bottom 8 and the radius of curvature of the curved portions 9 of each rib 7 are substantially constant over the entire extension dimension of the rib 7. However, it may be otherwise, and the ribs 7 may for example flare towards the upper edge 6.

[0033] The total width of a rib 7, i.e. the dimension between the side edges of the curved portions 9, is between 20 and 30mm, for example, and is equal to about 26mm.

[0034] Between each rib 7, the side wall 3 has facets 10, so that the side wall 4 is formed by a succession of ribs 7 and facets 10.

[0035] The bottom wall 2 can also be provided with ribs (not shown in the figures) to give it increased rigidity.

[0036] A container 1 has an anatomical shape, adapted to match a person's seat, and has an axis of symmetry A.

[0037] Thus, typically, the lower edge 5 and the upper edge 6 each describes an elongated anatomical profile, elongated in the direction of the axis of symmetry A, and are homothetized with each other in order to obtain the flared side wall 3. Thus, the reception volume 4 has a rear portion 11 enlarged compared to a front portion 12. For example, the facets 10 are curved, with a concavity facing outwards from the reception volume 4, and the radius of curvature of the facets 10 at the rear portion 11 is greater than the radius of curvature of the facets 10 at the front portion 12. The rear portion 11 is connected to the front portion 12 by an intermediate portion 13 in which the facets 10 are curved, with a concavity facing inwards from the reception volume 4.

[0038] The number and distribution of the ribs 7 on the side wall 3 are provided in order to provide satisfactory rigidity to the entire side wall 3, that is to say they are located on both the rear portion 11 and the front portion 12. They depend in particular on the shape of the container 1, the dimensions of the side wall 4 and the dimensions of the ribs 7. However, the ribs are distributed along

the entire side wall 3, in order to provide reinforced rigidity on both the rear portion 11 and the front portion 12, and are preferably distributed symmetrically with respect to the axis of symmetry A.

[0039] As the container 1 is intended to be used in particular by a patient who cannot be seated, but must remain in a lying position in a bed, the weight of the patient should be supported by the entire side wall 3, unlike containers intended to be used by patients who could be seated.

[0040] Preferably, the number of ribs 7 is at least equal to three. For example, two ribs 7 are placed on the rear portion 11, symmetrical to each other with respect to the axis of symmetry A. A third rib 7 can be placed on the axis of symmetry A, on the front portion 12. Preferably again, the number of ribs 7 is at least equal to four, two ribs 7 being arranged on the rear portion 11 symmetrically to each other with respect to the axis A, and two ribs 7 being arranged on the front portion 12 symmetrically to each other with respect to the axis A.

[0041] The number of ribs 7 can be more than four. According to the example in the figures, the number of ribs 7 is nine. A rib 7 is placed on the axis of symmetry A, on the rear portion 11. Four ribs 7, symmetrical two by two with respect to the axis of symmetry A are positioned on the rear portion 11. In addition, when viewed from above (Figure 2), the five ribs 7 on the rear portion 11 are each arranged along an axis that points towards the same centre C1 located on the axis of symmetry A, but not located on the container 1 or inside the reception volume 4, but under the bottom wall 2. The axes of two successive adjacent ribs 7 on the rear portion 11 define an angle of about 60°. Similarly, four ribs 7 are positioned on the front portion 12, symmetrical two by two with respect to the axis of symmetry A. When viewed from above (Figure 2), the two ribs 7 on the front portion 12 closest to the axis of symmetry A are each oriented along an axis that points towards the same centre C2 located on the axis of symmetry A, but not located on the container 1 or inside the reception volume 4, but under the bottom wall 2. The axes of these two ribs 7 define an angle of approximately 90°. The other two ribs 7 on the front portion 12 are aligned along the same axis B substantially perpendicular to the axis A.

[0042] This particular distribution of the ribs 7, including the two centres C1 and C2 for ribs 7 which are deported outside from the container 1, under the bottom wall 2, improves the rigidity of the side wall 3.

[0043] Thus, the container 1 can be slid under a patient without the patient getting up from his/her bed, for example, and the patient can rest at least part of his/her weight on container 1. The ribs 7 provide sufficient rigidity to the side wall 3 to resist compression under the patient's weight, and prevent the wall 3 from deforming when using the container 1. The risk that the container 1 might get crushed, and that the contents of the reception volume 4 spread, are thus reduced.

[0044] In order to provide additional comfort for the pa-

tient when the container is in position, the upper edge 6 of the side wall 3 can be extended by a substantially horizontal flange 14 extending outwards from the reception volume 4. More precisely, the flange 14 extends from the upper edge 6 of the side wall 3 to a side edge 15. Preferably, in order to match an anatomical shape, the width, that is to say the distance between the upper edge 6 of the side wall 3 and the side edge 15, of the flange 14 is generally greater at the rear portion 11 than at the front portion 12. Moreover, the width of the flange 14 is greater at the intermediate portion 13 than at the front portion 12 and at the rear portion 11. The flange 14 thus forms a support surface, intended to come into contact with the patient's seat.

[0045] As the ribs 7 extend to the upper edge 6, every rib incidentally touches the flange 14. Then, when the container 1 is placed under a patient, the weight of the patient is supported by the flange 14 and is transferred to the side wall 3 reinforced by the ribs 7, avoiding deformation of the container 1 along its entire side wall 3.

[0046] Once the container 1 is full, the hospital staff can handle the container 1 by grasping the flange 14 thereof. In order to limit the risk that the flange might bend when grabbed, the side edge of the flange 14 is extended by a rim 16 curved towards the bottom wall 2, forming a skirt.

[0047] The flange 16 extends from the side edge 15 of the flange 14 up to a free edge 17 on a dimension called height adapted to provide sufficient rigidity to the flange 14. The height of the edge 17 is preferably between 10 and 20mm, and is for example equal to about 15 mm.

[0048] In order to further increase the rigidity of the flange 14, the thickness of the flange 14 may be greater than that of the rest of the container 1.

[0049] As a result of these provisions, the risk that the flange 14 might deform when nurses grasp the container 1 by the flange 14 is reduced, thereby reducing the risk that the contents of the reception volume 4 might spill over.

[0050] The curved rim 16 also avoids having an edge that comes into contact with the skin, which is uncomfortable for the patient, as the free edge 17 does not come into contact with the patient's skin.

[0051] The flange 14 and the curved rim 16 also make it easier to use the container with a chair provided with an opening.

[0052] Indeed, such a chair is generally equipped with a drawer under the seat, in which the container is inserted. The flange 14 and the curved rim 15 ensure that the container is placed and held in position in the drawer during use.

[0053] Advantageously, the flange 14 can be provided with a notch 18, placed on the side of the rear portion 12, on the symmetrical axis A, making it easier to grasp the flange 14 to place and remove the container 1 in/from the chair drawer.

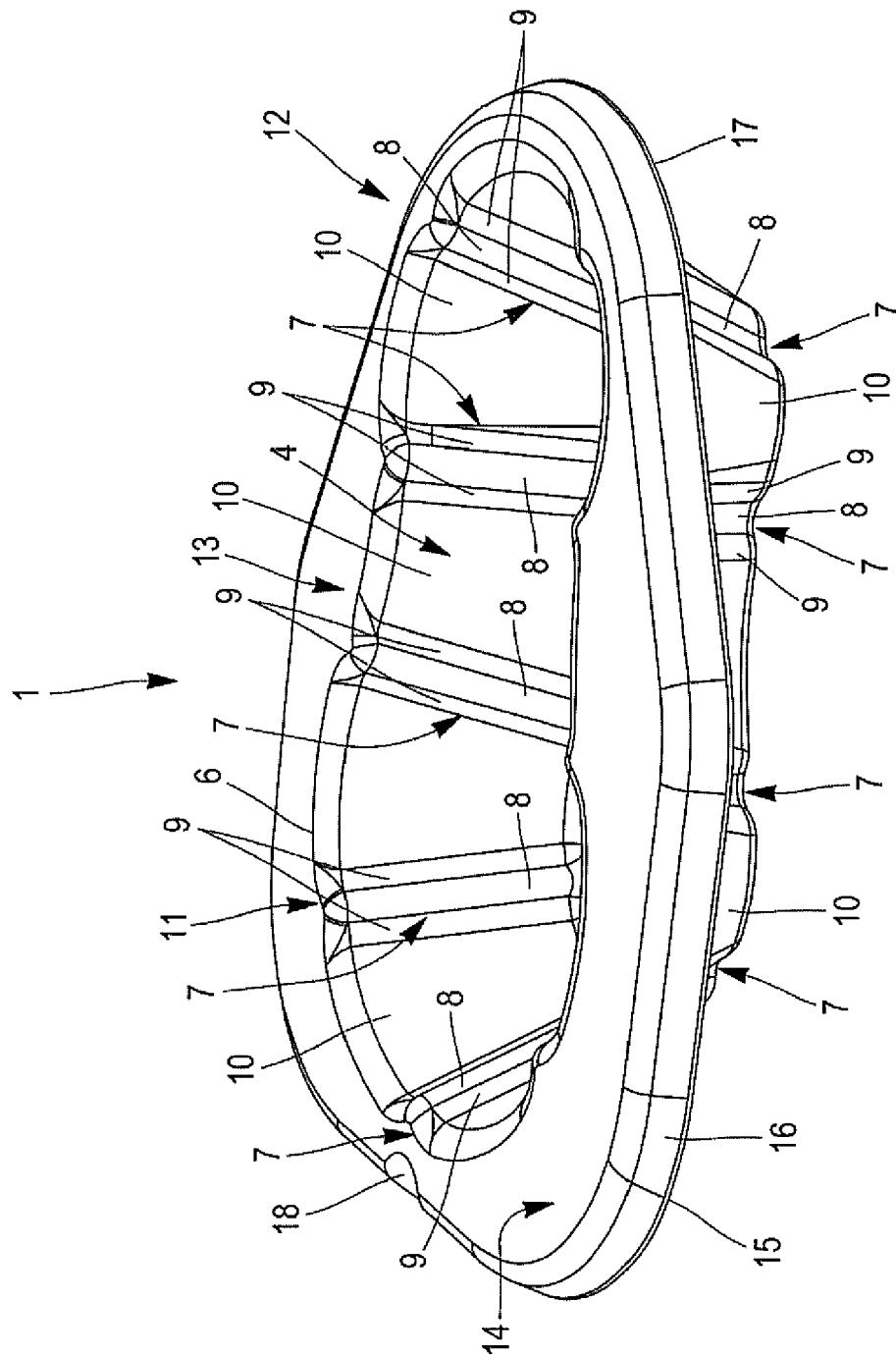
[0054] The container 1 thus described is then particularly suitable for use as a single-use container both in

combination with a chair and alone, directly under a patient lying in a bed, without any additional support. The container 1 provides a solution for dealing with many different situations, depending on the patient's conditions, without using different containers for each situation, thus reducing the costs. 5

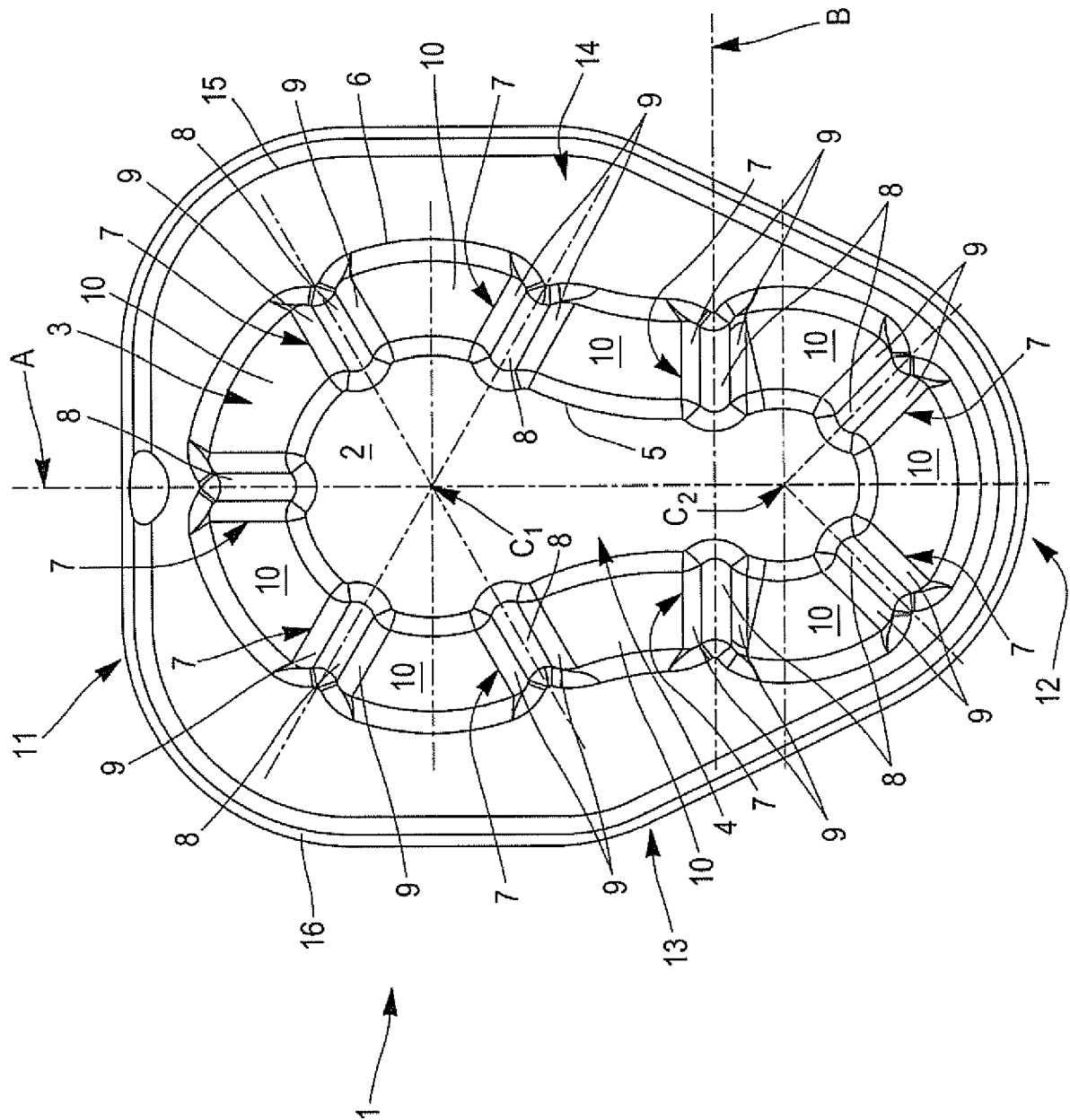
Claims

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1. A moulded paper collection container (1), in particular intended for collecting effluents from a person, the container (1) comprising a bottom wall (2) and a side wall (3) rising from the bottom wall (2) to define a reception volume (4), the side wall (3) comprising a lower edge (5) joined to the bottom wall (2) and an upper edge (6), the side wall (3) being provided with at least two (7) reinforcing ribs distributed along the entire side wall (3), each rib (7) extending from the lower edge (5) to the upper edge (6) of the side wall (3). 15 20
2. A container according to claim 1, wherein each reinforcing rib (7) is formed by a recess on the side wall (3) towards the inside of the reception volume (4). 25
3. A container (1) according to claim 1 or claim 2, wherein each rib (7) comprises a curved bottom (8). 30
4. A container (1) according to any one of the preceding claims, wherein the lower edge (5) and the upper edge (6) of the side wall (3) have an anatomical oblong profile for a person's seat. 35
5. A container (1) according to any one of the preceding claims, wherein the upper edge (6) is extended by a flange (14), the flange (14) extending outwardly from the reception volume (4), every rib (7) touching the flange (14). 40
6. A container (1) according to the preceding claim, wherein the flange (14) forms a support surface intended to come into contact with a person's seat. 45
7. A container (1) according to claim 5 or claim 6, wherein the flange (14) comprises a rim (16) curved towards the bottom wall (2), forming a skirt.
8. A container (1) according to any one of the preceding claims, comprising nine reinforcement ribs (7) distributed over the side wall (3). 50
9. A mould for manufacturing a moulded paper container according to any one of claims 1 to 8. 55

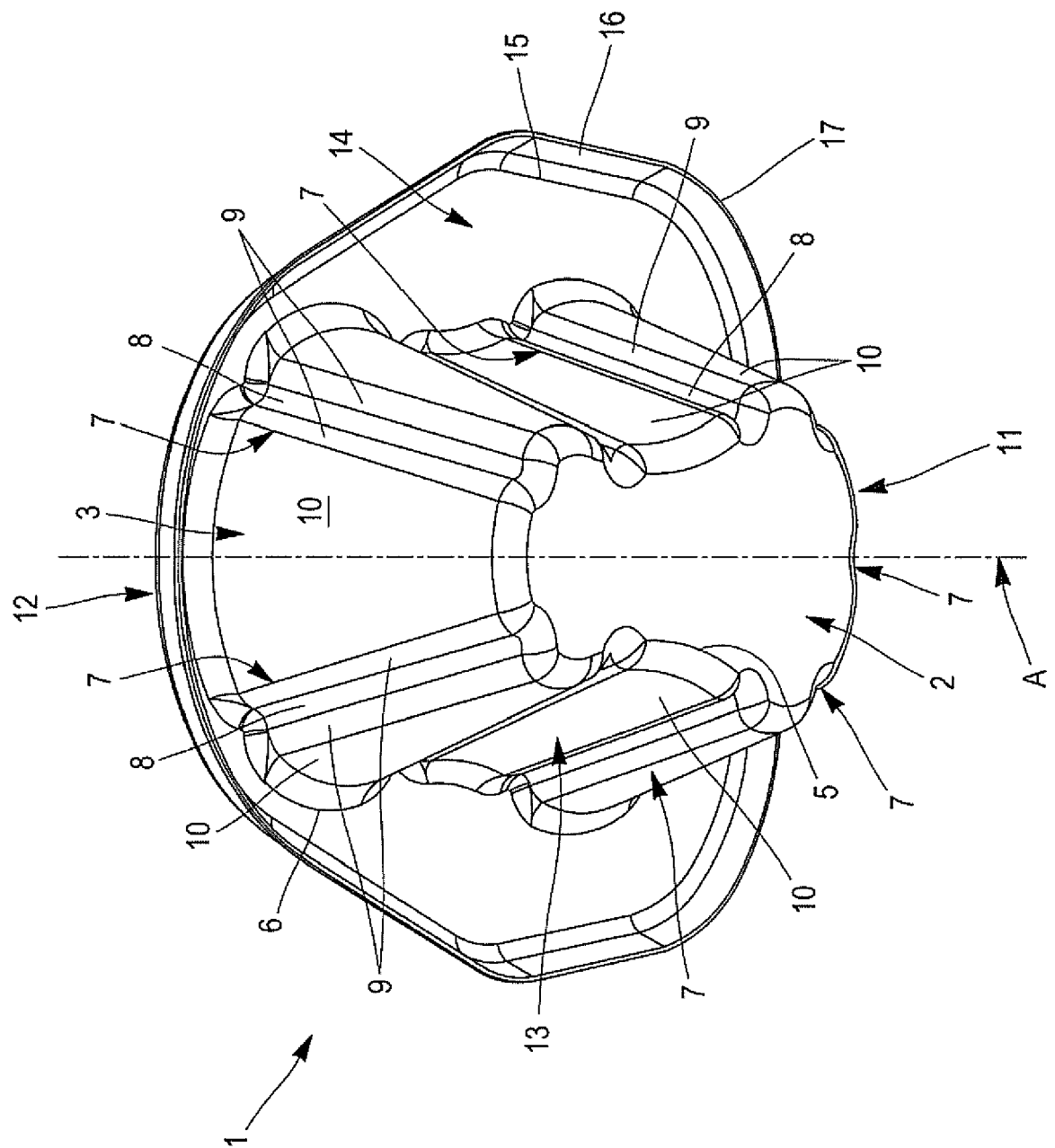
[Fig. 1]



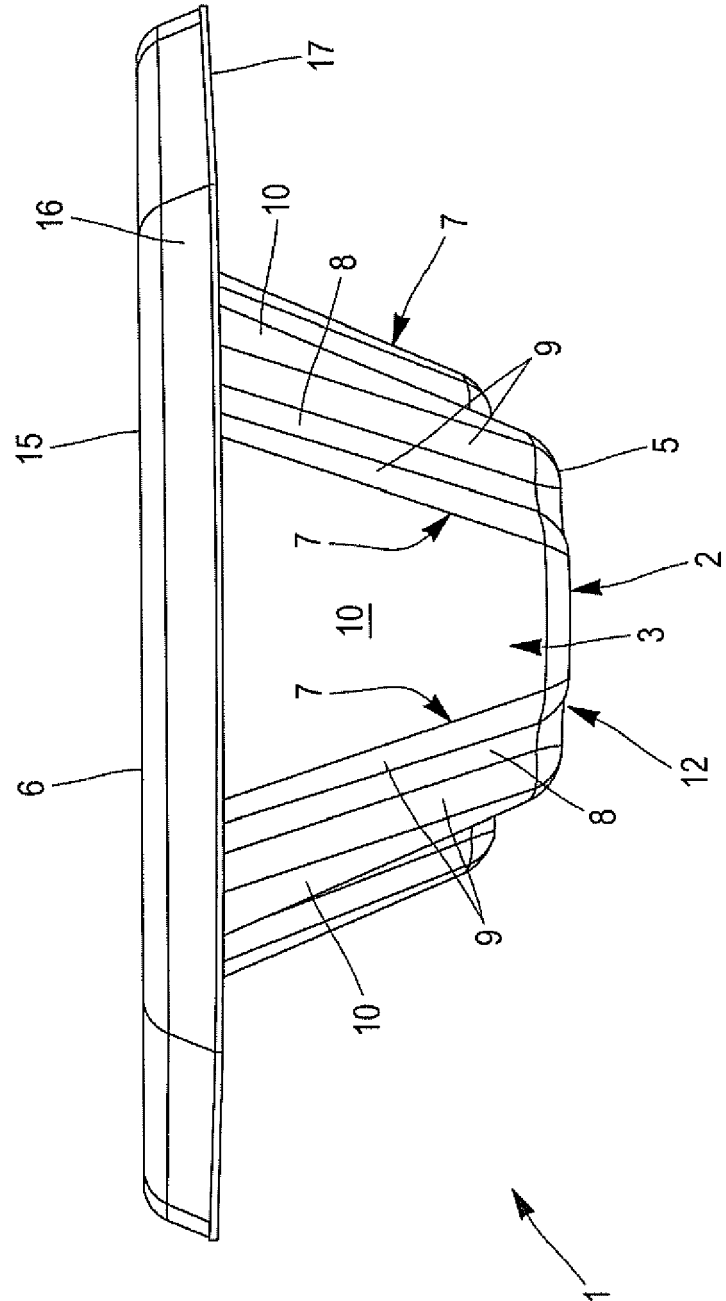
[Fig. 2]



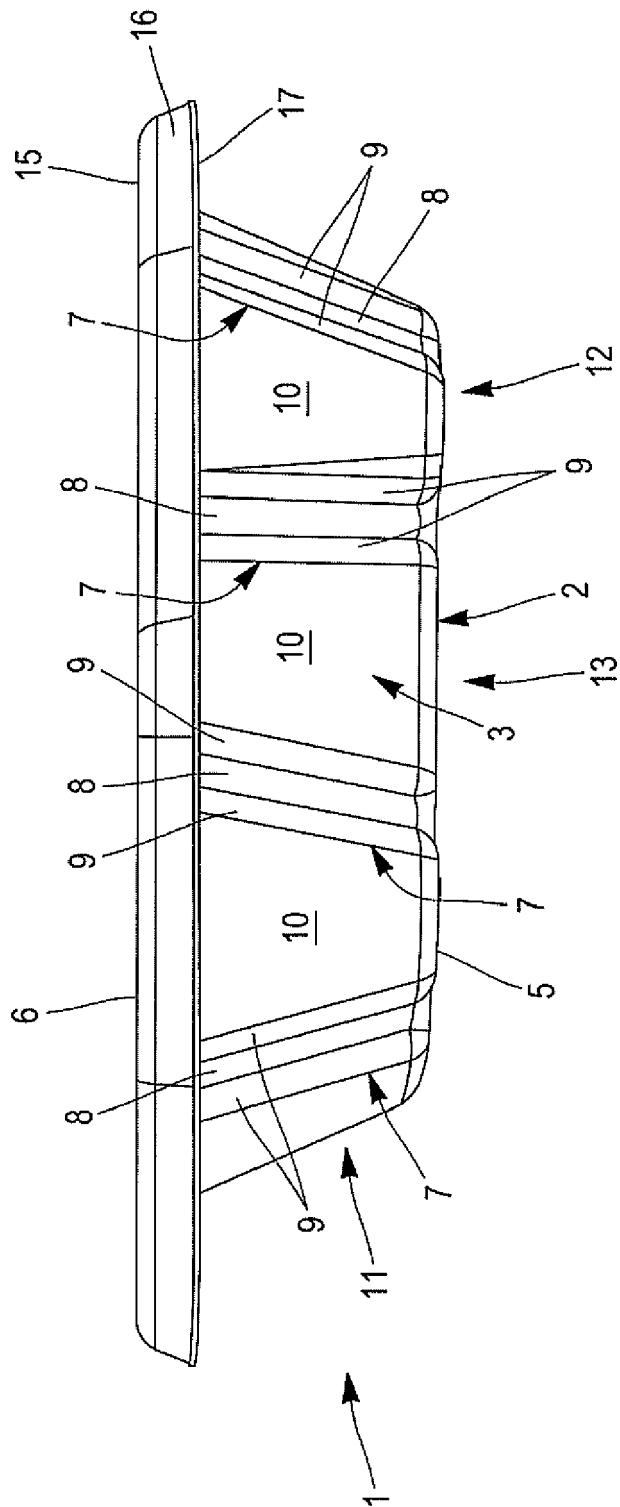
[Fig. 3]



[Fig. 4]



[Fig. 5]





EUROPEAN SEARCH REPORT

Application Number
EP 19 19 4863

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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X	WO 2018/169108 A1 (KIM SANG YONG [KR]) 20 September 2018 (2018-09-20) * figures 1-4 * * paragraph [0083] - paragraph [0106] *	1-9	INV. A61G9/00
X	WO 2017/081601 A1 (ZABARA KAMAL [RU]) 18 May 2017 (2017-05-18) * figures 1-2 * * page 2, line 25 - page 3, line 17 * * page 5, line 19 - page 6, line 21 *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			A61G
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 February 2020	Examiner Koszewski, Adam
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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