



(11)

EP 3 674 226 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
01.07.2020 Bulletin 2020/27

(51) Int Cl.:
B65D 5/20 (2006.01) B65D 5/24 (2006.01)

(21) Application number: **18248011.1**

(22) Date of filing: **27.12.2018**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(72) Inventor: **Wang, Jia-Shou**
New Taipei City 251 (TW)

(74) Representative: **Straus, Alexander et al**
**2K Patent- und Rechtsanwälte Dr. Alexander
Straus**
Keltenring 9
82041 München / Oberhaching (DE)

(71) Applicant: **Wang, Jia-Shou**
New Taipei City 251 (TW)

(54) **FOLDING CONTAINER THAT CAN BE UNFOLDED FOR APPLICATION**

(57) A container (10, 10A) includes a base panel (20, 20A), a plurality of first folding panels (30, 30A), a plurality of second folding panels (40, 40A) and a plurality of fixation folding panels (50, 50A). The first folding panels (30, 30A) are folded up inwardly along respective first folding lines (31, 31A) between the first folding panels (30, 30A) and the base panel (20, 20A) to form a peripheral wall (11, 11A) and an accommodation chamber (13, 13A). Each second folding panel (40, 40A) is folded up outwardly along one respective second folding line (41) and overlapped on the peripheral wall (11, 11A) that is formed of the first folding panels (30, 30A). Each fixation folding panel (50, 50A) is folded up outwardly along a respective third folding line (51, 51A) and overlapped on the peripheral wall (11, 11A) that is formed of the first folding panels (30, 30A). Thus, the user can provide foods in the container (10, 10A) for eating, and the container (10, 10A) can be unfolded to form a plate to holding foods.

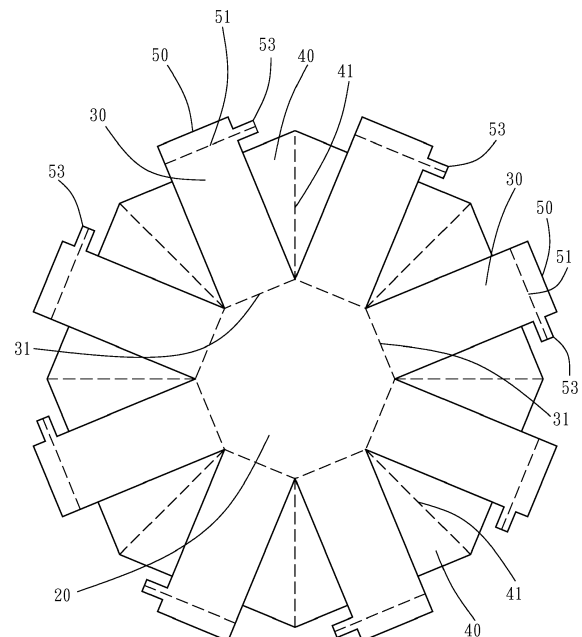


FIG. 1

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to container technology and more particularly, to a container formed by folding.

2. Description of the Related Art

[0002] Due to the rapid development of the times, the fast-food industry and out-eaters have developed rapidly. Also, because people want to eat at home easily, they buy disposable bowls and containers for holding foods. Many foods must be placed on a plate for convenience in terms of sight and access. However, it is very inconvenient to pour the food out the container into a dish.

[0003] It is a daily practice to make a three-dimensional container by folding the corners of a sheet material. However, the folded parts must be bonded to enhance the strength of the container. Taiwan Patent Utility Number M255233 discloses a multi-sided paper bowl structure that is formed by folding a circular paperboard (10) into shape. The circular paperboard (10) comprises a circular base portion (11) at the center, an outer polygon (12) disposed outside the circular based portion (11), a plurality of folding lines (13) respectively outwardly extended from respective angles of the outer polygon (12) and defining a plurality of isometrically arranged pressing panels (14) and bonding panels (15). Each pressing panel (14) extends outwardly with a protruding edge (16), and a crease line (17) is formed between the protruding edge (16) and the pressing panel (14). By means of the folding lines (13), the bonding panels (15) are folded up and respectively attached to respective back sides of the respective pressing panels (14) so that the pressing panels (14) and the respective protruding edges (16) are overlapped and respectively bonded together to create a multi-sided paper bowl. However, such containers must be fixedly secured in shape by bonding. After bonding, they cannot be unfolded into a flat shape for application.

[0004] Further, US-9,045,246 B2, entitled "Container usable as a deep bottom and shallow bottom type container, and manufacturing method thereof". This design of container is usable as a deep bottom- and shallow bottom-type container by changing between deep bottom- and shallow bottom-type container configurations by folding along prescribed ruled lines, forming a protruding part on the circumferential wall surface and forming undistorted smooth surfaces. This container is usable as a deep bottom- and shallow bottom-type container in which a deep bottom-type container configuration can be changed into a shallow bottom-type container configuration, wherein the deep-bottom type container is obtained by folding, along prescribed ruled lines, a single blank having a part with prescribed ruled lines and correspond-

ing to the bottom surface (referenced by 12D), a part sectioned into compact triangles and quadrilaterals and corresponding to a partition surface, and a part corresponding to an inner folded surface (referenced by 4), and the deep-bottom type container comprises a protruding part formed without distortion on the circumferential wall surface. According to this design, the deep-bottom type container is obtained by folding, and the deep bottom-type container configuration can be changed into a shallow bottom-type container configuration. After folded into shape, the deep bottom-type container configuration does not provide any reinforced parts to prevent the contained foods from being spilled out of the container. Therefore, when the food is contained in the container, the support force around the container is completely insufficient, and there is still inconvenience in application.

SUMMARY OF THE INVENTION

[0005] The present invention has been accomplished under the circumstances in view. It is the main object of the present invention to provide a container that is shape formed by folding for holding drinking or foods safely and conveniently, and that can be conveniently unfolded into a plate for dish for holding foods.

[0006] To achieve this and other objects of the present invention, a container comprises a base panel, at least three first folding panels, a plurality of second folding panels and a plurality of fixation folding panels. Each first folding panel has one end thereof connected to the base panel and defining with the base panel a first folding line therebetween, and an opposite end thereof connected to one respective fixation folding panel. The second folding panels are respectively connected between each two adjacent first folding panels so that the first folding panels and the second folding panels are alternatively arranged around the base panel. Each second folding panel comprises a second folding line radially extended from the junction between two adjacent first folding panels and the base panel. Each fixation folding panel comprises a connection portion.

[0007] The first folding panels are inwardly folded up along the respective first folding lines at the junction of the base panel so that the first folding panels are abutted against one another to form a peripheral wall of the container where the peripheral wall and the base panel surround an accommodation chamber. Each second folding panel is folded up outwardly along the respective second folding line to form one respective overlapped portion. Each overlapped portion is biased along connected long side of the respective first folding panel in the clockwise or counter-clockwise direction and attached to an outer side of the peripheral wall. Each fixation folding panel is folded up outwardly along the respective third folding line and abutted at the overlapped portion of one respective second folding panel overlapped on and secured to the outer side of the peripheral wall of the container.

[0008] Preferably, the second folding panels have a

kite shape, and the second folding line of each second folding panel is the long diagonal of the kite shape.

[0009] Preferably, the connection portion of one fixation folding panel is connected to another fixation folding panel to form a loop, creating a cup mouth of the container.

[0010] To achieve this and other objects of the present invention, a container comprises a base panel, a plurality of first folding panels, a plurality of second folding panels and a plurality of fixation folding panels.

[0011] Each first folding panel has one short side thereof connected to the base panel and defining with the base panel a first folding line therebetween, and an opposite short side thereof connected to one respective fixation folding panel to form a third folding line therebetween. Each second folding panel is composed of a main folding panel portion and an auxiliary folding panel portion. Each first folding panel has one long side thereof connected to a long side of the main folding panel portion of one second folding panel, and an opposite long side thereof connected to a long side of the auxiliary folding panel portion of another second folding panel. The second folding panels are respectively connected between each two adjacent first folding panels so that the first folding panels and the second folding panels are alternatively arranged around the base panel. Each second folding panel comprises a second folding line located on the junction between the main folding panel portion and the auxiliary folding panel portion thereof and radially extended from the junction between two adjacent the first folding panels and the base panel.

[0012] The first folding panels are inwardly folded up along the respective first folding lines so that the first folding panels are abutted against one another to form a peripheral wall of the container where the peripheral wall and the base panel surround an accommodation chamber. Each second folding panel is folded up outwardly along the respective second folding line to overlap the auxiliary folding panel portion on the associating main folding panel portion, and the overlapped auxiliary folding panel portion and main folding panel portion are biased along the connected long side of the respective first folding panel in the clockwise or counter-clockwise direction and attached to an outer side of the peripheral wall.

[0013] Preferably, each fixation folding panel is folded up outwardly along the respective third folding line to form a cup mouth flange. The cup mouth flanges formed of the fixation folding panels are abutted against one another at an outer side of the peripheral wall to create a cup mouth of the container.

[0014] Preferably, the cup mouth flange of each fixation folding panel has a bottom side thereof abutted against a top edge of the auxiliary folding panel portion of one respective second folding panel, and a distal end thereof stopped against one side of the main folding panel portion of one respective second folding panel.

[0015] Other advantages and features of the present

invention will be fully understood by reference to the following specification in conjunction with the accompanying drawings, in which like reference signs denote like components of structure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016]

FIG. 1 is a schematic top view of a container in an unfolded condition in accordance with a first embodiment of the present invention.

FIG. 2 is a perspective view of the container in accordance with the first embodiment of the present invention.

FIG. 3 is a sectional view, in an enlarged scale, taken along line 3-3 of FIG. 2.

FIG. 4 is a schematic top view of a container in an unfolded condition in accordance with a second embodiment of the present invention.

FIG. 5 is a perspective view of the container in accordance with the second embodiment of the present invention.

FIG. 6 is a sectional view, in an enlarged scale, taken along line 6-6 of FIG. 5.

FIG. 7 is a schematic top view of a container in an unfolded condition in accordance with a third embodiment of the present invention.

FIG. 8 is a perspective view of the container in accordance with the third embodiment of the present invention.

FIG. 9 is a sectional view, in an enlarged scale, taken along line C-C of FIG. 8.

DETAILED DESCRIPTION OF THE INVENTION

[0017] Referring to FIGS. 1-3, a container **10** that can be unfolded for application in accordance with a first embodiment of the present invention is shown. The container **10** comprises a base panel **20**, 8 first folding panels **30**, 8 second folding panels **40** and 8 fixation folding panel **50**.

[0018] The base panel **20** is octagonal in shape. The first folding panels **30** have the same rectangular shape and size arranged around the base panel **20**. The second folding panels **40** have the same kite shape, however, this kite shape is not intended to limit the technical features claimed in the present invention.

[0019] The first folding panels **30** have the same rectangular shape and size. Each first folding panel **30** has one short side thereof connected to the base panel **20**, forming a first folding line **31** at the junction of the base panel **20**.

[0020] The second folding panels **40** are respectively connected between each two adjacent first folding panels **30** so that the first folding panels **30** and the second folding panels **40** are alternatively arranged around the base panel **20**. Preferably, the sides between each two adja-

cent first folding panels **30** are long sides that are respectively connected to two opposing long sides of one respective kite-shaped second folding panel **40**. Each second folding panel **40** has a second folding line **41** radially extended from the junction between the two adjacent first folding panels **30** and the base panel **20**. Preferably, the second folding line **41** of each second folding panel **40** is the long diagonal of the kite shape.

[0021] The other short side of each first folding panel **30** is connected to one respective fixation folding panel **50**, forming a third folding line **51** at the junction of the fixation folding panel **50**. Preferably, each fixation folding panel **50** has a connection portion **53**.

[0022] In the first embodiment of the present invention, the number of the first folding panels, the second folding panels, and the fixing folding panels is not limited to eight and may be other numbers such as three or ten, and the number in this embodiment is eight that is simply an example for explanation but not a limitation.

[0023] As illustrated in FIG. 1, when the user unfolds the container **10** to form a disk shape, it can be used as a dish to hold the food to be eaten. When the user folds up the disk shape, the desired effect lies in:

[0024] At first, as shown in FIG. 2, fold up the first folding panels **30** inwardly along the respective first folding lines **31** at the junction of the base panel **20** so that the first folding panels **30** are abutted against one another to form a peripheral wall **11** of the container **10** where the peripheral wall **11** of the container **10** and the base panel **20** surround an accommodation chamber **13**. Thereafter, fold up each second folding panel **40** outwardly along the respective second folding line **41** to form one respective overlapped portion **43**, and then bias each overlapped portion **43** along the long side of the respective first folding panel **30** in the clockwise (or counter-clockwise) direction to attach each overlapped portion **43** to the outer side of the peripheral wall **11** of the container **10**. Thereafter, fold up each fixation folding panel **50** outwardly along the respective third folding line **51**, enabling the fixation folding panels **50** to be overlapped on and secured to the outer side of the peripheral wall **11** of the container **10**. Preferably, when folding up the fixation folding panels **50** outwardly, the connection portion **53** of one fixation folding panel **50** is wrapped in one respective adjacent fixation folding panel **50** to form a loop, thereby creating a cup mouth **15** of the container **10**. When one fixation folding panel **50** is folded up outwardly, it is abutted against a top edge of one respective overlapped portion **43**, as shown in FIG. 3. Thus, the user can provide drink or foods in the accommodation chamber **13** of the container **10** for drinking or eating, achieving the technical characteristics and the effects and purposes of the container **10** claimed in the present invention.

[0025] Referring to FIGS. 4-6, a container in accordance with a second embodiment of the present invention is shown. This second embodiment is substantially similar to the aforesaid first embodiment with the exceptions outlined hereinafter.

[0026] Each fixation folding panel **50** has a receiving channel **52**. The receiving channel **52** has a larger inner diameter of retaining portion **521**. The connection portion **53** comprises a retaining block **55**. The outer diameter of the retaining block **55** is larger than the receiving channel **52** but smaller than the retaining portion **521**. The retaining blocks **55** of the connection portions **53** can be inserted into the receiving channels **52** of the respective adjacent fixation folding panels **50** and retained in the respective retaining portions **521** to form a loop, thereby creating a cup mouth **15** of the container **10**. When one fixation folding panel **50** is folded up outwardly, it is abutted against a top edge of one respective overlapped portion **43**, as shown in FIG. 5.

[0027] In addition to achieving the technical characteristics and the effects and purposes of the container **10** claimed in the present invention, the container **10** can be conveniently unfolded simply by removing the connection portion **53** of one fixation folding panel **50** from the adjacent fixation folding panel **50** for allowing the other fixation folding panels **50** to be extended out one after another.

[0028] The invention has the advantages as follows:

1. The invention can maintain the integrity and beauty of the original container or the unfolded container and can achieve a certain sealing effect after the container cover is closed.
2. The invention can utilize the folded indentation and curvature to make the unfolded container have different crease changes, achieving different aesthetic effects.
3. The invention can be made by using a single piece of flat material, or a reinforcing piece can be adhered to the base panel of the shaped container to reinforce the strength of the base panel. Alternatively, the peripheral wall and base panel of the container can be separately made of different sheet materials and then bonded together like the fabrication of a disposable tableware in the market.
4. When the fixation folding panels of the cup mouth are folded up outwardly, they are abutted against the respective top edges of the respective overlapped portions to hold down the respective overlapped portions on the outer side of the peripheral wall of the container without flipping out. When unfolding the container, the overlapped portions can still be conveniently unfolded.

[0029] Referring to FIGS. 7-9, a container **10A** that can be unfolded for application in accordance with a third embodiment of the present invention is shown. The container **10A** comprises a base panel **20A**, 8 first folding panels **30A**, 8 second folding panels **40A** and 8 fixation folding panels **50A**.

[0030] The base panel **20A** is octagonal in shape.

[0031] The first folding panels **30A** have the same rectangular shape and size. Each first folding panel **30A** has

one short side thereof connected to the base panel **20A**, forming a first folding line **31A** at the junction of the base panel **20A**.

[0032] Each second folding panel **40A** is composed of a main folding panel portion **41A** and an auxiliary folding panel portion **43A**. Each first folding panel **30A** has one long side thereof connected to the long side of the main folding panel portion **41A** of one respective second folding panel **40A**, and an opposite long side thereof connected to the long side of the auxiliary folding panel portion **43A** of another second folding panel **40A**. Thus, the second folding panels **40A** are respectively connected between each two adjacent first folding panels **30A** so that the first folding panels **30A** and the second folding panels **40A** are alternatively arranged around the base panel **20A**.

[0033] Further, each second folding panel **40A** has a second folding line **45A** located on the junction between the main folding panel portion **41A** and auxiliary folding panel portion **43A** thereof and radially extended from the junction between the two adjacent first folding panels **30A** and the base panel **20A**. Preferably, the overall area of the main folding panel portion **41A** of each second folding panel **40A** is larger than overall area of the associating auxiliary folding panel portion **43A**.

[0034] The other short side of each first folding panel **30A** is connected to one respective fixation folding panel **50A**, forming a third folding line **51A** at the junction of the fixation folding panel **50A**.

[0035] In this third embodiment of the present invention, the number of the first folding panels **30A**, the second folding panels **40A**, and the fixing folding panels **50A** is eight that is simply an example for explanation but not a limitation, i.e., other numbers such as three, four, five, six, seven, nine or ten can be selectively employed.

[0036] As illustrated in FIG. 7, when the user unfolds the container **10A** to form a disk shape, it can be used as a plate or dish for food.

[0037] Referring to FIGS. 8 and 9 again, when the user is going to fold up the disk shape into the container **10A**, performs the steps outlined hereinafter. At first, fold up the first folding panels **30A** inwardly along the respective first folding lines **31A** at the junction of the base panel **20A** so that the first folding panels **30A** are abutted against one another to form a peripheral wall **11A** of the container **10A** where the peripheral wall **11A** of the container **10A** and the base panel **20A** surround an accommodation chamber **13A**. Thereafter, fold up each second folding panel **40A** outwardly along the respective second folding line **45A** to overlap the auxiliary folding panel portion **43A** of each second folding panel **40A** on the associating main folding panel portion **41A**, and then bias the overlapped auxiliary folding panel portion **43A** and main folding panel portion **41A** of each second folding panel **40A** along the long side of the respective first folding panel **30A** in the clockwise (or counter-clockwise) direction to attach the overlapped auxiliary folding panel portion **43A** and main folding panel portion **41A** of each sec-

ond folding panel **40A** to the outer side of the peripheral wall **11A** of the container **10A**. Thus, the user can provide drink or food in the accommodation chamber **13A** of the container **10A** for drinking or eating.

[0038] Further, each fixation folding panel **50A** is folded up outwardly along the respective third folding line **51A** to form a cup mouth flange **53A** that is overlapped on and secured to the outer side of the peripheral wall **11A** of the container **10A**. Thus, the cut mouth flanges **53A** are connected to form a loop, creating a cup mouth **15A** of the container **10A**. Preferably, the bottom side of the cup mouth flange **53A** of each fixation folding panel **50A** is abutted against the top edge of the auxiliary folding panel portion **43A** of one respective second folding panel **40A** and the distal end of the cup mouth flange **53A** of each fixation folding panel **50A** is stopped at one side of the main folding panel portion **41A** of one respective second folding panel **40A**. Most preferably, a first imaginary distance **D1** is defined between the cup mouth **15A** of the container **10A** and the distal end of the main folding panel portion **41A** of each second folding panel **40A** and a second imaginary distance **D2** is defined between the cup mouth **15A** of the container **10A** and the distal end of the auxiliary folding panel portion **43A** of each second folding panel **40A** where the first imaginary distance **D1** is shorter than the second imaginary distance **D2**.

Claims

1. A container (10, 10A), comprising:

a base panel (20, 20A), a plurality of first folding panels (30, 30A), a plurality of second folding panels (40, 40A) and a plurality of fixation folding panels (50, 50A), each said first folding panel (30, 30A) having one end thereof connected to said base panel (20, 20A) and defining with said base panel (20, 20A) a first folding line (31, 31A) therebetween and an opposite end thereof connected to one respective said fixation folding panel (50, 50A), said second folding panels (40, 40A) being respectively connected between each two adjacent said first folding panels (30, 30A) so that said first folding panels (30, 30A) and said second folding panels (40, 40A) are alternatively arranged around said base panel (20, 20A), each said second folding panel (40, 40A) comprising a second folding line (41) radially extended from the junction between two adjacent said first folding panels (30, 30A) and said base panel (20, 20A), each said fixation folding panel (50, 50A) comprising a connection portion (53);

wherein said first folding panels (30, 30A) are inwardly folded up along the respective said first folding lines (31, 31A) at the junction of said base panel (20, 20A) so that said first folding panels

- (30, 30A) are abutted against one another to form a peripheral wall (11, 11A) of the container (10, 10A) where said peripheral wall (11, 11A) and said base panel (20, 20A) surround an accommodation chamber (13, 13A); each said second folding panel (40, 40A) is folded up outwardly along the respective said second folding line (41) to form one respective overlapped portion (43); each said overlapped portion (43) is biased along connected long side of the respective said first folding panel (30, 30A) in the clockwise or counter-clockwise direction and attached to an outer side of said peripheral wall (11, 11A); said connection portion (53) of one said fixation folding panel (50, 50A) is connected to another said fixation folding panel (50, 50A) to form a loop, creating a cup mouth (15, 15A) of the container (10, 10A).
2. The container (10, 10A) as claimed in claim 1, wherein each said fixation folding panel (50, 50A) is folded up outwardly along the respective a third folding line (51, 51A) and overlapped on and secured to the outer side of said peripheral wall (11, 11A) of the container (10, 10A).
 3. The container (10, 10A) as claimed in claim 2, wherein said connection portions (53) of said fixation folding panels (50, 50A) are wrapped in respective adjacent said fixation folding panels (50, 50A) to form a loop, creating said cup mouth (15, 15A).
 4. The container (10, 10A) as claimed in claim 1, wherein said second folding panels (40, 40A) have a kite shape; said second folding line (41) of each said second folding panel (40, 40A) is the long diagonal of the kite shape.
 5. The container (10, 10A) as claimed in claim 1, wherein each said fixation folding panel (50, 50A), after having been folded up, is abutted against a top edge of one respective said overlapped portion (43).
 6. The container (10, 10A) as claimed in claim 1, wherein each said fixation folding panel (50, 50A) comprises a receiving channel (52).
 7. The container (10, 10A) as claimed in claim 6, wherein said connection portion (53) of each said fixation folding panel (50, 50A) comprises a retaining block (55), said retaining block (55) of said connection portion (53) of one said fixation folding panel (50, 50A) is engaged into said receiving channel (52) of said connection portion (53) of another said fixation folding panel (50, 50A) so that said connection portions (53) of said fixation folding panels (50, 50A) are connected to one another to form a loop.
 8. The container (10, 10A) as claimed in claim 7, wherein said receiving channel (52) comprises a relatively larger inner diameter of retaining portion (521); said retaining block (55) of said connection portion (53) of one said fixation folding panel (50, 50A) is engaged in the said relatively larger inner diameter of retaining portion (521) of said receiving channel (52) of said connection portion (53) of another said fixation folding panel (50, 50A).
 9. The container (10, 10A) as claimed in claim 8, wherein the outer diameter of said retaining block (55) is larger than said receiving channel (52) but smaller than said retaining portion (521).
 10. The container (10, 10A) as claimed in claim 6, wherein when said fixation folding panel (50, 50A) is folded up outwardly, the folded said fixation folding panel (50, 50A) is abutted against a top edge of one respective said overlapped portion (43).
 11. A container (10, 10A), comprising:
 - a base panel (20, 20A), a plurality of first folding panels (30, 30A), a plurality of second folding panels (40, 40A) and a plurality of fixation folding panels (50, 50A), each said first folding panel (30, 30A) having one short side thereof connected to said base panel (20, 20A) and defining with said base panel (20, 20A) a first folding line (31, 31A) therebetween and an opposite short side thereof connected to one respective said fixation folding panel (50, 50A) to form a third folding line (51, 51A) therebetween, each said second folding panel (40, 40A) being composed of a main folding panel portion (41A) and an auxiliary folding panel portion (43A), each said first folding panel (30, 30A) having one long side thereof connected to a long side of said main folding panel portion (41A) of one said second folding panel (40, 40A) and an opposite long side thereof connected to a long side of said auxiliary folding panel portion (43A) of another said second folding panel (40, 40A), said second folding panels (40, 40A) being respectively connected between each two adjacent said first folding panels (30, 30A) so that said first folding panels (30, 30A) and said second folding panels (40, 40A) are alternatively arranged around said base panel (20, 20A), each said second folding panel (40, 40A) comprising a second folding line (45A) located on the junction between said main folding panel portion (41A) and said auxiliary folding panel portion (43A) thereof and radially extended from the junction between two adjacent said first folding panels (30, 30A) and said base panel (20, 20A);
 - wherein said first folding panels (30, 30A) are

inwardly folded up along the respective said first folding lines (31, 31A) so that said first folding panels (30, 30A) are abutted against one another to form a peripheral wall (11, 11A) of the container (10, 10A) where said peripheral wall (11, 11A) and said base panel (20, 20A) surround an accommodation chamber (13, 13A); each said second folding panel (40, 40A) is folded up outwardly along the respective said second folding line (45A) to overlap the said auxiliary folding panel portion (43A) on the associating said main folding panel portion (41A), and the overlapped said auxiliary folding panel portion (43A) and said main folding panel portion (41A) are biased along the connected long side of the respective said first folding panel (30, 30A) in the clockwise or counter-clockwise direction and attached to an outer side of said peripheral wall (11, 11A).

(10, 10A) and the distal end of said auxiliary folding panel portion (43A) of each said second folding panel (40, 40A) where said first imaginary distance D1 is shorter than said second imaginary distance D2, and wherein the overall area of said main folding panel portion (41A) of each said second folding panel (40, 40A) is larger than the overall area of said auxiliary folding panel portion (43A).

12. The container (10, 10A) as claimed in claim 11, wherein each said fixation folding panel (50, 50A) is folded up outwardly along the respective said third folding line (51, 51A) to form a cup mouth flange (53A), the said cup mouth flanges (53A) formed of said fixation folding panels (50, 50A) being abutted against one another at an outer side of said peripheral wall (11, 11A) to create a cup mouth (15, 15A) of the container (10, 10A).
13. The container (10, 10A) as claimed in claim 12, wherein the said cup mouth flange (53A) of each said fixation folding panel (50, 50A) has a bottom side thereof abutted against a top edge of said auxiliary folding panel portion (43A) of one respective said second folding panel (40, 40A), and a distal end thereof stopped against one side of said main folding panel portion (41A) of one respective said second folding panel (40, 40A).
14. The container (10, 10A) as claimed in claim 13, wherein a first imaginary distance D1 is defined between said cup mouth (15, 15A) of the container (10, 10A) and the distal end of said main folding panel portion (41A) of each said second folding panel (40, 40A) and a second imaginary distance D2 is defined between said cup mouth (15, 15A) of the container (10, 10A) and the distal end of said auxiliary folding panel portion (43A) of each said second folding panel (40, 40A) where said first imaginary distance D1 is shorter than said second imaginary distance D2.
15. The container (10, 10A) as claimed in claim 12, wherein a first imaginary distance D1 is defined between said cup mouth (15, 15A) of the container (10, 10A) and the distal end of said main folding panel portion (41A) of each said second folding panel (40, 40A) and a second imaginary distance D2 is defined between said cup mouth (15, 15A) of the container

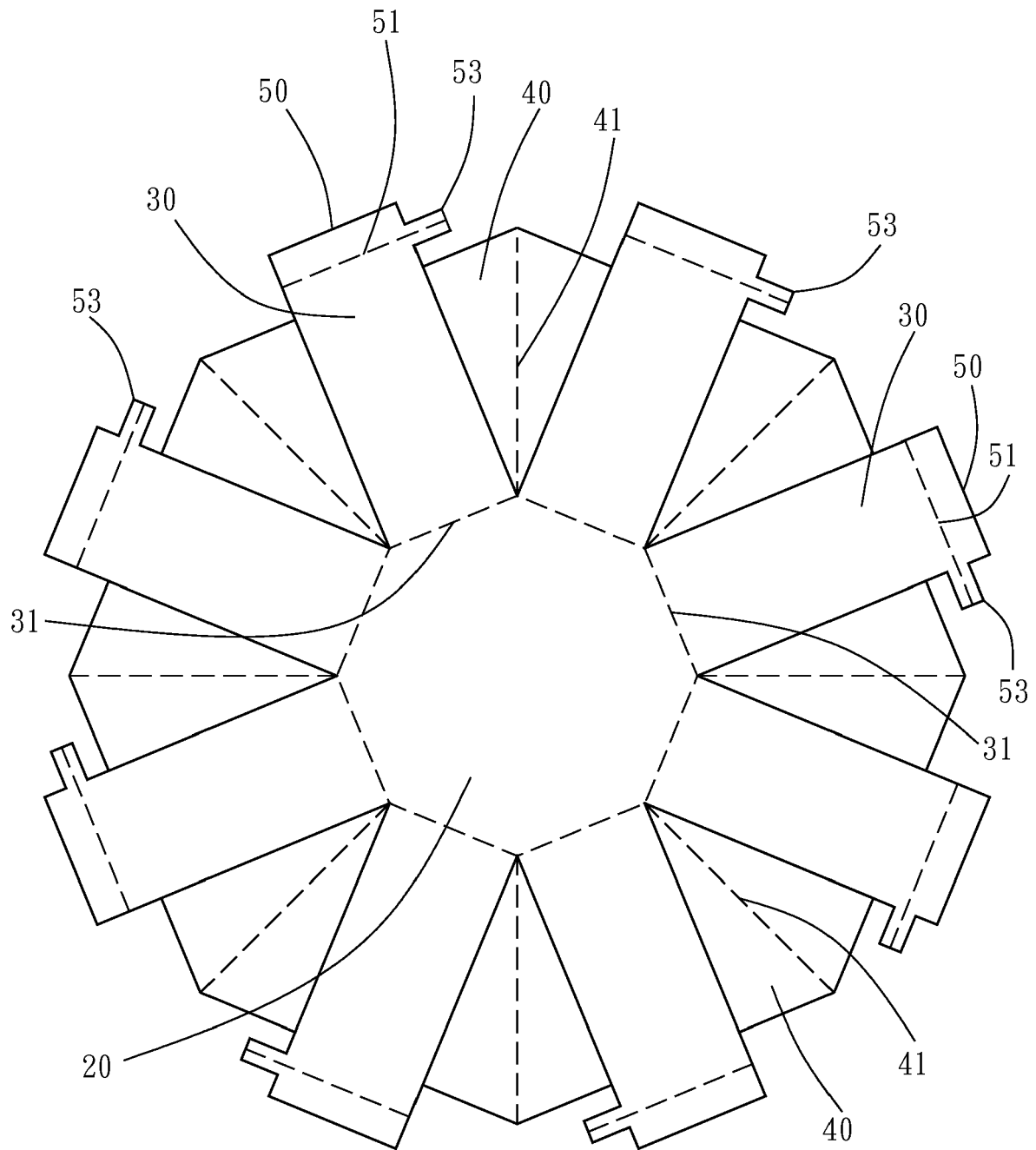


FIG. 1

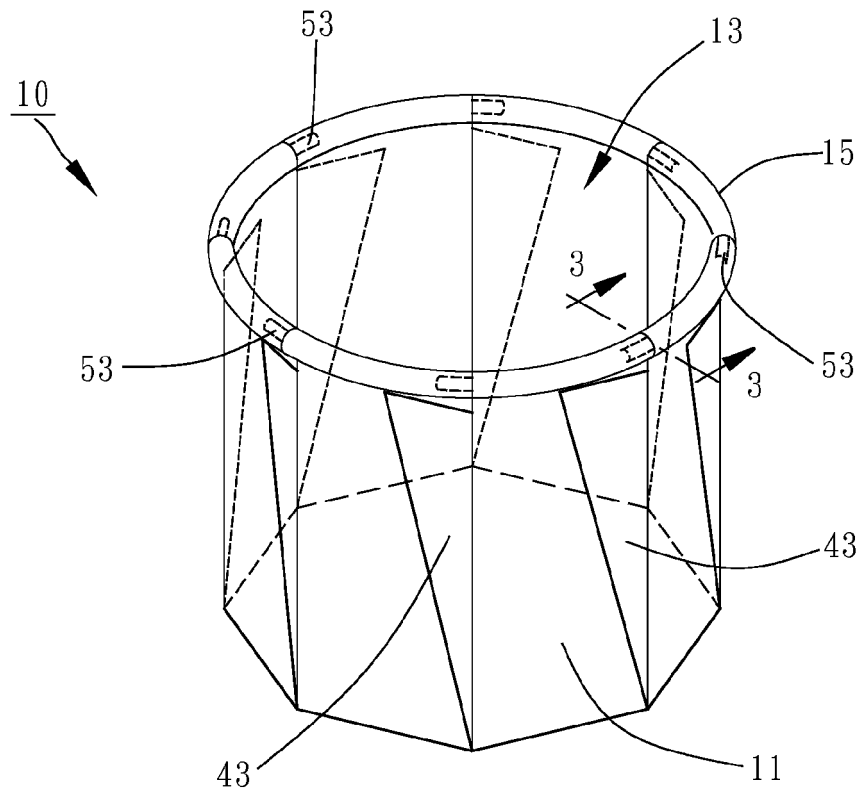


FIG. 2

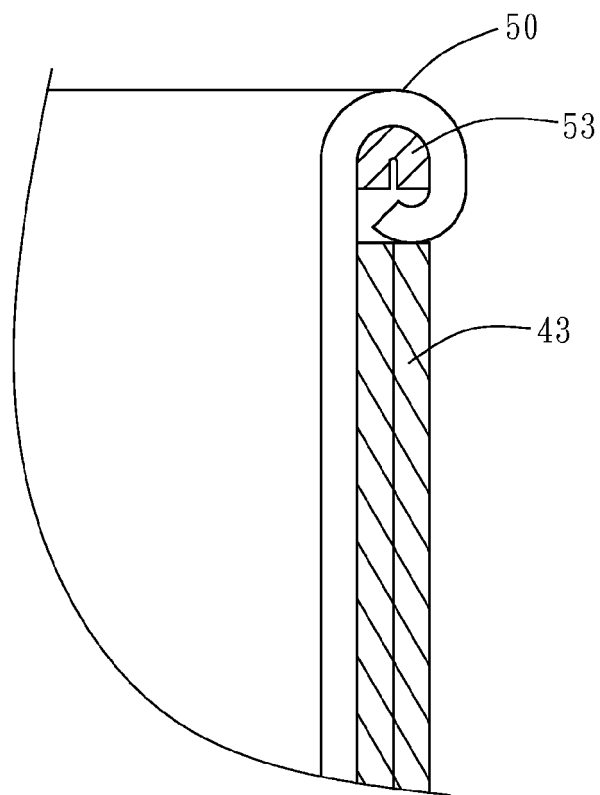


FIG. 3

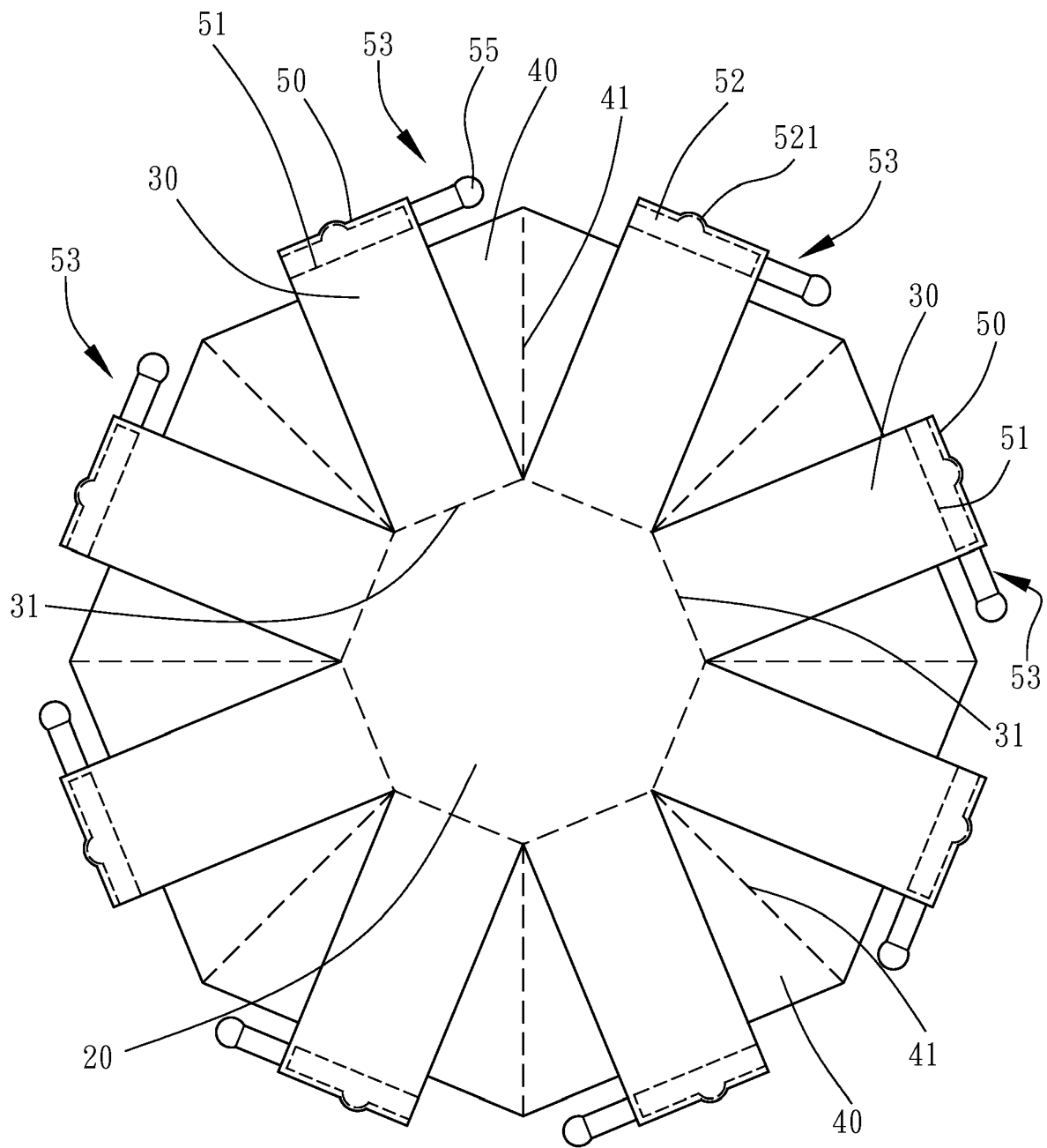


FIG. 4

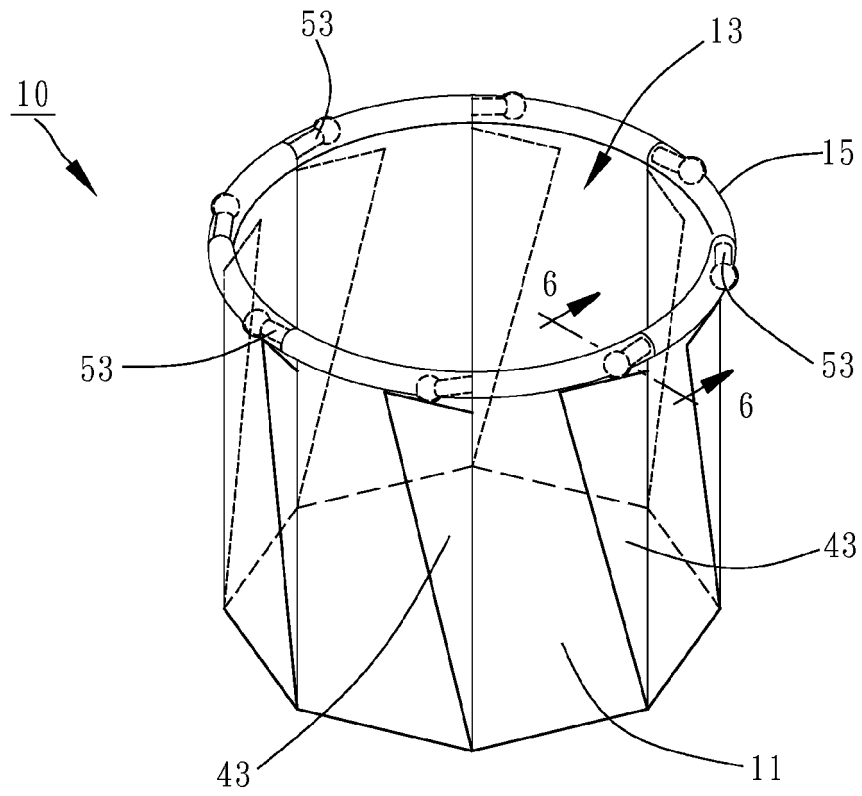


FIG. 5

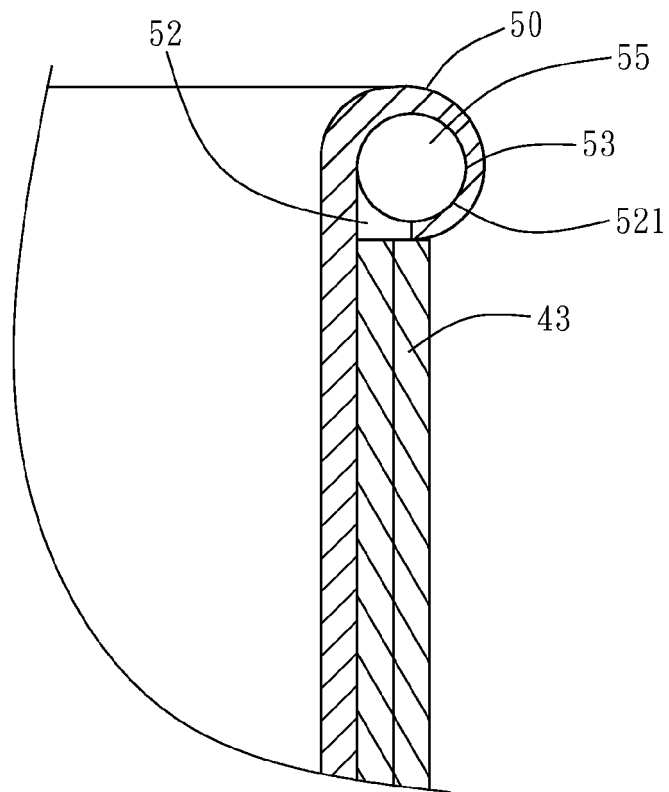


FIG. 6

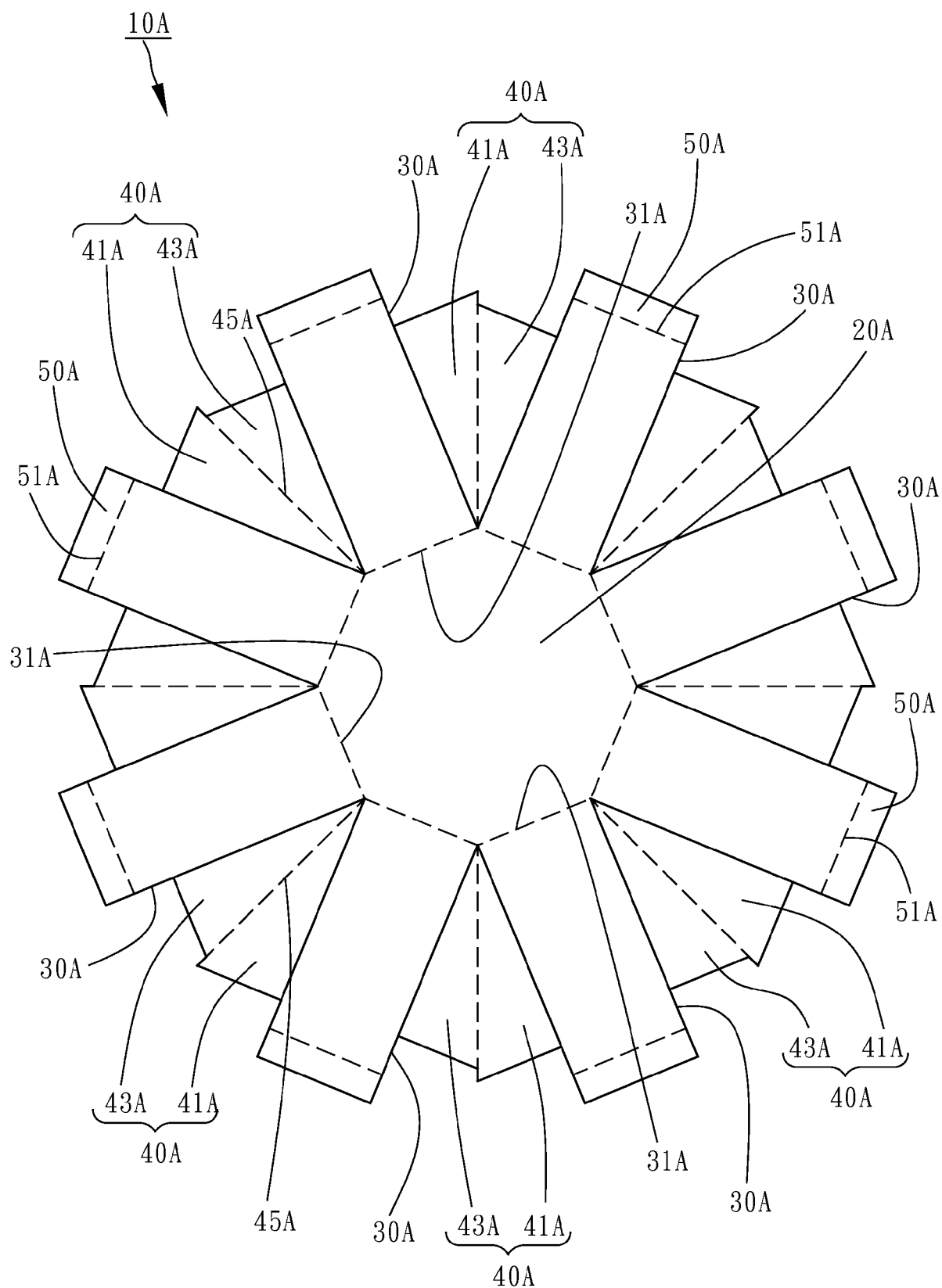


FIG. 7

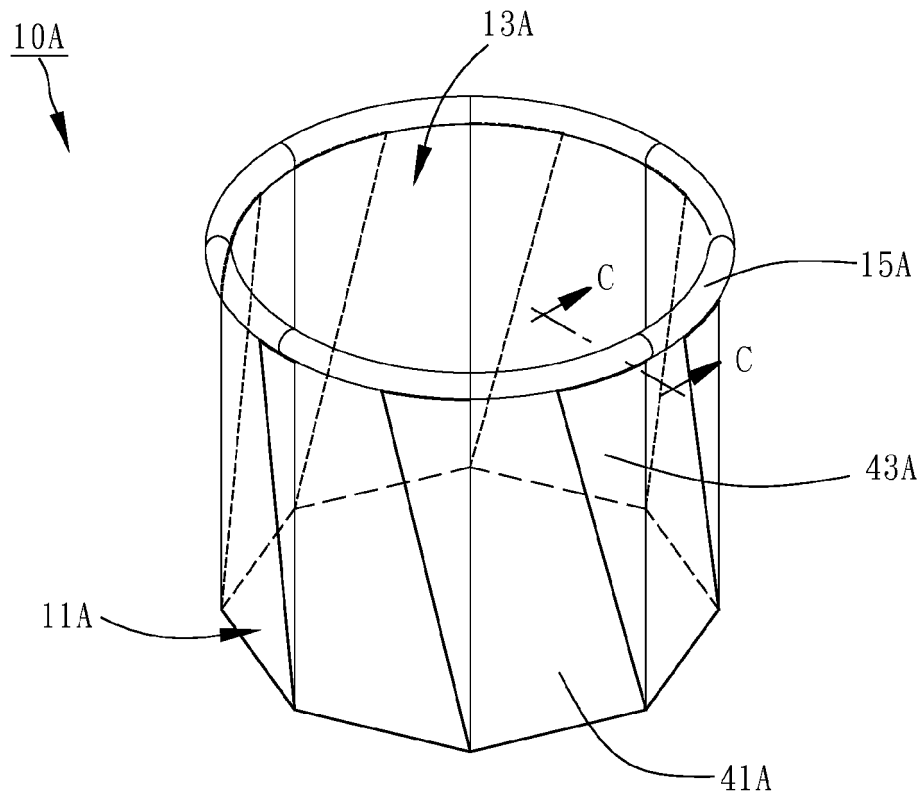


FIG. 8

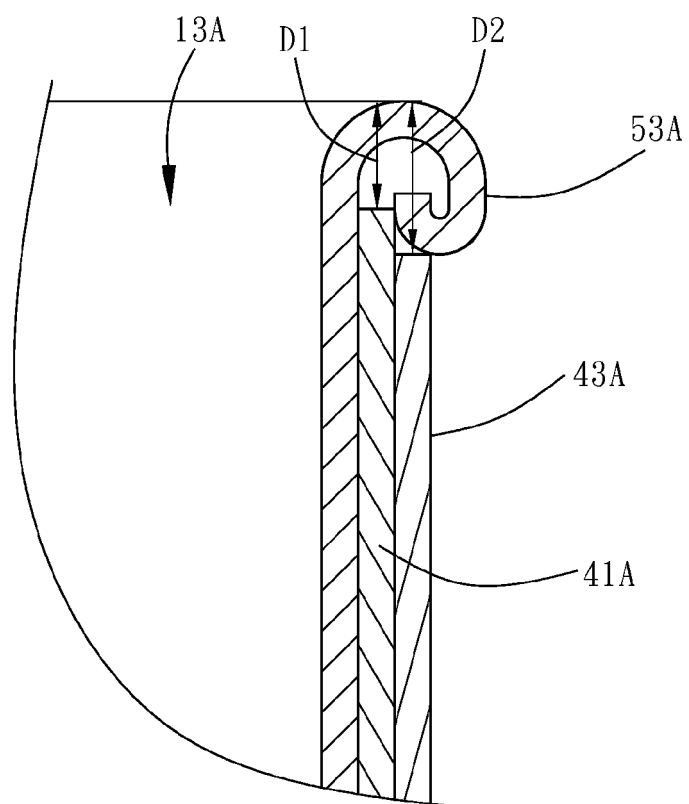


FIG. 9



EUROPEAN SEARCH REPORT

 Application Number
 EP 18 24 8011

5

10

15

20

25

30

35

40

45

50

55

1

EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	DE 22 61 649 A1 (4 P NICOLAUS KEMPTEN GMBH) 22 May 1974 (1974-05-22) * page 4, line 16 - page 7, line 6; figures 1-3 *	1,2,4-6, 10 3,7-9	INV. B65D5/20 B65D5/24
X A	US 3 423 008 A (MYKLEBY LAURIE G) 21 January 1969 (1969-01-21) * column 3, line 63 - column 6, line 42; figures 5-14 *	1,4 2,3,5-10	
A	DE 81 20 990 U1 (HOERAUF MICHAEL MASCHF [DE]) 25 February 1982 (1982-02-25) * page 5, line 11 - page 8, line 32; figures 1-7 *	1-10	
A	DE 601 21 244 T2 (KURAMAE SANGYO CO LTD [JP]) 28 June 2007 (2007-06-28) * paragraph [0024] - paragraph [0076]; figure 9 *	1-10	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 February 2019	Examiner Lämmel, Gunnar
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	



Application Number

EP 18 24 8011

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-10

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 18 24 8011

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-10

A container, comprising a base panel, a plurality of first folding panels, a plurality of second folding panels and a plurality of fixation folding panels, each said first folding panel having one end thereof connected to said base panel and defining with said base panel a first folding line there between and an opposite end thereof connected to one respective said fixation folding panel, said second folding panels being respectively connected between each two adjacent said first folding panels so that said first folding panels and said second folding panels are alternatively arranged around said base panel, each said second folding panel comprising a second folding line radially extended from the junction between two adjacent said first folding panels and said base panel, each said fixation folding panel comprising a connection portion; wherein said first folding panels are inwardly folded up along the respective said first folding lines at the junction of said base panel so that said first folding panels are abutted against one another to form a peripheral wall of the container where said peripheral wall and said base panel surround an accommodation chamber; each said second folding panel is folded up outwardly along the respective said second folding line to form one respective overlapped portion; each said overlapped portion is biased along connected long side of the respective said first folding panel in the clockwise or counter-clockwise direction and attached to an outer side of said peripheral wall; said connection portion of one said fixation folding panel is connected to another said fixation folding panel to form a loop, creating a cup mouth of the container.

2. claims: 11-15

A container, comprising a base panel, a plurality of first folding panels, a plurality of second folding panels and a plurality of fixation folding panels, each said first folding panel having one short side thereof connected to said base panel and defining with said base panel a first folding line therebetween and an opposite short side thereof connected to one respective said fixation folding panel to form a third folding line therebetween, each said second folding panel being composed of a main folding panel portion and an auxiliary folding panel portion, each said first folding panel having one long side thereof connected to a long side of said main folding panel portion of one said second folding panel and an opposite long side thereof connected to a long side of said auxiliary folding panel portion of another said second folding panel, said second



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 18 24 8011

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

folding panels being respectively connected between each two adjacent said first folding panels so that said first folding panels and said second folding panels are alternatively arranged around said base panel, each said second folding panel comprising a second folding line located on the junction between said main folding panel portion and said auxiliary folding panel portion thereof and radially extended from the junction between two adjacent said first folding panels and said base panel; wherein said first folding panels are inwardly folded up along the respective said first folding lines so that said first folding panels are abutted against one another to form a peripheral wall of the container where said peripheral wall and said base panel surround an accommodation chamber; each said second folding panel is folded up outwardly along the respective said second folding line to overlap the said auxiliary folding panel portion on the associating said main folding panel portion, and the overlapped said auxiliary folding panel portion and said main folding panel portion are biased along the connected long side of the respective said first folding panel in the clockwise or counter-clockwise direction and attached to an outer side of said peripheral wall.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 18 24 8011

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-02-2019

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 2261649 A1	22-05-1974	DE 2261649 A1	22-05-1974
		DE 7246048 U	14-10-1976
US 3423008 A	21-01-1969	NONE	
DE 8120990 U1	25-02-1982	DE 8120990 U1	25-02-1982
		JP H0253302 B2	16-11-1990
		JP S5820642 A	07-02-1983
		US 4471901 A	18-09-1984
DE 60121244 T2	28-06-2007	DE 60121244 T2	28-06-2007
		EP 1147989 A1	24-10-2001
		US 2002038816 A1	04-04-2002

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- TW M255233 [0003]
- US 9045246 B2 [0004]