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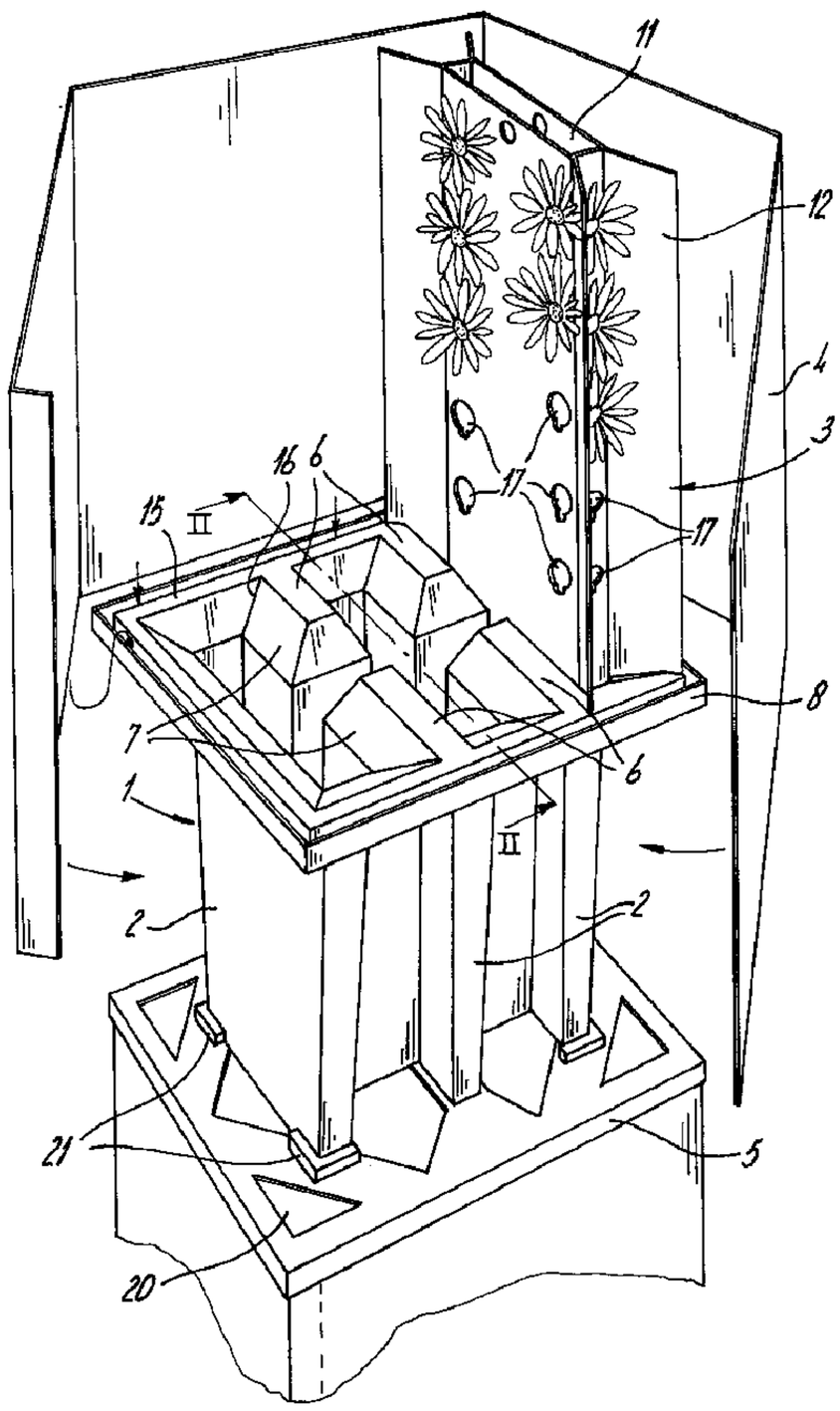
(54) Title: PACKAGING FOR LONG-STEMMED FLOWERS



(57) Abrégé/Abstract:
A packaging for long-stemmed flowers having little or no leaf, in particular gerberas, anthuriums and arum lilies, comprises: at least one or more vases (2) made of flexible or rigid material, means for positioning said vase or vases (2), one or more display tubes (3)

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(57) Abrégé(suite)/Abstract(continued):
with rows of openings (17) which allow the stems of the packed flowers to pass through, but not the flowers themselves, means for positioning the display tubes (3) above the vases (2) in such a way that the flower stems inserted through the openings in the display tubes (3) extend into the vases, a tubular protective collar (4) and means for positioning the protective collar (4) around the display tubes. Preferably the packaging also has a lid (5) that fits on the protective collar and contains ventilation openings.

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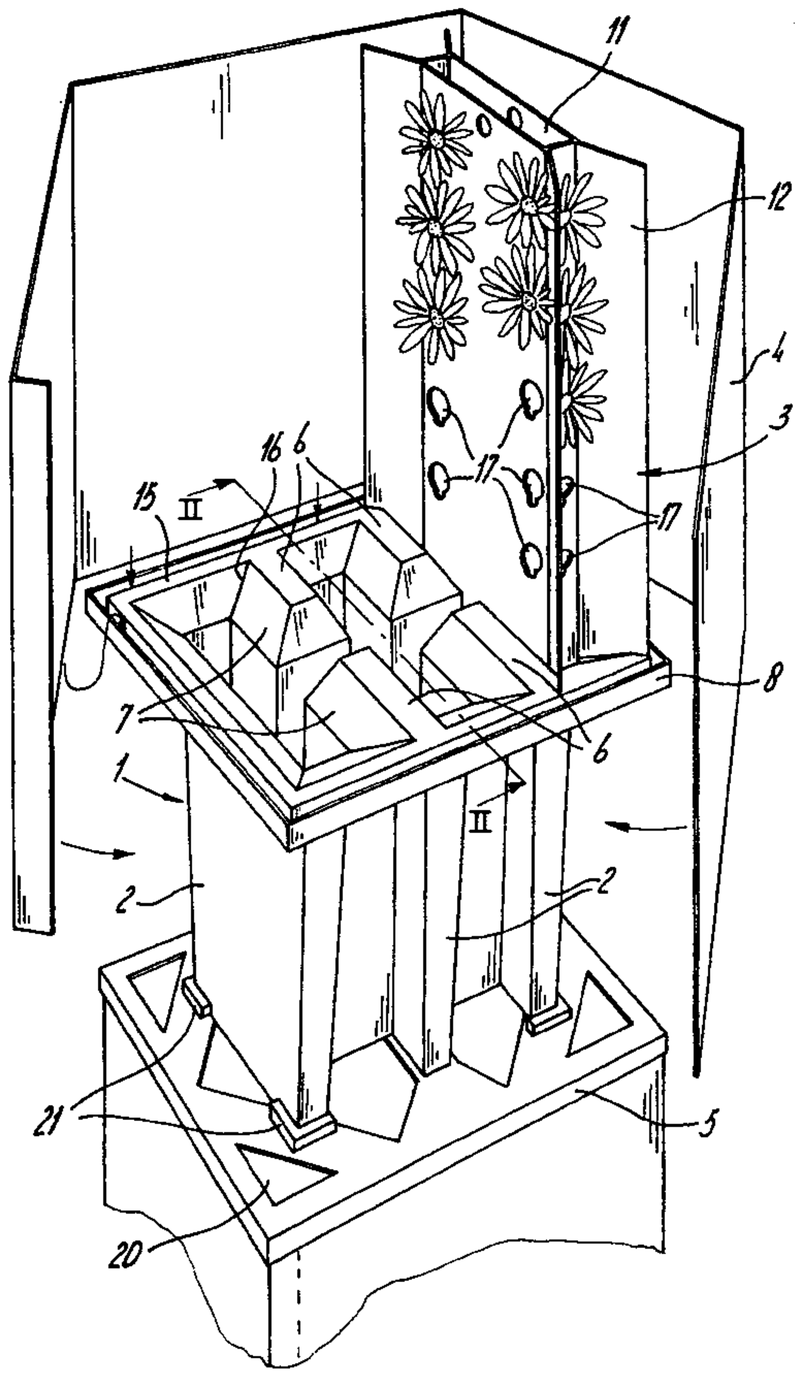
(54) Title: PACKAGING FOR LONG-STEMMED FLOWERS

(57) Abstract: A packaging for long-stemmed flowers having little or no leaf, in particular gerberas, anthuriums and arum lilies, comprises: at least one or more vases (2) made of flexible or rigid material, means for positioning said vase or vases (2), one or more display tubes (3) with rows of openings (17) which allow the stems of the packed flowers to pass through, but not the flowers themselves, means for positioning the display tubes (3) above the vases (2) in such a way that the flower stems inserted through the openings in the display tubes (3) extend into the vases, a tubular protective collar (4) and means for positioning the protective collar (4) around the display tubes. Preferably the packaging also has a lid (5) that fits on the protective collar and contains ventilation openings.



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Packaging for long-stemmed flowers

The invention relates to a packaging for long-stemmed flowers having little or no leaf, in particular gerberas, anthuriums and arum lilies.

Inventors have turned their attention to the packaging of gerberas (so-called cupping) in such a way that they are not damaged and do not wilt during transport. It is not uncommon to pack gerberas dry inside boxes. Wilting occurs relatively rapidly. It is also known to pack gerberas in a film sleeve and to place a number of flowers packed in this way in a bucket partially filled with water. The sleeve prevents damage to the flower heads. This method is labour intensive, whilst it takes a considerable time for the petals to return to an approximately horizontal position.

A packaging box for flowers with which the flowers are inserted through holes in the interior and the stems are guided into the horizontal position over the base is described in Netherlands Patent Application 7016433 and Netherlands Patent 189398. The boxes are completely closed, so that no ventilation takes place, as a result of which the formation of mould occurs relatively frequently.

The design filed under no. DM/017718 shows a flower packaging consisting of four conical vases which are to be filled with water and which are joined to one another by a common plate at their tops. To stabilise the flowers, an inlay is placed on the vases and the whole is placed in a cardboard box. The degree of loading leaves something to be desired and the flowers are not ventilated.

Another disadvantage is that the undersides of the vases are able to move relative to one another. If the base of one vase bends towards the other vases, the packaging can tip over. If the flower packaging according to DM/017718 is placed in a cardboard box, the box, which is necessarily moisture-absorbent, will have absorbed so much moisture that it becomes limp. There is no ventilation.

The transporting of gerberas in the vertical position in a container consisting of two vases with holes through which the stems of the flowers protrude is described in "Flower Trade Journal", April 1996. With this arrangement the flowers are inadequately protected during transport and the degree of loading is poor.

The aim of the invention is to avoid the disadvantages of known packaging while maintaining the advantages thereof. In particular, an aim of the invention is to provide a stackable packaging suitable for gerberas and the like with which the stems can stand in water, the flowers are optimally protected, the degree of loading is high, the components of the packaging can be returned to the sender taking up as little room as possible and the flowers can be well presented at auction or in the shop.

According to the invention, to this end the packaging comprises:

- at least one or more vases made of flexible or rigid material which are positioned by means of auxiliary means,
- one or more display tubes with rows of openings which allow the stems of the packed flowers to pass through, but not the flowers themselves,
- means for positioning the display tubes above the vases in such a way that the flower stems inserted through the openings in the display tubes extend into the vases,
- a tubular protective collar and means for positioning the protective collar around the display tubes.

In a first embodiment the vases together form a watertight nestable container with a peripheral channel projecting outwards, for accommodating the bottom edge of the protective collar, extending around the uppermost part thereof.

In a second embodiment the vases extend through openings in a tray which is fixed to a peripheral edge of a nestable container, which container surrounds the vases and is intended to position the vases and, if the vases are made of flexible material, to support them.

The means for positioning the display tubes can consist of projections, located on the top surface of the tray, in which cuts have been made to accommodate flanges of the display

tubes, which flanges project outwards.

The means for positioning the display tubes can also consist of supporting ribs projecting from the top surface of the tray.

The vases can be detachably fixed to parts of the tray by means of elastic bands. Another possibility is that the vases are fixed, at the tops thereof, by rigid rings, or to projections on said rings, which have been arranged on the tray.

The lid will preferably have been provided with ventilation openings and with a number of ridges projecting upwards, within which a container of a subsequent flower packaging, stacked on top, fits.

Preferably, in the effective folded position, each display tube consists of a rectangular tube and projecting ribs at each of the corners of said tube.

The bottom edges of the projecting ribs of this display tube can have been chamfered from a horizontal outermost part, the uppermost part of the container having, successively, working from said peripheral channel, a horizontal part directed inwards and a sloping part.

The openings in the display tubes consist of two circular cut-outs which intersect one another and have a different diameter, the circular cut-out of smaller diameter opening into the bottom part of the circular cut-out of larger diameter.

The invention also relates to a display tube intended for the packaging according to the invention.

The invention will now be explained in more detail with reference to the figures.

Figure 1 shows a perspective view of a first embodiment of a flower packaging according to the invention, without lid and with exposed protective collar and only one display tube, the packaging being stacked on the lid of an underlying packaging.

Figure 2 shows a vertical section along the line II - II in Figure 1.

Figure 3 shows a top view of the display tube in the embodiment according to Figures 1 and 2 in the display position.

Figure 4 shows a perspective view of a second embodiment.

Figure 5 shows a perspective view of a third embodiment.

Figure 6 shows a perspective view of a fourth embodiment.

Figure 7 is a section along the line VII - VII in Figure 5.

Figure 8 is a section along the line VIII - VIII in Figure 6.

The packaging shown in Figures 1 to 3 for long-stemmed flowers possessing little or no leaf, such as gerberas, comprises a container 1 formed by three flat vases 2, a display tube 3, placed on each of the vases, a tubular protective collar 4, arranged around the display tube, and a lid 5. In Figure 1 the lid of the top packaging has been omitted, but the container 1 is shown in a position in which it has been placed on the lid 5 of an underlying packaging.

The three flat vases 2 are placed in a row one after the other. In cross-section the vases are rectangular and the walls are tapered such that the containers are nestable.

The vases are in communication with one another by means of channels which are located between indented parts 6 which are positioned opposite one another and are delimited at the top by sloping side walls 7.

A U-shaped peripheral edge 8 which projects outwards is arranged around the top part of the container 1.

The display tubes 3 consist of a rectangular tube with fold lines 9 at the corners such that the tubes can easily be folded to give an article that can be transported flat. Two scored lines 10

have been made in each of the side faces, as a result of which the tube can be folded into the display position according to Figures 1 and 3, that is to say with a relatively small rectangular tube 11 and four double-folded flanges 12 projecting obliquely outwards from the corner points thereof.

The underside of each of the flanges 12 is formed with a sloping part 13 and a horizontal part 14. In the display position of the tubes the horizontal part 14 bears on a horizontal part 15 of a vase, which horizontal part 15 abuts the inside of the channel 8, and the sloping part 13 bears on a sloping part 16 of a vase.

The display tube can preferably assume three positions:

1. the empty transport position in which it is folded flat
2. the fill position: in this position it is a large, wide open tube. This provides a great deal of room for inserting the flower stems easily through the holes. A possible embodiment is that the tubes are provided with holes at the top by means of which they can optionally be suspended from a rotary holder and as a result of which they can easily be grasped.
3. the filled transport and display position: in this position the tube is a relatively narrow rectangular tube with four double-folded flanges projecting obliquely outwards from the corner points.

The display tube can also be shaped directly into the display position if the rectangular space 11 is sufficiently large to allow the stems to be inserted in the rectangular tube, so that the fill position is omitted.

Vertical rows of openings 17 through which a stem of a gerbera or the like is inserted have been made in the walls of the tube 11. The flowers cannot penetrate through these openings and remain easily visible in contact with a side wall of the tube. The openings 17 consist of two intersecting cut-outs: a circular cut-out 18 of relatively large diameter and a circular cut-out 19 of relatively small diameter. The small cut-out intersects the large cut-out at the bottom part thereof, so that a flower stem is stably accommodated in the circular cut-out of smaller diameter after it has easily been inserted through an opening 17.

As soon as a display tube has been provided with flowers it is placed on a vase 2. Figure 2 shows how a flower stem extends into the water in a vase 2. It will be clear that the stems extending into the water have a stabilising influence on the position of the display tube. The display tubes can thus assume three positions: the transport position, that is to say the position in which they are folded flat and in which the tubes are transported to the grower or trader, the fill position, in which the tubes are filled with flowers, and the transport position, in which the tubes filled with flowers are transported to the retailer.

After a display tube, with flowers, has been placed on each of the three vases 2, a protective collar 4 is fitted with its bottom end in the U-shaped channel 8 of the container 1. Finally, a lid 5 is fitted on the collar 4. During transport one or more plastic straps can be wrapped around each pack individually or around a number of packs stacked on a pallet. The number of display tubes 3 does not have to correspond to the number of vases 2. It would be possible to use six display tubes on three vases for gerberas with small flowers. For proteas it would be possible to use only one display tube for several vases. For callas and anthuriums two display tubes could possibly be used per three or more vases.

Ventilation openings 20 have been cut in the lid and four L-shaped ridges 21 have been made on the lid. As can be seen in Figure 1, the undersides of the vases 2 of an upper pack fit accurately into the space delimited by the ridges 21 of the lid 5 of a lower pack. Trapezium-shaped ridges according to NL-A 1 009 100 could be used instead of the L-shaped ridges 21.

The second embodiment according to Figure 4 differs from that according to Figures 1 to 3 in that the vases 2 consist of flexible film bags or of detachable vases made from a rigid material, the top edge of each of which is wrapped over a ring 22 and fixed in place, which ring bears on a tray 23 that bears by means of two supports 24, located opposite one another and each having a lip 25, on a peripheral edge 26 of a rectangular container 27. The film vases 2 are thus in the container 27, which serves to position the vases.

L-shaped ribs 28 have been formed at the corners of the tray 23 and a straight rib 29 has been formed in the middle of tray 23. Said ribs 28 and 29 serve for positioning of two display tubes 3 on the tray 23. In the effective position, the protective collar 4, which for the sake of clarity has been drawn in the unfolded position, rests on the bottom of a channel 30 which forms part

of the peripheral wall of the container 27. Said peripheral wall 26 is one of two upright edges of the channel 30.

The third embodiment according to Figures 5 and 7 differs from that according to Figure 4 in that the tray 23 is provided with upright projections 31 having cuts 32 for accommodating the outwardly projecting flanges 12 of the display tubes 3 which are positioned by this means.

The tray 23 also has two pairs of lips 33, each pair of which are located opposite one another and abut a ring 34 of L-shaped cross-section, each of which rings surrounds an oval-shaped opening in the tray 23. The top edges of the film vases 2 are wrapped over the ring 34 and are held in place by an elastic band 35. This elastic band 35 extends over a vertical part of the L-shaped ring 34. The two ends of the top edges of the film vases 2 can also be provided with two or more holes, which are fitted over the lips 33, by which means the film vases 2 are detachably fixed to tray 23 without the use of an elastic band.

To counteract the bottom edge of the display tubes 3 becoming wet, the tray 23 has somewhat recessed parts 36.

The embodiment according to Figures 6 and 8 differs from that according to Figures 5 and 7 in that the top edge of each of the film vases 2 is attached by means of an elastic band 35 to a separate ring 37 and a horizontal section bears on a horizontal edge 38 of the boundary of an annular opening in the tray 23. The elastic band 35 is in a concave rounding 39 in the ring 37.

The most important advantages of the packaging described are:

- that there are fewer losses during transport of the flowers,
- that the packaging not only provides ventilation but is also stackable,
- that the flowers can remain fresh for longer in the packaging.
- that the degree of loading (number of flowers per unit volume) of lorries that is associated with the shape of the display tubes is relatively high,
- that the flowers are in water and humid air can escape,
- that the flowers are well protected against damage during transport,
- that the flowers can easily rapidly be made visible without being removed from the

packaging, for example during auctioning and in the shop,

- that there is no longer a need to trim the flowers at the destination and place them on iron wire and to allow the flowers to suck up all the water they can take,
- that relatively little water has to be contained in the packaging,
- that if, as is the case with the first embodiment, the vases are in communication with one another, filling has to be carried out at one place only.

Of course, other variants are conceivable within the scope of the invention.

CLAIMS

1. Packaging for long-stemmed flowers having little or no leaf, in particular gerberas, anthuriums and arum lilies, comprising:

- at least one or more vases (2) made of flexible or rigid material,

- means for positioning said vase or vases (2) alongside one another,

- one or more display tubes (3) with rows of openings (17) which allow the stems of the packed flowers to pass through, but not the flowers themselves,

- means for positioning the display tubes (3) above the vases (2) in such a way that the flower stems inserted through the openings in the display tubes (3) extend into the vases,

- a tubular protective collar (4) and means for positioning the protective collar (4) around the display tubes.

2. Packaging according to Claim 1, characterised by a lid (5) that fits on the protective collar (4).

3. Packaging according to Claim 1 or 2, characterised in that the vases (2) together form a watertight nestable container (1) with a peripheral channel (8) projecting outwards, for accommodating the bottom edge of the protective collar (4), extending around the uppermost part thereof.

4. Packaging according to Claim 1 or 2, characterised in that the vases (2) extend through openings in a tray (23) which is fixed to a peripheral edge (24) of a nestable container (27), which container (27) surrounds the vases (2) and is intended to position the vases.

5. Packaging according to Claim 4, characterised in that the means for positioning the display tubes (3) consist of projections (31), located on the top surface of the tray (23), in which cuts (32) have been made to accommodate flanges (12) of the display tubes (3), which flanges (12) project outwards.

6. Packaging according to Claim 4, characterised in that the means for positioning the display tubes consist of supporting ribs (28,29) projecting from the top surface of the tray (23).

7. Packaging according to any one of Claims 4-6, characterised in that the upper ends of the vases(2) are provided with holes, which are fitted over the lips (33) in order detachably to fix the vases (2) to tray (23).

8. Packaging according to any one of Claims 4-6, characterised in that the vases (2) are joined at the top to rigid rings (37), which bear on the tray (23) around openings therein.

9. Packaging according to any one of Claims 4-6, characterised in that the vases (2) are detachably fixed by elastic bands (35) to lips (33) of the tray (23).

10. Packaging according to any one of Claims 2 to 9, characterised in that the lid (5) is provided with ventilation openings (20).

11. Packaging according to any one of Claims 3 to 10, characterised in that the lid (5) is provided with a number of ridges (21) projecting upwards, within which containers (1,27) are stackable.

12. Packaging according to any one of the claims 1 to 11, characterised in that in the folded position, each display tube (3) consists of a rectangular tube (11) and projecting ribs (12) at each of the corners of the tube (11).

13. Packaging according to Claim 12 in combination with Claim 3, characterised in that the bottom edges of the projecting ribs (12) of the display tubes (3) have been chamfered from a horizontal outermost part and in that the uppermost part of the container (1) has, successively, working from said peripheral channel (8), a horizontal part (15) directed inwards and a sloping part (16).

14. Packaging according to any one of claims 1 to 13, characterised in that the openings in the display tubes (3) consist of two circular cut-outs (18, 19) which intersect one another and have a different diameter, the circular cut-out (19) of smaller diameter opening into the bottom part of the circular cut-out (18) of larger diameter.

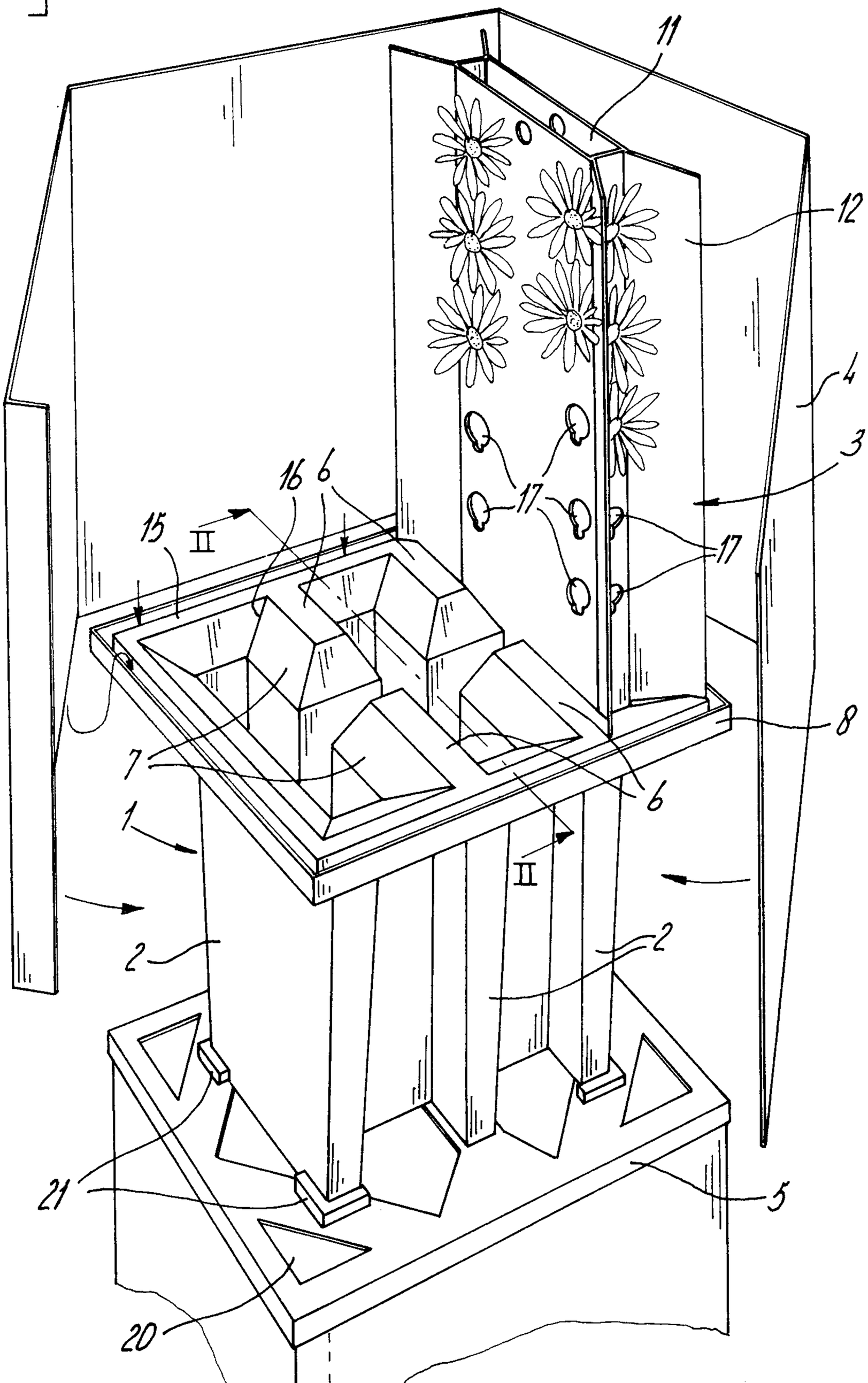
15. Display tube clearly intended for the packaging according to any one of claims 1 to 14,

characterised in that the tube is provided with rows of openings (17) in the walls and in that the tube can be folded to give a flat article.

16. Display tube according to Claim 15, characterised in that in the folded position each display tube (3) consists of a rectangular tube (11) and has projecting ribs (12) at each of the corners of the rectangular tube and stem passages (17) have been made in the walls of the rectangular tube (11).

17. Display tube according to Claim 16, characterised in that the bottom edges of the projecting ribs (12) are chamfered from a horizontal outer section (14).

Fig - 1



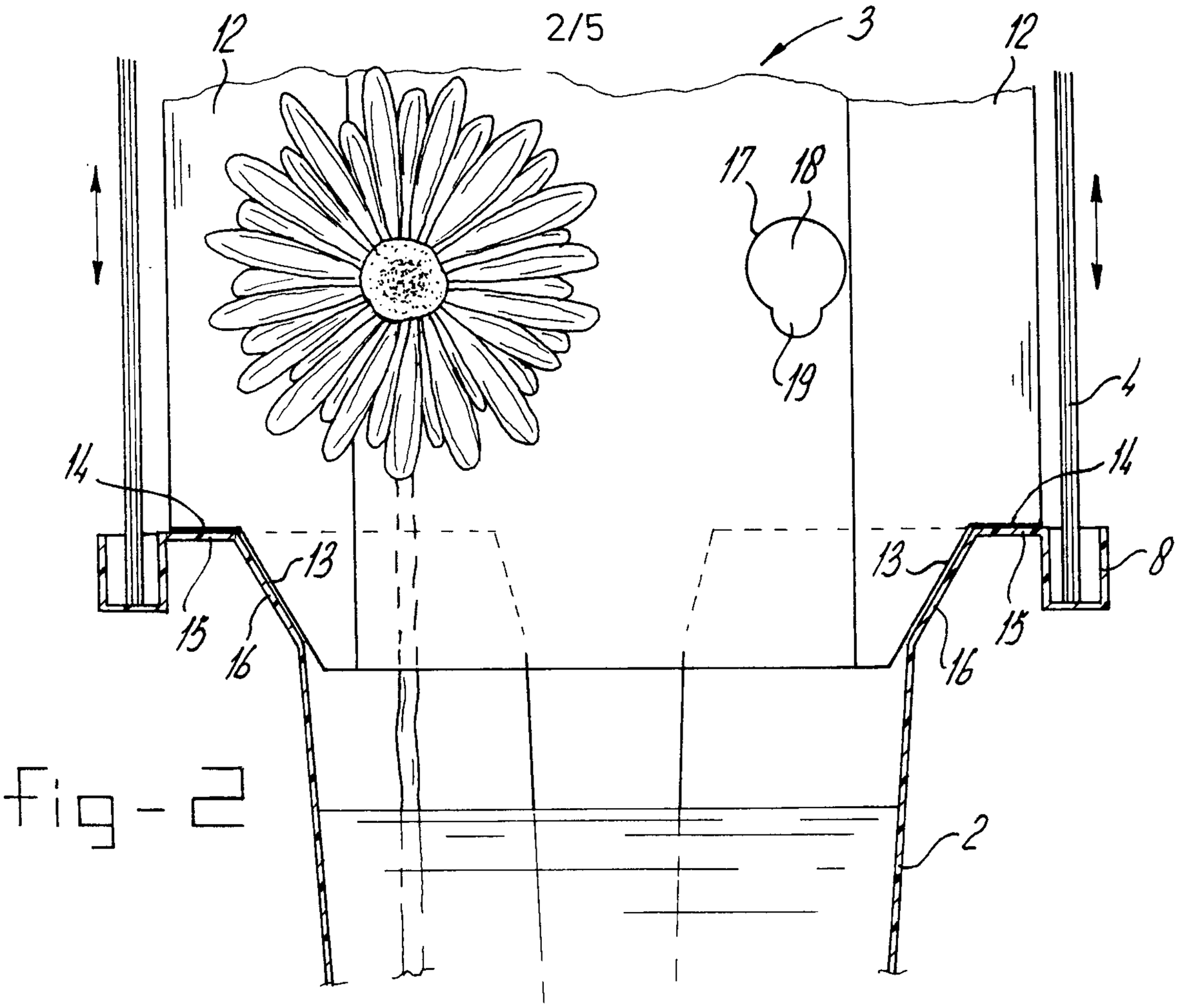

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fig - 2

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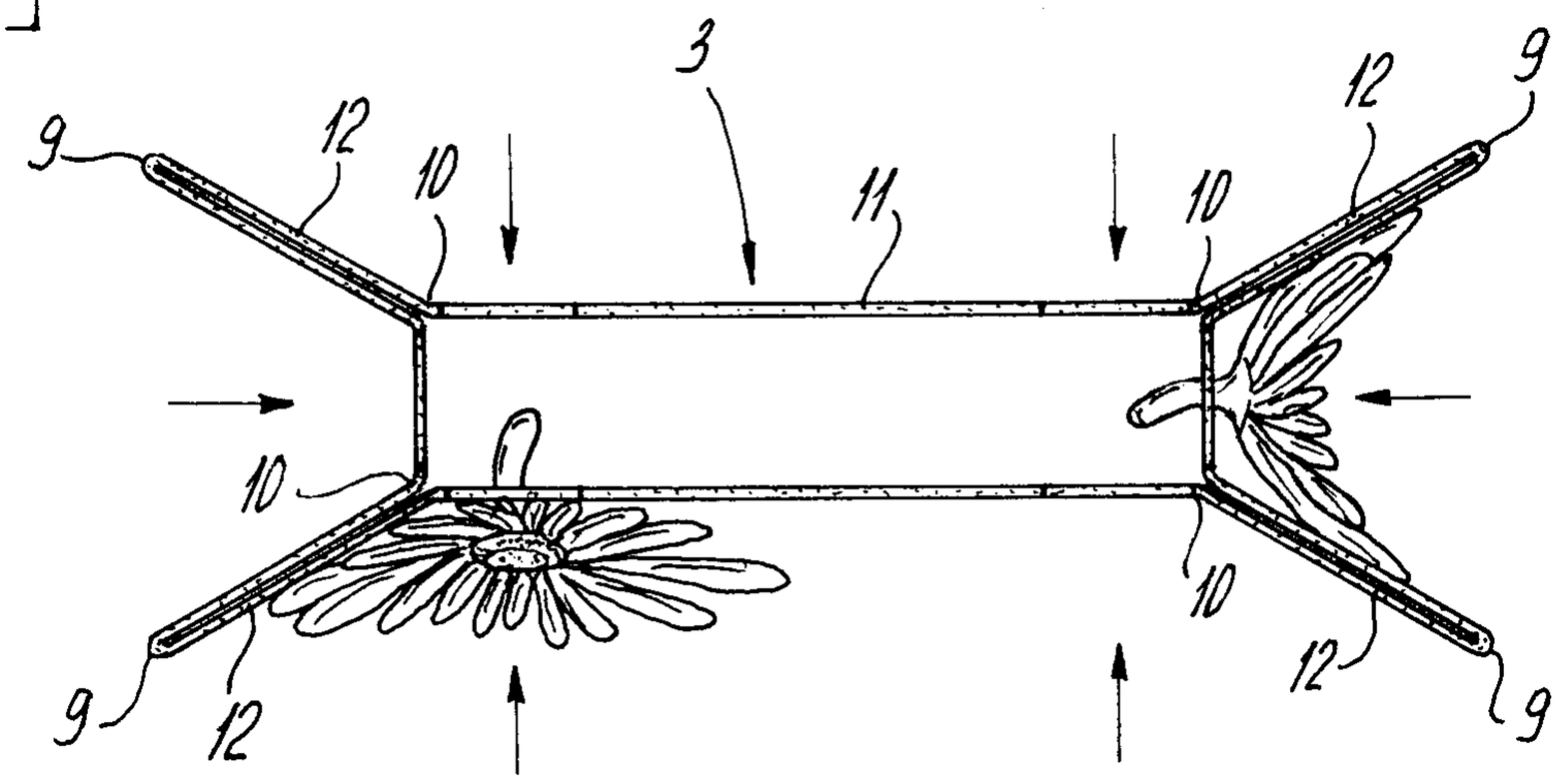
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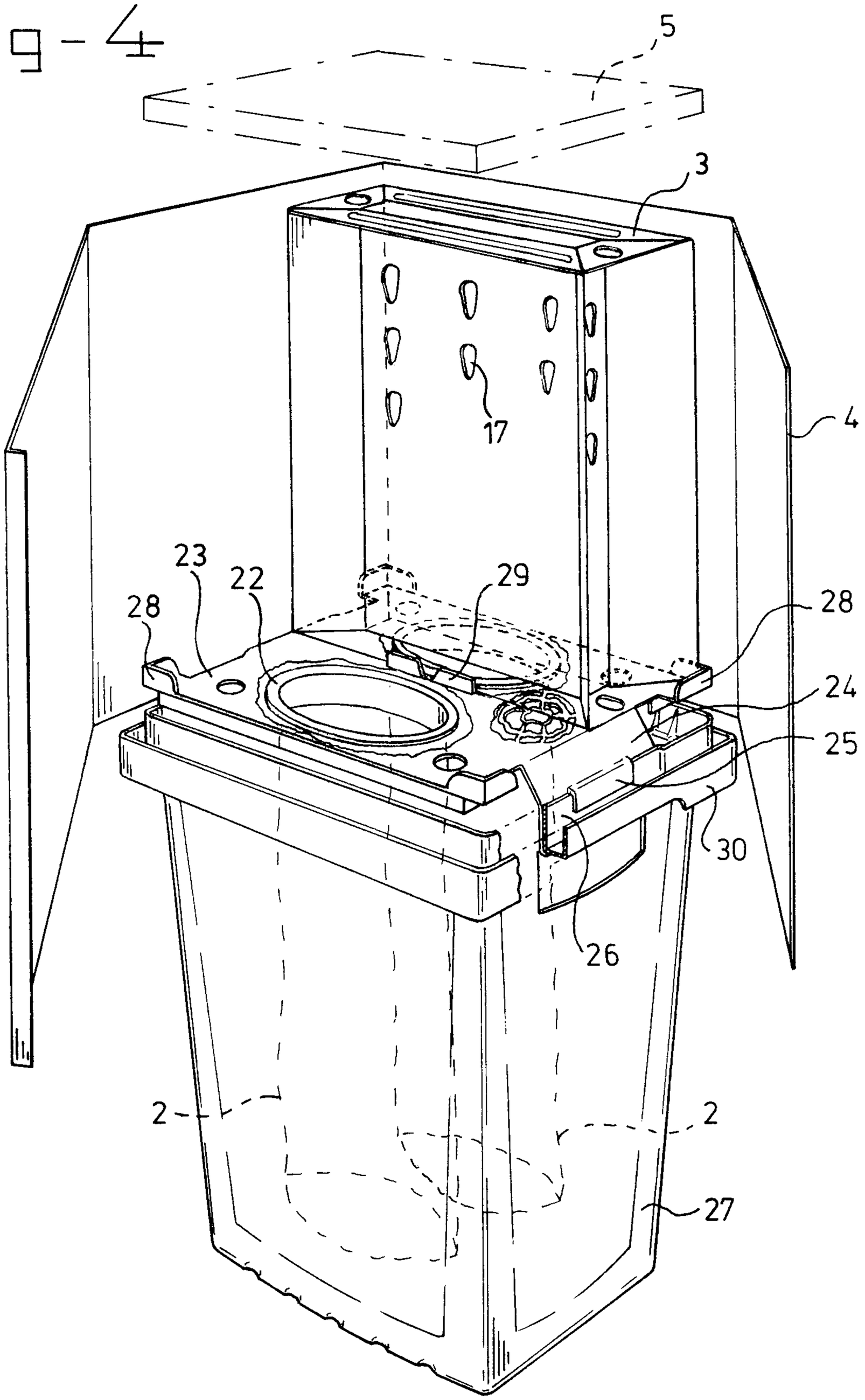
Fig - 4



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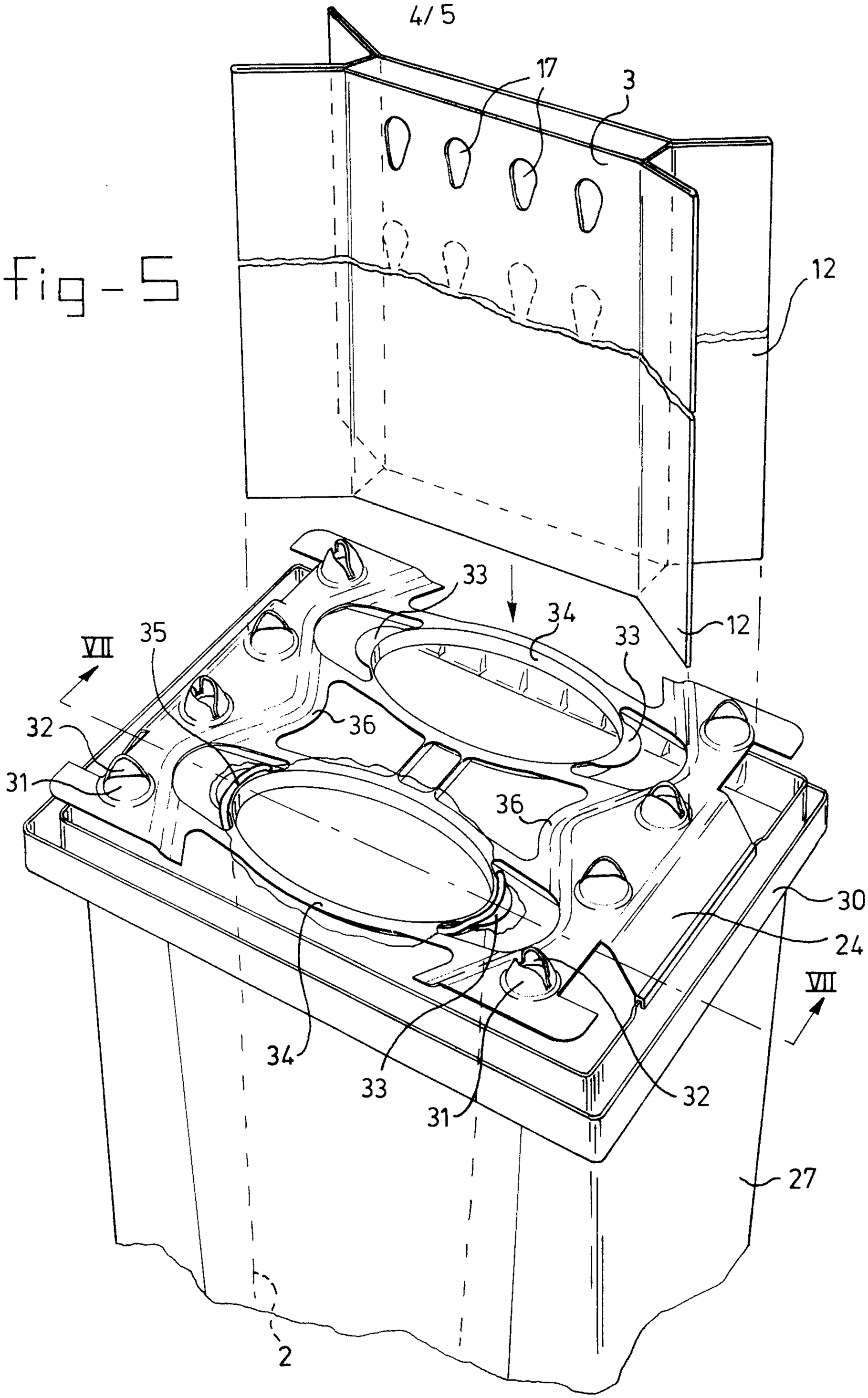

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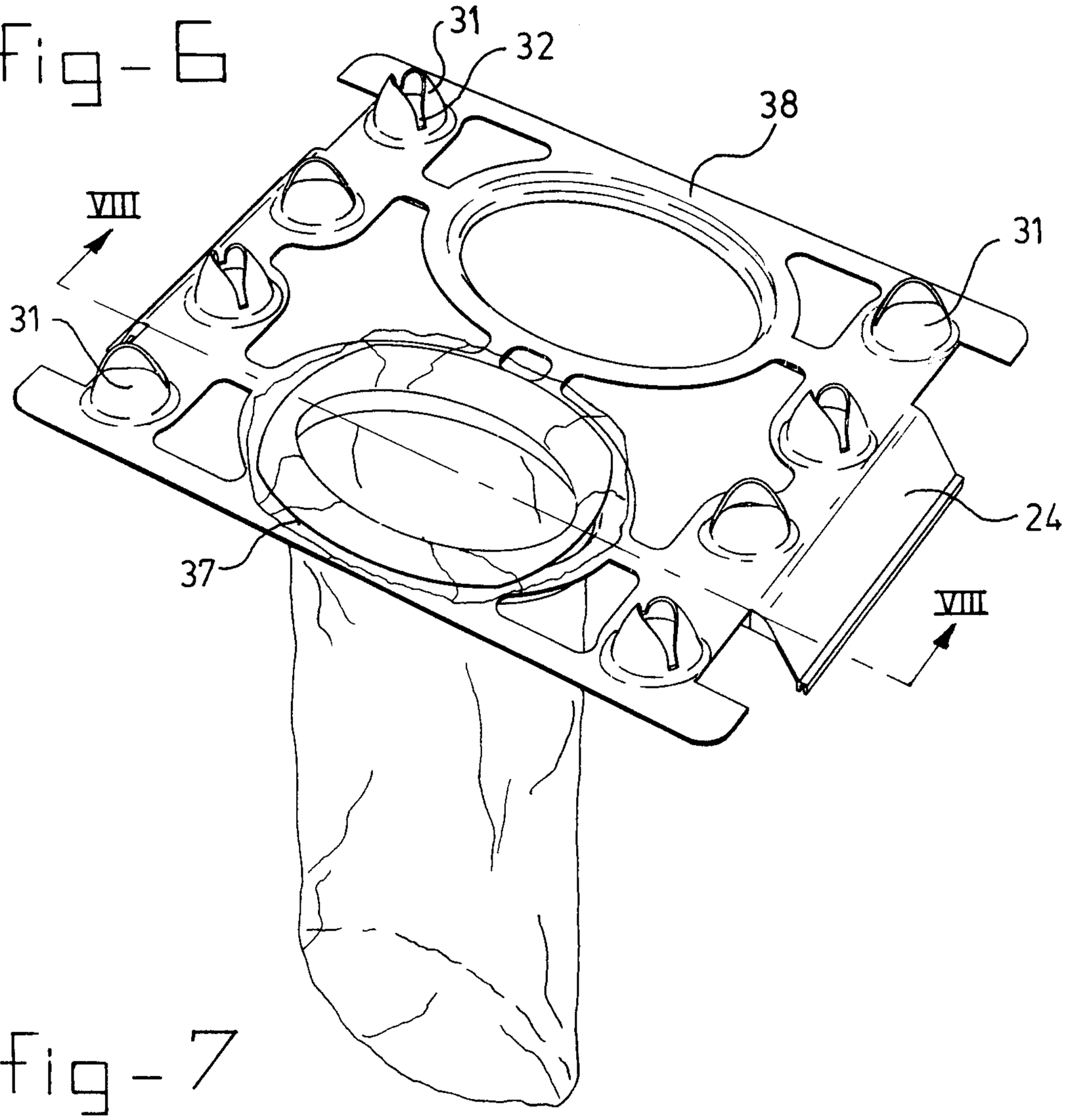

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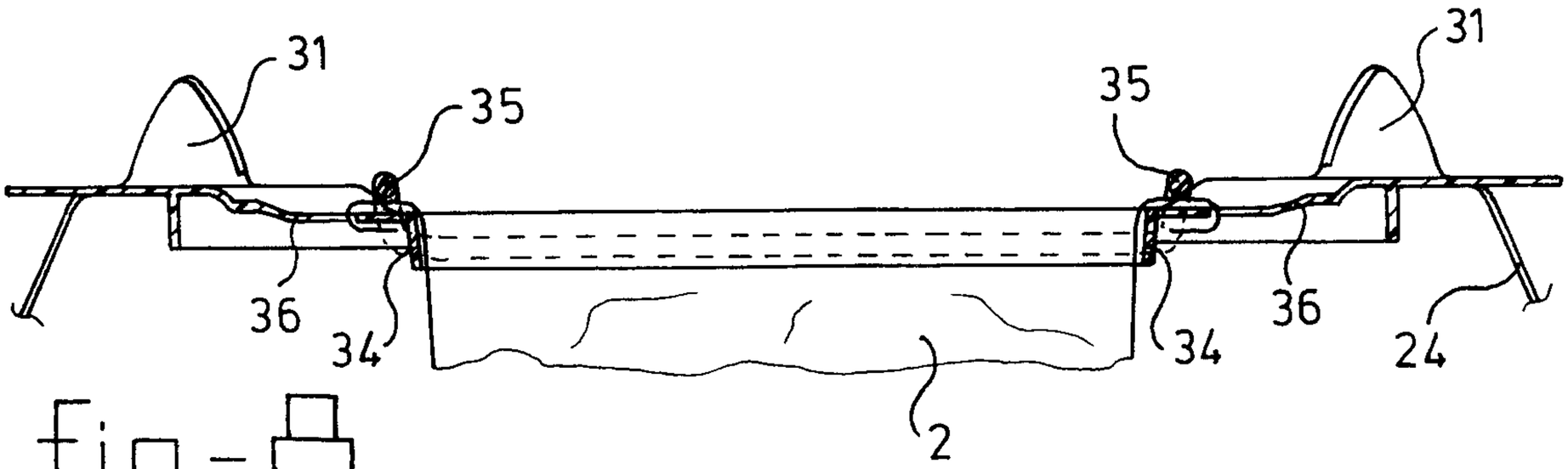

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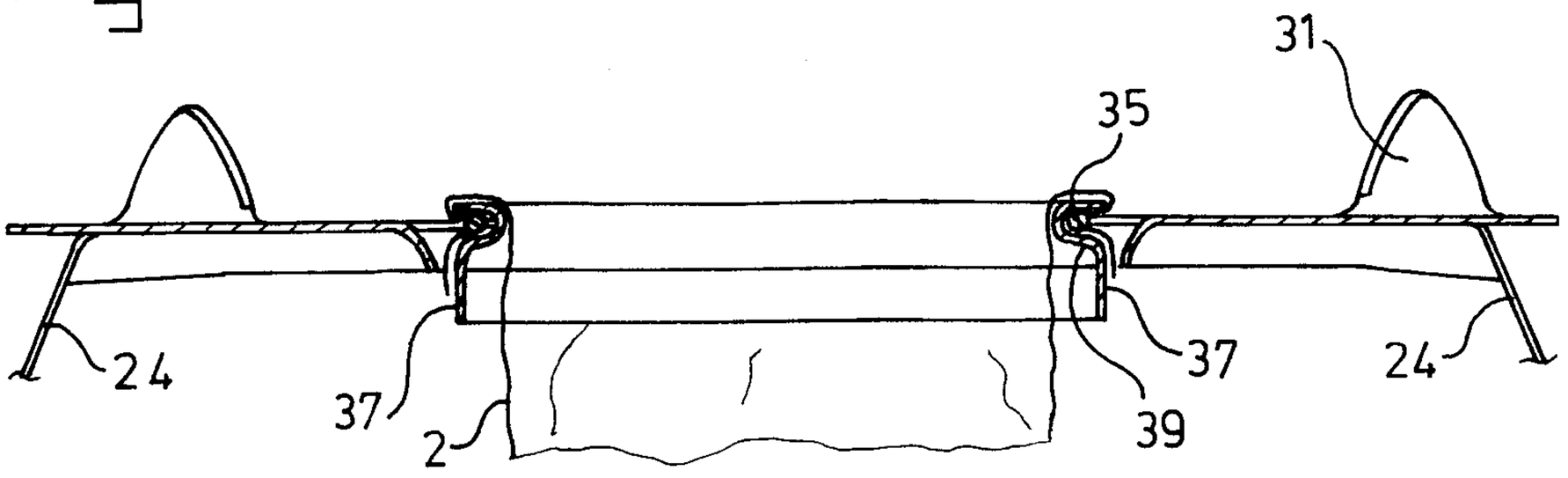

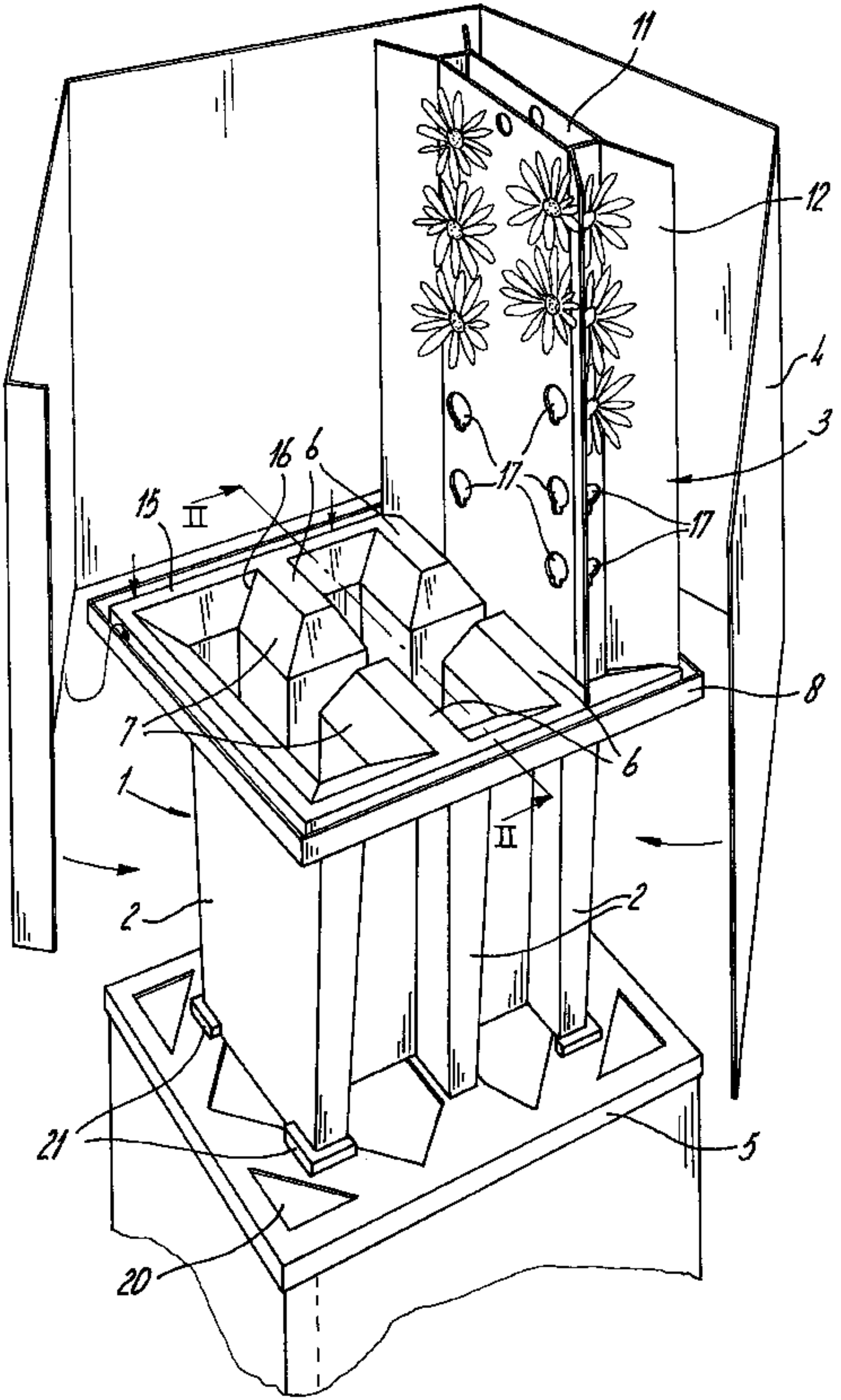
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