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

(11) **EP 2 039 614 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
25.03.2009 Bulletin 2009/13

(51) Int Cl.:
B65D 6/16 *(2006.01)*

(21) Application number: **07116800.9**

(22) Date of filing: **20.09.2007**

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

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Remarks:
Amended claims in accordance with Rule 137(2) EPC.

(54) **Knockdown container**

(57) A knockdown container includes a base (10; 40; 50; 70) and a plurality of barrel members (20; 60), which combine to each other installed on the base (10; 40; 50; 70), each barrel member (20; 60) including a first connecting portion (21; 61) and a second connecting portion (22; 62) connecting to the first connecting portion (21; 61) of another barrel member (20; 60).

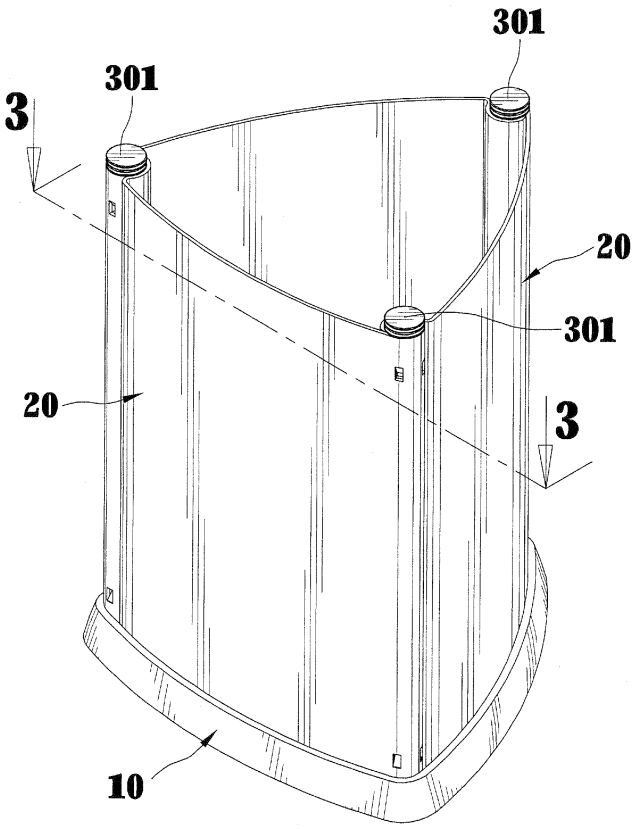

Fig.1

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Description

Background of the Invention

1. Field of the Invention

[0001] The present invention relates to a knockdown container and, more particularly, a knockdown container could be assembled easily and quickly, and the knockdown container that can be unassembled and therefore occupy lesser storage.

2. Description of the Related Art

[0002] A conventional container or trashcan is usually made from plastic and formed via injection or that is made from metal and having a single barrel structure by bending a metal plate.

[0003] However, the foregoing conventional container or trashcan needs great storage during transportation, especially during sea transportation or long-distance land transportation. Because the barrel of the conventional container or trashcan could not be compressed, the amount of container-load or truck-load is limited and it would cause an increase of cost.

Summary of the Invention

[0004] The present invention solves this need and other problems in the field of containers by providing, in a preferred form, a knockdown container including a base and a plurality of barrel members installed on the base. Each barrel member includes a first connecting portion and a second connecting portion that is set to the first connecting portion of another barrel member by sliding therethrough longitudinally. The assembly is simple and it's easy for customers assembling quickly. Furthermore, the unassembled base and barrel members could be piled on top of each other so as to save the storage on the display and the cost during transportation.

Brief Description of the Drawings

[0005]

Figure 1 shows a perspective view of a knockdown container in accordance with a first embodiment of the present invention.

Figure 2 shows an exploded view of the knockdown container in accordance with the first embodiment of the present invention.

Figure 3 is a cross-sectional view taken along 3-3 in Figure 1.

Figure 4 is an enlarged partial view of Figure 3.

Figure 5 is a cross-sectional view taken along 5-5 in Figure 3.

Figure 6 is an enlarged partial view of Figure 5.

Figure 7 is another enlarged partial view of Figure 5.

Figure 8 shows a perspective view of a knockdown container in accordance with a second embodiment of the present invention.

Figure 9 shows an exploded view of the knockdown container in accordance with the second embodiment of the present invention.

Figure 10 is a cross-sectional view taken along 10-10 in Figure 8.

Figure 11 shows a perspective view of a knockdown container in accordance with a third embodiment of the present invention.

Figure 12 shows an exploded view of the knockdown container in accordance with the third embodiment of the present invention.

Figure 13 is a cross-sectional view taken along 13-13 in Figure 11.

Figure 14 shows a perspective view of a knockdown container in accordance with a fourth embodiment of the present invention.

Figure 15 shows an exploded view of the knockdown container in accordance with the fourth embodiment of the present invention.

Figure 16 is a cross-sectional view taken along 16-16 in Figure 14.

Figure 17 is an enlarged partial view of Figure 16.

Figure 18 is another enlarged partial view of Figure 16.

Detailed Description of the Preferred Embodiment

[0006] Referring to Figures 1 and 2, a knockdown container in accordance with a first embodiment of the present invention includes a base 10, a plurality of barrel members 20 installed on the base 10 and a plurality of fastening members 30 disposed onto the barrel members 20.

[0007] And referring to Figure 3, the base 10 includes a base board 11, a plurality of fixing members 12 protruding from the surface of the base board 11 and disposed on the corners of the base board 11, a numerous fixing portions 13 formed on an end of each fixing member 12 and arranged as annularity and a ledge 14 surrounding the outer edge of the base board 11. In the preferred form, the base 10 is triangular, and each fixing portion 13 is in a form of hook.

[0008] Each barrel member 20 includes an internal surface 201, an external surface 202, a top side 203 and a bottom side 204 abutting with the upper surface of the base board 11. A first connecting portion 21 and a second connecting portion 22 are respectively defined on the left and right sides of each barrel member 20, and a barrel portion 23 is provided between the first connecting portion 21 and the second connecting portion 22. The cross section of both the first and second connecting portions 21, 22 of each barrel member 20 are form of curl and the cross section of the barrel portion 23 of each barrel member 20 is arcuate. Moreover, the first connecting portion 21 of one barrel member 20 and the second connecting

portion 22 of another barrel member 20 are able to set into each other.

[0009] The first connecting portion 21 of each barrel member 20 includes a first section 211, a second section 212 connecting to the first section 211 contiguously and a third section 213 connecting to the second section 212 and the barrel portion 23 contiguously as shown in Figure 4.

[0010] The first section 211 is bent toward the internal surface 201 of the second section 212 and the cross section of the first section 211 is arcuate. The cross section of the second section 212 is form of flat and the internal surface 201 thereof is adapted to abut against the internal surface 201 of another barrel member 20 for preventing the first connecting portion 21 of the barrel member 20 from rotating relative to the second connecting portion 22 of another barrel member 20. The third section 213 is bent toward the internal surface 201 of the first section 211 and the cross section of the third section 213 is arcuate.

[0011] Namely, the external surface 202 of the first and second sections 211, 212 define a first receiving portion 24 therebetween, the first receiving portion 24 is adapted for receiving the fixing member 12, and the external surface 202 of the third section 213 and the internal surface 201 of the first section 211 define a second receiving portion 25 therebetween, the second receiving portion 25 is appropriately adapted for setting the second connecting portion 22 of another barrel member 20.

[0012] The second connecting portion 22 of each barrel member 20 includes a first section 221 and a second section 222 connecting to the first section 221 contiguously as shown in Figure 4.

[0013] The first section 221 is bent toward the internal surface 201 of the second section 222, and the internal surface 201 of the first section 221 is appropriate for the internal surface 201 of the first section 211 of another barrel member 20. The cross section of the second section 222 is form of flat and the internal surface 201 thereof is adapted to abut against the internal surface 201 of the second section 212 of another barrel member 20.

[0014] Namely, the distal end of the first section 221 and the second section 222 define a groove 26 therebetween, the groove 26 allows the second section 212 of another barrel member 20 sliding therethrough. Therefore, the structure of the barrel members 20, which are set into each other by the combination of the first connecting portion 21 of one of the barrel members 20 and the second connecting portion 22 of another barrel member 20, would be strong enough because the contact area of each two interconnecting barrel members 20 is certainly large. Moreover, the assembly of the barrel members 20 is simple.

[0015] The first and second connecting portions 21, 22 of each barrel member 20 defines a plurality of apertures 27 thereon respectively adjacent to the top and bottom sides 203, 204 of each barrel member 20, each aperture 27 is preferably a through-hole. The apertures 27 that are on the first connecting portion 21 of one of the barrel members 20 correspond to the apertures 27 that are on the second connecting portion 22 of another barrel member 20, while the two barrel members 20 interconnect as shown in Figure 5. Thus, each fixing member 12 of the base 10 inserts into the first receiving portion 24 and the fixing portions 13 on each fixing member 12 fixed in the apertures 27 that are adjacent to the bottom side 204 of each barrel member 20. So that the first connecting portion 21 of one of the barrel members 20 would not slide longitudinally in the second connecting portion 22 of another barrel member 20 as shown in Figure 6.

[0016] Each fastening member 30, which is adapted to be against the top side 203 of each barrel member 20 and inserting onto each first receiving portion 24 for preventing the first connecting portion 21 of one of the barrel members 20 from sliding out of the second connecting portion 22 of another barrel member 20 longitudinally, includes a cap 301 formed on an end thereof and a plurality of fastening portions 302 protruding from another end thereof. Each fastening portion 302 is in a form of hook preferably. The cap 301 is provided for abutting with the top side 203 of each two interconnecting barrel members 20 and each fastening portion 302 is form of hook and adapted for inserting through each aperture 27 on each two interconnecting barrel members 20 adjacent to the top side 203 so that the first connecting portion 21 of one of the barrel members 20 would not slide out of the second connecting portion 22 of another barrel member 20 longitudinally as shown in Figure 7. Furthermore, while each fastening portion 302 inserts into each aperture 27 adjacent to the top side 203, the fastening member 30 could push each first section 211 outward, the distance between each first section 211 and third section 213 would reduce and the combination of the first connecting portion 21 of one of the barrel members 20 and the second connecting portion 22 of another barrel member 20 would be tighter.

[0017] Before assembling the knockdown container in accordance with the present invention, the base 10 and the barrel members 20 are form of plate structure so that it's easy to pile the components of the container on top of each other for package. And the fastening members 30 could be put between the base 10 and the barrel members 20. The package of the knockdown container is easy to put on display for sale and to carry for customers. In addition, during transportation, the amount of container-load or truck-load would increase and it would save cost.

[0018] A knockdown container in accordance with the present invention is suitable for DIY customers to assemble easily. Set a first connecting portion 21 of one of the barrel members 20 sliding longitudinally into a second connecting portion 22 of another barrel member 20, put the interconnecting barrel members 20 onto a base 10, finally install the fastening members 30 onto the barrel members 20 and finish the assembly as shown Figure 1.

[0019] Referring to Figures 8 to 10, a knockdown container in accordance with a second embodiment of the

present invention is similar to the first embodiment in substance expect the following three characteristics:

[0020] With regard to first characteristic, the knockdown container in accordance with a second embodiment includes a quadrilateral base 50 having a base board 51, a plurality of fixing members 52 protruding from the surface of the base board 51 and disposed on the corners of the base board 51, a numerous fixing portions 53 formed on an end of each fixing member 52 and arranged as annularity and a ledge 54 surrounding the outer edge of the base board 51. Each fixing portion 53 is in a form of hook preferably.

[0021] The second embodiment discloses a knockdown container including a polygonal base 50 so as to provide customers multiple choices of shape of container.

[0022] With regard to second characteristic, the knockdown container includes a plurality of barrel members 60, which corresponds to the polygonal base 50, each barrel member 60 has a barrel portion 63 whose cross section is form of flat so as to reduce the height of a pile of barrel members 60 and save more storage than the arc barrel member 20 disclosed in the first embodiment.

[0023] Furthermore, the barrel members 60 which are inverted could still be set to each other so as to interchange of positions of first and second connecting portions 61, 62 of each barrel member 60. That is, invert each barrel member 60 and put the top side 603 of each barrel member 60 installed onto the base 50. With referring to Figure 2, the first connecting portion 21 in accordance with the first embodiment is on left side of each barrel member 20 and the second connecting portion 22 is on right side of each barrel member 20. However, according to the second embodiment, after the inverted barrel members 60 combine to each other, the first connecting portion 61 in accordance with the second embodiment is on right side of each barrel member 60 and the second connecting portion 62 is on left side of each barrel member 60.

[0024] The cross sections of each first and second connecting portions 61, 62 are form of non-circle, that is, the cross sections could be polygonal like triangular form, quadrilateral, pentagonal or hexagonal. In this embodiment, as shown in Figure 10, the cross sections of each first and second connecting portions 61, 62 are form of quadrilateral. The cross section of the first section 611 of the first connecting portion 61 is L-shaped, the cross section of the second section 612 of the first connecting portion 61 is form of flat and the cross section of the third section 613 of the first connecting portion 61 is L-shaped. The cross section of the second connecting portion 62 is C-shaped. Additionally, the base 50 and the fixing members 52 on the base board 51 could be form of quadrilateral.

[0025] With regard to third characteristic, the knockdown container includes a fastening frame 80, whose shape corresponds to the base 50, having four fastening portions 81 protruding from the fastening frame 80 toward the barrel members 60 and provided for inserting onto the barrel members 60 and a plurality of protrusions 811 defined on each fastening portion 81 adapted for fixing the fastening frame 80 on the barrel members 60. So that each fastening portion 81 is provided to be in a form of hook. Namely, the frame 80 could be easy to package with the barrel members 60 and the base 50.

[0026] Referring to Figures 11 to 13, a knockdown container in accordance with a third embodiment of the present invention is similar to the second embodiment in substance expect that the knockdown container includes a fastening frame 90 having four fastening portions 91 protruding from the corners thereof toward the barrel members 60 and adapted to insert into the barrel members 60, a fastening aperture 911 defined transversely through each fastening portion 91 and a fastening element 92 provided for inserting through each aperture 67 adjacent to the top side 603 of the barrel members 60 and each aperture 911 to fix the frame 90 on the barrel members 60. The fastening element 92 is preferred to be a screw.

[0027] The knockdown container further includes a base 40 having a base board 41, a fixing member 42 respectively protruding from the corners of the base board 41 and provided for inserting into the barrel members 60, a fixing aperture 43 defined transversely through each fixing member 42 and a ledge 44 surrounding the outer edge of the base board 41. And the fastening element 92 provided for inserting through each aperture 67 adjacent to the bottom side 604 of the barrel members 60 and each fixing aperture 43 to fix the barrel members 60 on the base 40.

[0028] Referring to Figures 14 to 18, a knockdown container in accordance with a fourth embodiment of the present invention is similar to the second embodiment in substance expect that two inserted portions 68 respectively defined inside of the first connecting portion 61 adjacent to the top side 603 and the bottom side 604, and an inserted hole 69 formed through each inserted portion 68 as shown in Figure 16. Each inserted portion 68 is welded to fix with the first and second sections 611, 612 of each first connecting portion 61 so that it would not hinder the second connecting portion 62 from sliding through the first connecting portion 61 of another barrel member 60.

[0029] A fastening member 30' includes a cap 301' formed on an end thereof and abutting against the top side 603 of the first and second connecting portions 61, 62 of each two interconnecting barrel members 60 and a fastening portion 302' formed on another end thereof and inserting into each inserted hole 69 adjacent to the top side 603 of each first connecting portion 61 for fixing the fastening member 30' on the barrel members 60. So that the first connecting portion 61 of one of the barrel members 60 would not slide longitudinally in the second connecting portion 62 of another barrel member 60. In the fourth embodiment, each inserted hole 69 has internal threads and each fastening portion 302' has external

threads for fixing to each inserted hole 69.

[0030] A base 70 includes having a base board 71, a fixing member 72 respectively protruding from the corners of the base board 71 and provided for inserting into the barrel members 60, a fixing aperture 73 defined longitudinally through each fixing member 72 and a ledge 74 surrounding the outer edge of the base board 71. The cap 301' abuts against lower surface of the base 70 and the fastening portion 302' inserts into each inserted hole 69 adjacent to the bottom side 604 of each first connecting portion 61 for fixing the barrel members 60 on the base 70 as shown in Figure 18.

[0031] Thus since the invention disclosed herein may be embodied in other specific forms without departing from the spirit or general characteristics thereof, some of which forms have been indicated, the embodiments described herein are to be considered in all respects illustrative and not restrictive. The scope of the invention is to be indicated by the appended claims, rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims and intended to be embraced therein.

Claims

1. A knockdown container comprising:

a base (10; 40; 50; 70);
a plurality of barrel members (20; 60) which combines to each other installed on the base (10; 40; 50; 70);

wherein each barrel member (20; 60) includes an internal surface (201; 601), an external surface (202; 602), a first connecting portion (21; 61) defined on left side thereof, a second connecting portion (22; 62) defined on right side thereof and a barrel portion (23; 63) defined between the first and second connecting portions (21, 22; 61, 62);
wherein the first connecting portion (21; 61) of each barrel member (20; 60) is provided for combining with the second connecting portion (22; 62) of another barrel member (20; 60) and includes a first section (211; 611), a second section (212; 612) connecting to the first section (211; 611) contiguously and a third section (213; 613) respectively connecting to the second section (212; 612) and the barrel portion (23; 63) contiguously, with the first section (211; 611) bent toward the external surface (202; 602) of the second section (212; 612), with the third section (213; 613) bent toward the internal surface (201; 601) of the barrel portion (23; 63) and provided a second receiving portion (25; 65), whose thickness is equal to each barrel member (20; 60), formed between the external surface (202; 602) of the third section (213; 613) and the internal surface (201; 601) of the first section (211; 613);
wherein the second connecting portion (22; 62) of each barrel member (20; 60) includes a first section (221; 621) and a second section (222; 622) respectively connecting to the first section (221; 621), with the first section (221; 621) bent toward the internal surface (201; 601) of the second section (222; 622), with the first section (221; 621) adapted to be received in the second receiving portion (25; 65);
wherein a groove (26; 66) is defined between the distal end of the first section (222; 622) of each barrel member (20; 60) and the second section (222; 622) of one of barrel members (20; 60) and provided for the second section (212; 612) of another barrel member (20; 60) passing therethrough.

2. A knockdown container as claimed in claim 1, wherein the internal surface (201; 601) of the second section (212; 612) of each first connecting portion (21; 61) abuts against the internal surface (201; 601) of the second section (222; 622) of each second connecting portion (22; 62) for preventing the first connecting portion (21; 61) of one of the barrel members (20; 60) from rotating relative to the second connecting portion (22; 62) of another barrel member (20; 60).

3. A knockdown container as claimed in claim 1, with the cross section of the first section (211) and the third section (213) of each first connecting portion (21) adapted to be arcuate, with the cross section of the second section (212) of each first connecting portion (21) adapted to be flat, with the cross section of the first section (221) of each second connecting portion (22) adapted to be arcuate, with the cross section of the second section (222) of each second connecting portion (22) adapted to be flat.

4. A knockdown container as claimed in claim 1, with the cross section of the first section (611) and the third section (613) of each first connecting portion (61) adapted to be L-shaped, with the cross section of the second section (612) of each first connecting portion (61) adapted to be flat, with the cross section of the first section (621) of each second connecting portion (62) adapted to be C-shaped, with the cross section of the second section (622) of each second connecting portion (62) adapted to be flat.

5. A knockdown container as claimed in claim 1, with the cross section of the barrel portion (23) of each barrel member (20) adapted to be arcuate.

6. A knockdown container as claimed in claim 1, with the cross section of the barrel portion (63) of each barrel member (60) adapted to be flat.

7. A knockdown container as claimed in claim 1, wherein the base (10; 40; 50; 70) includes a base board

(11; 40; 51; 71) and a plurality of fixing members (12; 42; 52; 72) disposed on the base board (11; 40; 51; 71) and adapted for inserting into the first connecting portion (21; 61) of each barrel member (20; 60).

8. A knockdown container as claimed in claim 7, with each barrel member (20; 60) defining a bottom side (204; 604) abutting against the base (10; 50); wherein each fixing member (12; 52) forms a plurality of fixing portions (13; 53) on the distal end thereof, with both of the first and second connecting portions (21, 22; 61, 62) respectively defining an aperture (27, 67) thereon adjacent to the bottom side (204; 604) of each barrel member (20; 60); wherein the fixing portions (13; 53) of each fixing member (12; 52) are fixed in the aperture (27, 67) of the first connecting portion (21; 61) of one of barrel members (20; 60) and the aperture (27, 67) of the second connecting portion (22; 62) of another barrel member (20; 60), with each fixing portion (13; 53) provided to be in a form of hook..

9. A knockdown container as claimed in claim 7, with each barrel member (60) defining a bottom side (604) abutting against the base (40); wherein each fixing member (42) of the base (40) defines a fixing aperture (43) transversely therethrough, with both of the first and second connecting portions (61, 62) respectively defining an aperture (67) thereon adjacent to the bottom side (604) of each barrel member (60); wherein a fastener element (92) is fixed in the aperture (67) of the first connecting portion (61) of one of barrel members (60) and the aperture (67) of the second connecting portion (62) of another barrel member (60) through the fixing aperture (43) of the base (40), with the fastening element (92) provided to be a screw.

10. A knockdown container as claimed in claim 7, further comprising a fastening member (30') including a cap (301') formed on an end thereof and a fastening portion (302') protruding therefrom opposite to the cap (301'), with each barrel member (60) defining a bottom side (604) abutting against the base (70);
wherein each fixing member (72) of the base (70) defines a fixing aperture (73) longitudinally therethrough; with each first connecting portion (61) forming an inserted portion (68) having an inserted hole (69) through the inserted portion (68) against the bottom side (604) of each barrel member (60);
wherein the cap (301') of the fastening member (30') is adapted for abutting with the bottom of the base (70) and the fastening portion (302') of the fastening member (30') is adapted for inserting through the fixing aperture (73) of the base (70) and fixed in the inserted hole (69) adjacent to the bottom side (604) of each barrel member (60).

11. A knockdown container as claimed in claim 1, with the base (10) is triangular form.

12. A knockdown container as claimed in claim 1, with the base (40; 50; 70) is quadrangle.

13. A knockdown container as claimed in claim 1, further comprising a fastening member (30') including a cap (301') formed on an end thereof and a fastening portion (302') protruding therefrom opposite to the cap (301'), with each barrel member (60) defining a top side (603);
wherein each first connecting portion (61) forming an inserted portion (68) having an inserted hole (69) through the inserted portion (68) against the bottom side (604) of each barrel member (60);
wherein the cap (301') of the fastening member (30') is adapted for abutting with the top side (603) of the first and second connecting portions (61; 62) of each barrel member (60), which combine to each other, and the fastening portion (302') of the fastening member (30') is adapted for inserting in the inserted hole (69) adjacent to the top side (603) of each barrel member (60).

14. A knockdown container as claimed in claim 1, with each barrel member (60) defining a top side (603), with both of the first and second connecting portions (61, 62) respectively defining an aperture (67) thereon adjacent to the top side (603) of each barrel member (60), with a fastening frame (80) including a plurality of fastening portions (81) protruding from the fastening frame (80) toward the barrel members (60) and inserting into the barrel members (60), which combine to each other, and a plurality of protrusions (811) defined on each fastening portion (81) and adapted to be fixed in the apertures (67) of the barrel members (60); wherein each fastening portion (81) is provided to be in a form of hook.

15. A knockdown container as claimed in claim 1, with each barrel member (60) defining a top side (603), with both of the first and second connecting portions (61, 62) respectively defining an aperture (67) thereon adjacent to the top side (603) of each barrel member (60), with a fastening frame (90) including a plurality of fastening portions (91) protruding from the fastening frame (90) toward the barrel members (60) and inserting into the barrel members (60), which combine to each other, and a fastening aperture (911) transversely defined on each fastening portion (91) and adapted to receive a fastening element (92), which inserts through each fastening aperture (911) and each aperture (67) of the barrel members (60) and is adapted for fixing the fastening frame (90) on the barrel members (60); wherein the fastening element (92) provided to be a screw.

Amended claims in accordance with Rule 137(2) EPC.

1. A knockdown container comprising:

a base (10);
a plurality of barrel members (20) which combine to each other installed on the base (10), each barrel member (20) having an internal side (201) and an external side (202);
wherein each barrel member (20) includes a barrel portion (23) and a first connecting portion (21) defined on left side thereof and a second connecting portion (22) defined on right side thereof;
wherein the first connecting portion (21) of each barrel member (20) is provided for combining with the second connecting portion (22) of another barrel member (20);
characterized by
the first connecting portion (21) including a first section (211), a second section (212) connecting to the first section (211) contiguously and a third section (213) respectively connecting to the second section (212) and the barrel portion (23) contiguously, with the third section (213) bent from the barrel portion (23) toward the internal side (201) of the barrel member (20) and then toward the internal side (201) of the other barrel member (20), with the first section (211) bent inwardly from the second section (212) toward the internal side (201) of the barrel member (20), so that a receiving portion (25) is formed between the third section (213) and the first section (213), whose thickness is equal to the thickness of each barrel member (20);
wherein the second connecting portion (22) of each barrel member (20) includes a first section (221) and a second section (222) respectively connecting to the first section (221) and the barrel portion (23), with the first section (221) bent back from the second section (222) toward the internal side (201) of the barrel member (20), with the first section (221) adapted to be received in the receiving portion (25);
wherein a gap (26) is defined between the second section (222) and the distal end of the first section (221) of the second connecting portion (22), the gap (26) provided for the second section (212) of the first connecting portion (21) of another barrel member (20) passing therethrough,
wherein the cross sections of the first section (211) and of the third section (213) of each first connecting portion (21) adapted to be arcuate, with the cross section of the second section (212) of each first connecting portion (21) adapted to be flat, with the cross section of the first section (221) of each second connecting portion (22) adapted to be arcuate, with the cross section of the second section (222) of each second connecting portion (22) adapted to be flat.

2. A knockdown container comprising:

a base (40; 50; 70);
a plurality of barrel members (60) which combine to each other installed on the base (40; 50; 70), each barrel member (60) having an internal side (601) and an external side (602);
wherein each barrel member (60) includes a barrel portion (63) and a first connecting portion (61) defined on left side thereof and a second connecting portion (62) defined on right side thereof;
wherein the first connecting portion (61) of each barrel member (60) is provided for combining with the second connecting portion (62) of another barrel member (60);
characterized by
the first connecting portion (61) including a first section (611), a second section (612) connecting to the first section (611) contiguously and a third section (613) respectively connecting to the second section (612) and the barrel portion (63) contiguously, with the third section (613) bent from the barrel portion (63) toward the internal side (601) of the barrel member (60) and then toward the internal side (601) of the other barrel member (60), with the first section (611) bent inwardly from the second section (612) toward the internal side (601) of the barrel member (60), so that a receiving portion (65) is formed between the third section (613) and the first section (613), whose thickness is equal to the thickness of each barrel member (60);
wherein the second connecting portion (62) of each barrel member (60) includes a first section (621) and a second section (622) respectively connecting to the first section (621) and the barrel portion (63), with the first section (621) bent back from the second section (622) toward the internal side (601) of the barrel member (60), with the first section (621) adapted to be received in the receiving portion (65);
wherein a gap (66) is defined between the second section (622) and the distal end of the first section (621) of the second connecting portion (62), the gap (66) provided for the second section (612) of the first connecting portion (61) of another barrel member (60) passing therethrough;
wherein the cross sections of the first section (611) and of the third section (613) of each first connecting portion (61) adapted to be L-shaped, with the cross section of the second section (612) of each first connecting portion (61) adapted to be flat, with the cross section of the first

section (621) of each second connecting portion (62) adapted to be C-shaped, with the cross section of the second section (622) of each second connecting portion (62) adapted to be flat.

3. A knockdown container as claimed in claim 1 or claim 2, wherein the second section (212; 612) of each first connecting portion (21; 61) abuts against the second section (222; 622) of each second connecting portion (22; 62) for preventing the first connecting portion (21; 61) of one of the barrel members (20; 60) from rotating relative to the second connecting portion (22; 62) of another barrel member (20; 60).

4. A knockdown container as claimed in claim 1, with the cross section of the barrel portion (23) of each barrel member (20) adapted to be arcuate.

5. A knockdown container as claimed in claim 2, with the cross section of the barrel portion (63) of each barrel member (60) adapted to be flat.

6. A knockdown container as claimed in claim 1 or claim 2, wherein the base (10; 40; 50; 70) includes a base board (11; 40; 51; 71) and a plurality of fixing members (12; 42; 52; 72) disposed on the base board (11; 40; 51; 71) and adapted for inserting into the first connecting portion (21; 61) of each barrel member (20; 60).

7. A knockdown container as claimed in claim 6, with each barrel member (20; 60) defining a bottom side (204; 604) abutting against the base (10; 50); wherein each fixing member (12; 52) forms a plurality of fixing portions (13; 53) on the distal end thereof, with both of the first and second connecting portions (21, 22; 61, 62) respectively defining an aperture (27, 67) thereon adjacent to the bottom side (204; 604) of each barrel member (20; 60); wherein the fixing portions (13; 53) of each fixing member (12; 52) are fixed in the aperture (27, 67) of the first connecting portion (21; 61) of one of barrel members (20; 60) and the aperture (27, 67) of the second connecting portion (22; 62) of another barrel member (20; 60), with each fixing portion (13; 53) provided to be in a form of hook.

8. A knockdown container as claimed in claim 6, with each barrel member (60) defining a bottom side (604) abutting against the base (40); wherein each fixing member (42) of the base (40) defines a fixing aperture (43) transversely therethrough, with both of the first and second connecting portions (61, 62) respectively defining an aperture (67) thereon adjacent to the bottom side (604) of each barrel member (60); wherein a fastener element (92) is fixed in the aperture (67) of the first connecting portion (61) of one of barrel members (60) and the aperture (67) of the second connecting portion (62) of another barrel member (60) through the fixing aperture (43) of the base (40), with the fastening element (92) provided to be a screw.

9. A knockdown container as claimed in claim 6, further comprising a fastening member (30') including a cap (301') formed on an end thereof and a fastening portion (302') protruding therefrom opposite to the cap (301'), with each barrel member (60) defining a bottom side (604) abutting against the base (70);
wherein each fixing member (72) of the base (70) defines a fixing aperture (73) longitudinally therethrough; with each first connecting portion (61) forming an inserted portion (68) having an inserted hole (69) through the inserted portion (68) against the bottom side (604) of each barrel member (60);
wherein the cap (301') of the fastening member (30') is adapted for abutting with the bottom of the base (70) and the fastening portion (302') of the fastening member (30') is adapted for inserting through the fixing aperture (73) of the base (70) and fixed in the inserted hole (69) adjacent to the bottom side (604) of each barrel member (60).

10. A knockdown container as claimed in claim 1, with the base (10) is triangular form.

11. A knockdown container as claimed in claim 2, with the base (40; 50; 70) is quadrangle.

12. A knockdown container as claimed in claim 2, further comprising a fastening member (30') including a cap (301') formed on an end thereof and a fastening portion (302') protruding therefrom opposite to the cap (301'), with each barrel member (60) defining a top side (603);
wherein each first connecting portion (61) forming an inserted portion (68) having an inserted hole (69) through the inserted portion (68) against the bottom side (604) of each barrel member (60);
wherein the cap (301') of the fastening member (30') is adapted for abutting with the top side (603) of the first and second connecting portions (61; 62) of each barrel member (60), which combine to each other, and the fastening portion (302') of the fastening member (30') is adapted for inserting in the inserted hole (69) adjacent to the top side (603) of each barrel member (60).

13. A knockdown container as claimed in claim 2, with each barrel member (60) defining a top side (603), with both of the first and second connecting portions (61, 62) respectively defining an aperture (67) thereon adjacent to the top side (603) of each barrel member (60), with a fastening frame (80) including a plurality of fastening portions (81) protrud-

ing from the fastening frame (80) toward the barrel members (60) and inserting into the barrel members (60), which combine to each other, and a plurality of protrusions (811) defined on each fastening portion (81) and adapted to be fixed in the apertures (67) of the barrel members (60); wherein each fastening portion (81) is provided to be in a form of hook.

14. A knockdown container as claimed in claim 2, with each barrel member (60) defining a top side (603), with both of the first and second connecting portions (61, 62) respectively defining an aperture (67) thereon adjacent to the top side (603) of each barrel member (60), with a fastening frame (90) including a plurality of fastening portions (91) protruding from the fastening frame (90) toward the barrel members (60) and inserting into the barrel members (60), which combine to each other, and a fastening aperture (911) transversely defined on each fastening portion (91) and adapted to receive a fastening element (92), which inserts through each fastening aperture (911) and each aperture (67) of the barrel members (60) and is adapted for fixing the fastening frame (90) on the barrel members (60); wherein the fastening element (92) provided to be a screw.

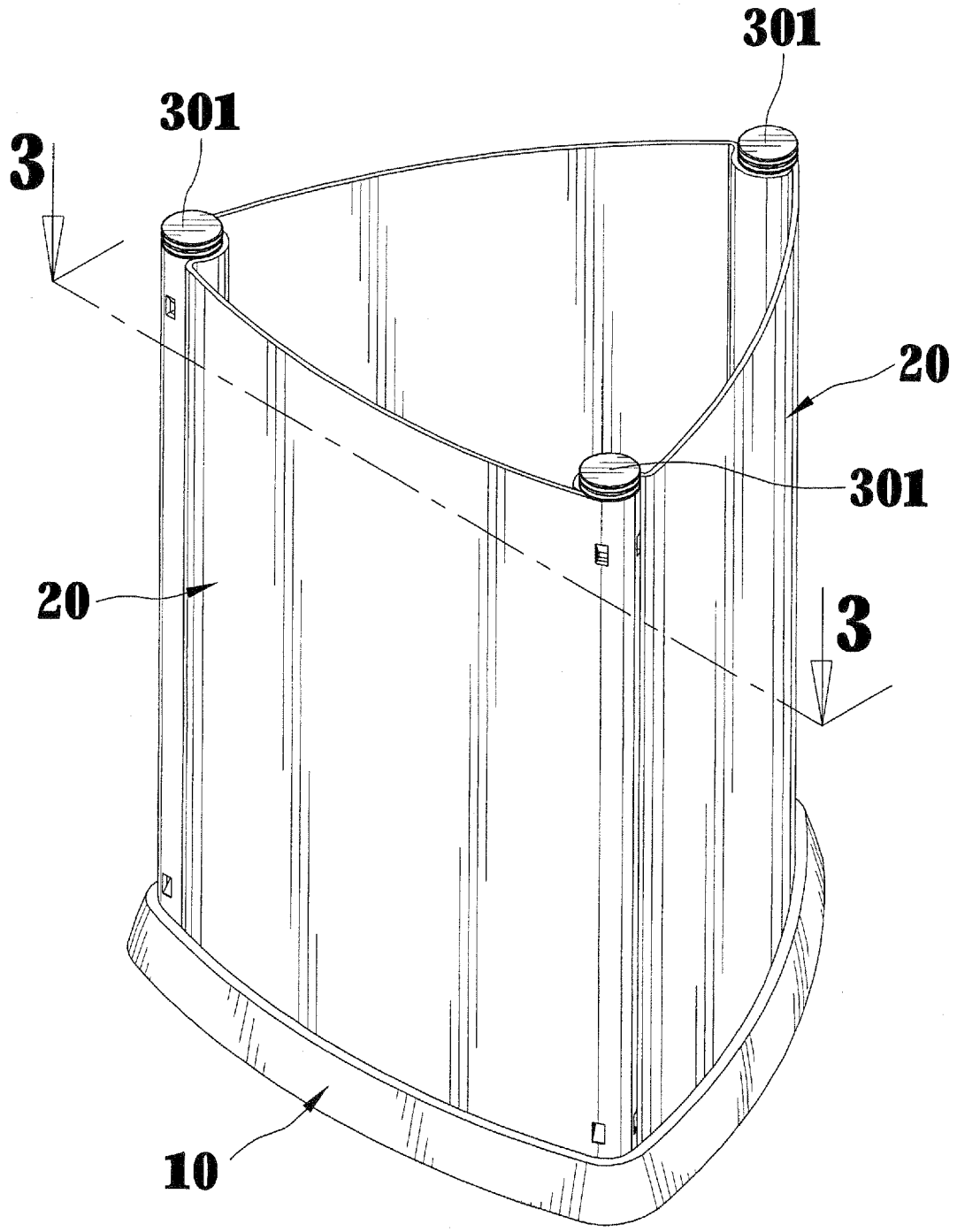

Fig.1

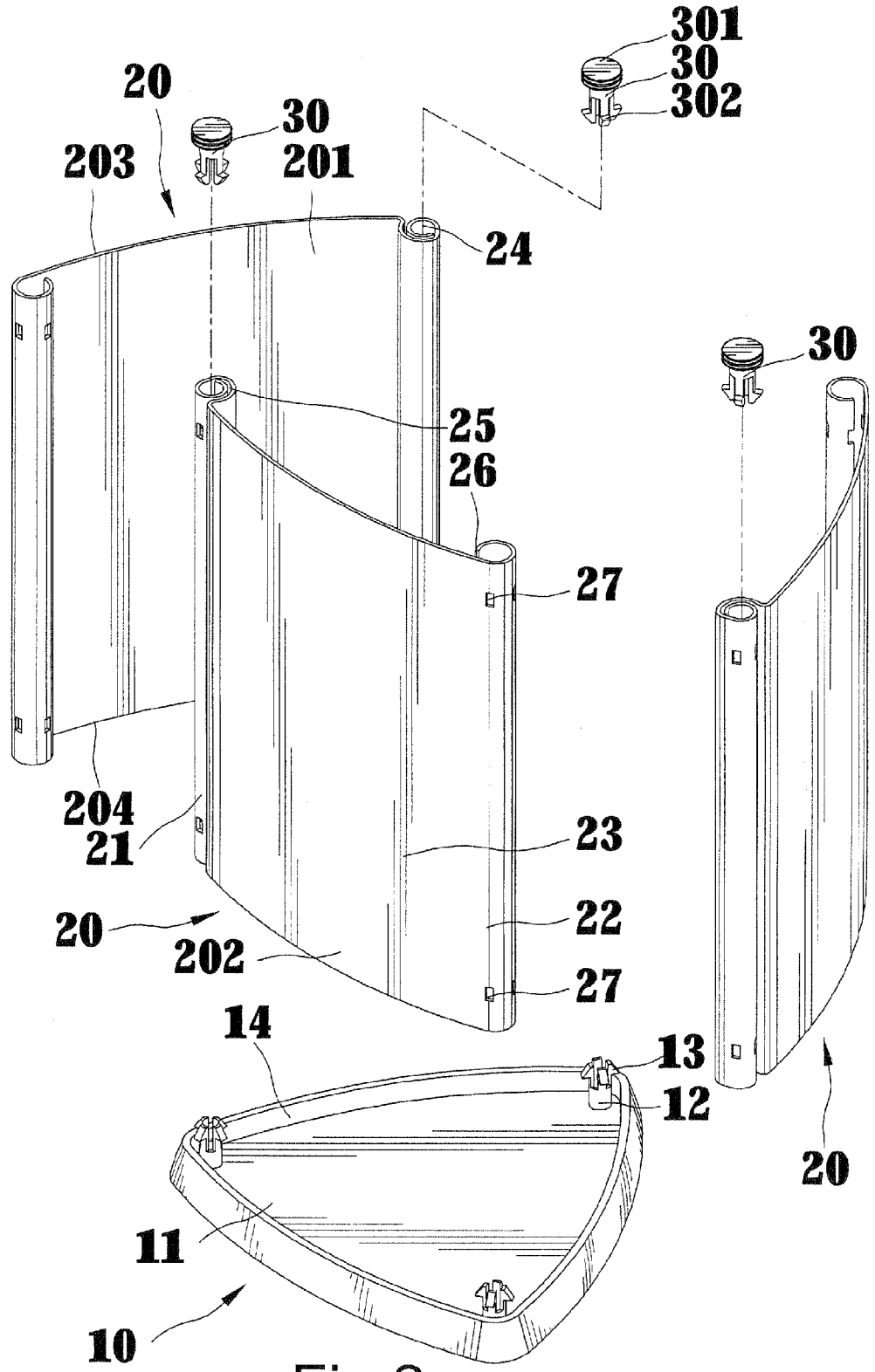
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Fig.2

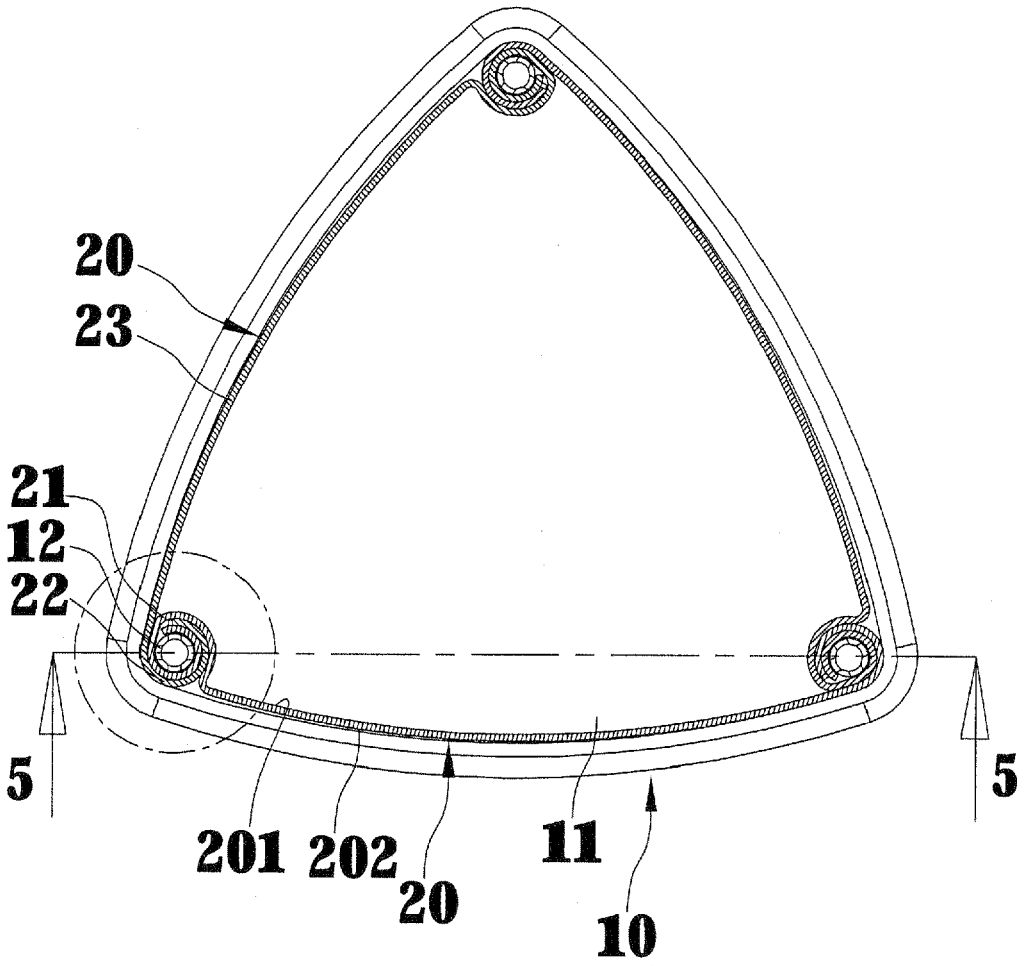

Fig.3

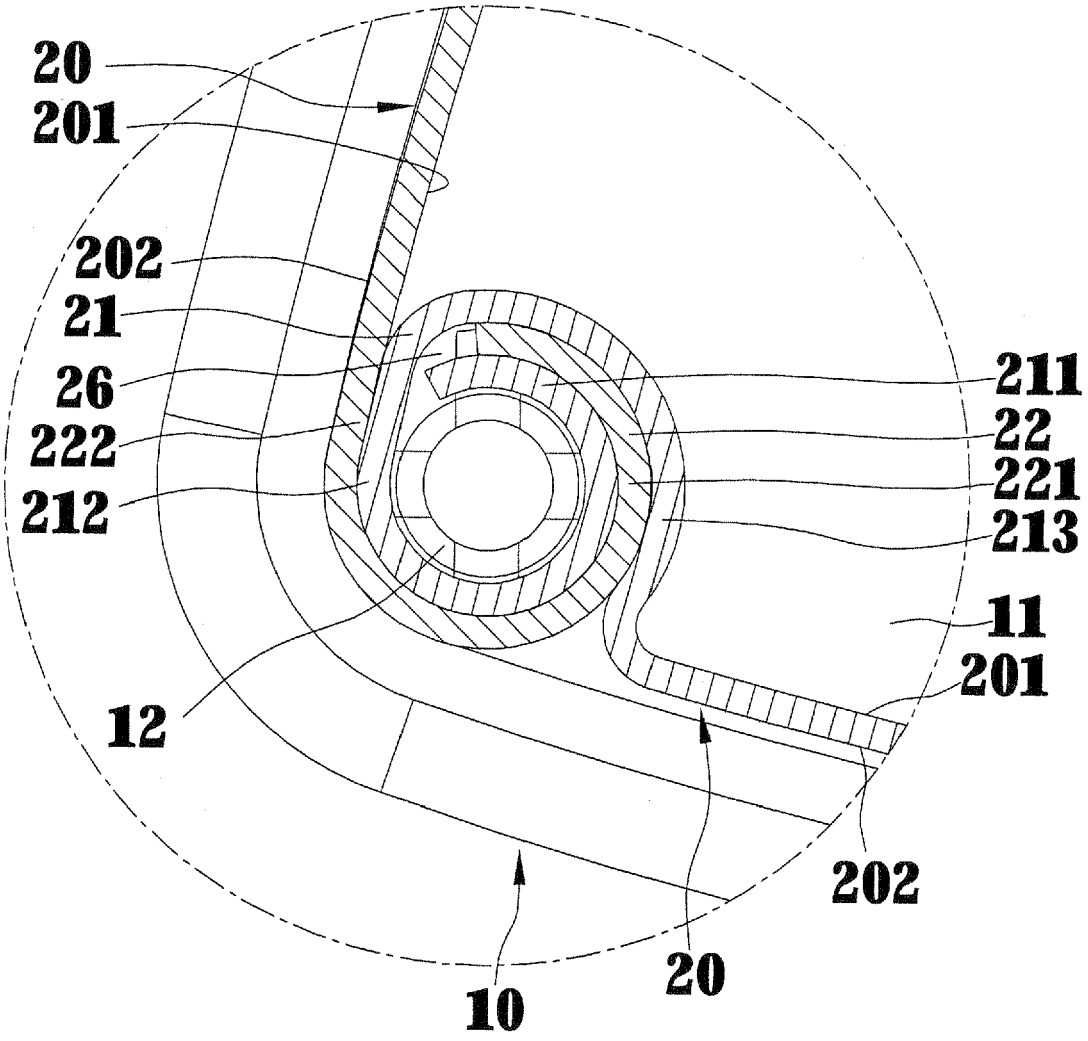

Fig.4

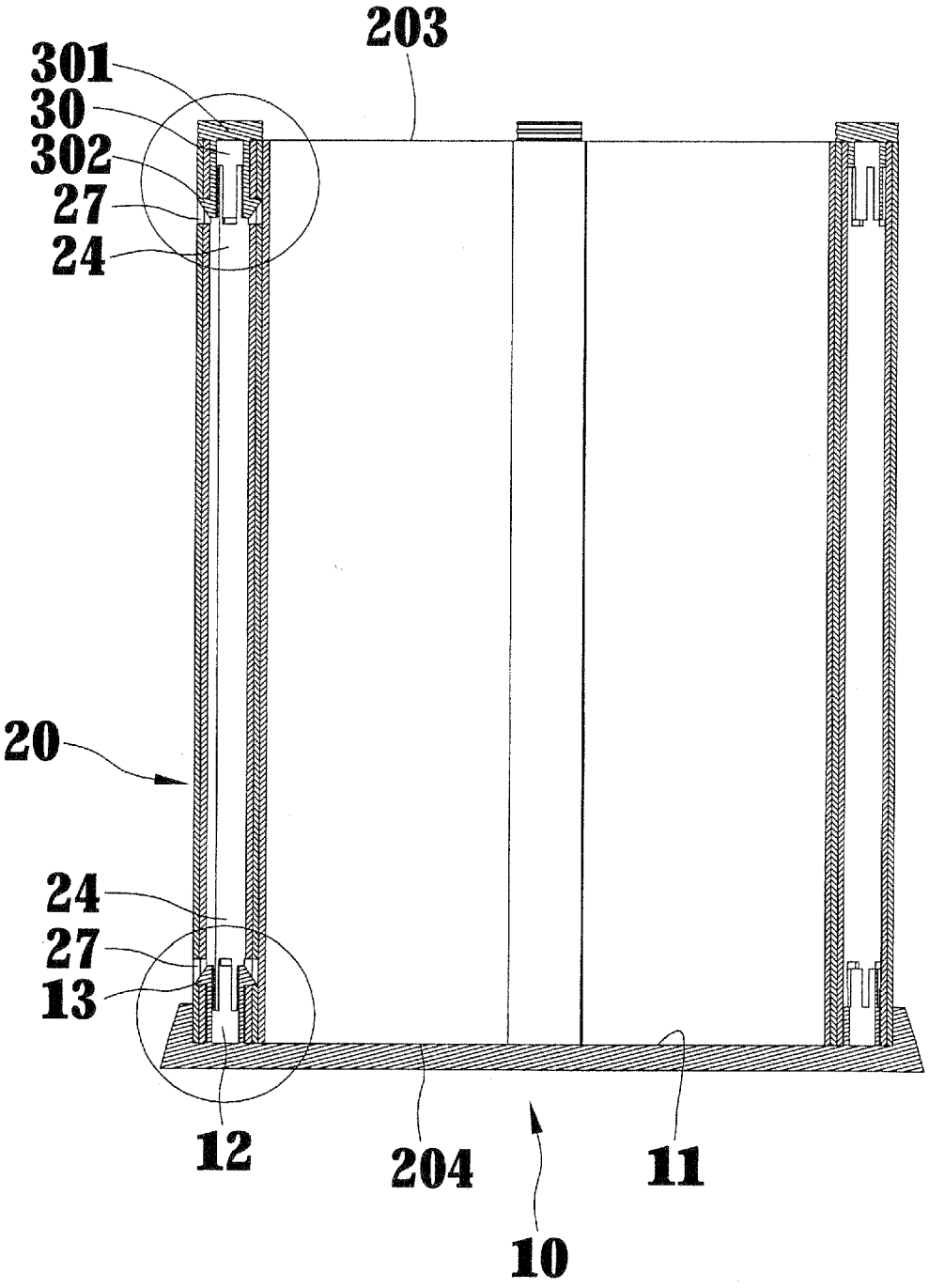

Fig.5

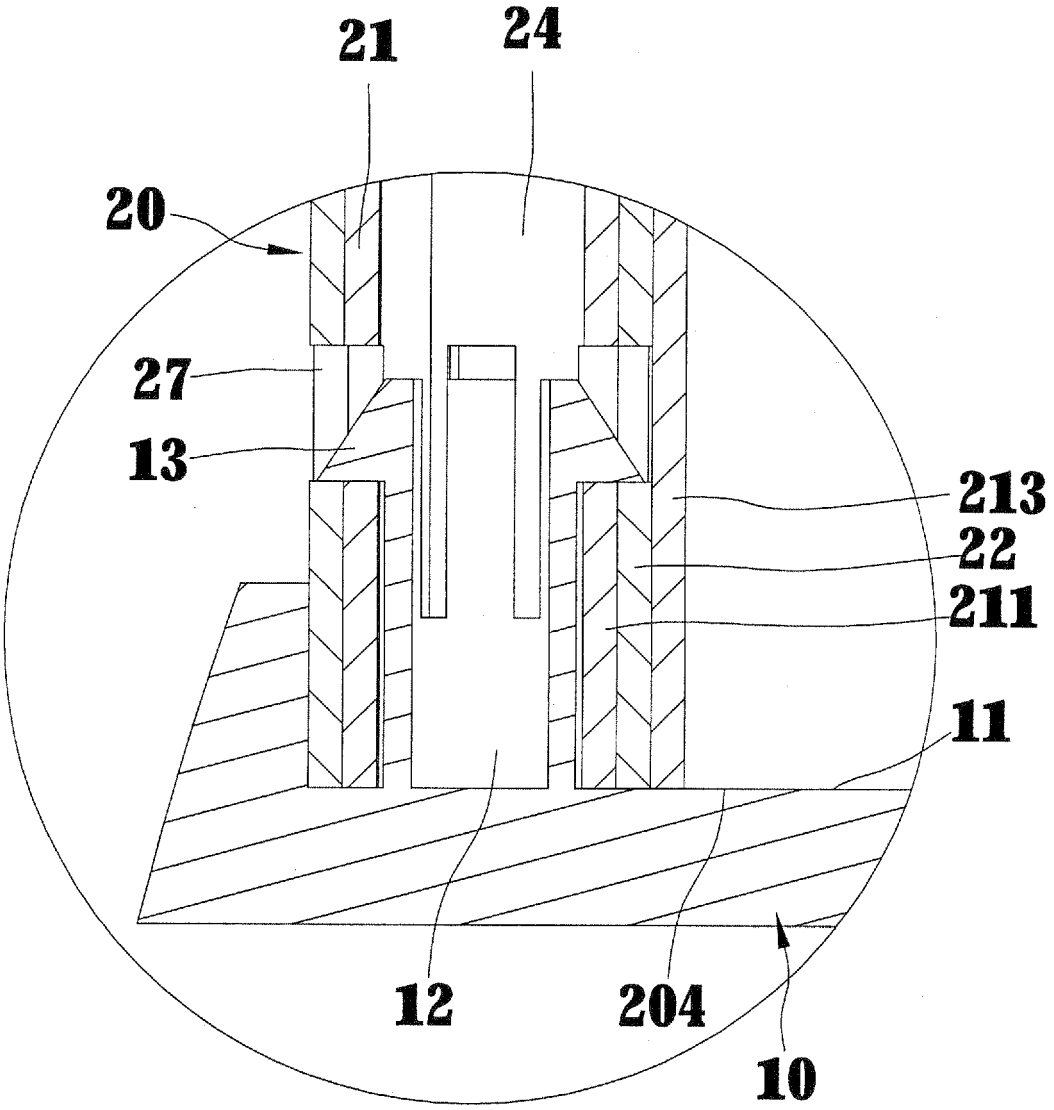

Fig.6

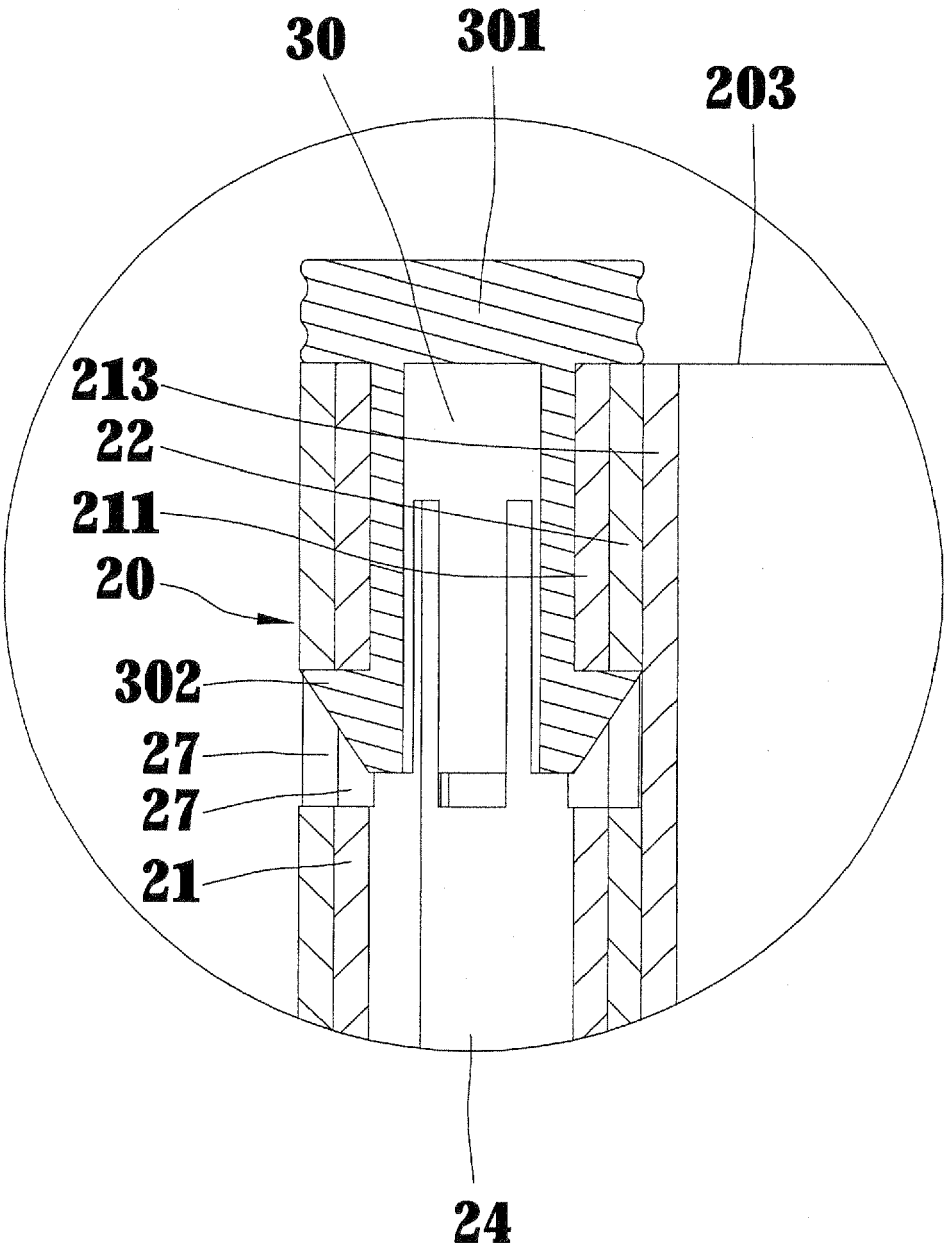

Fig.7

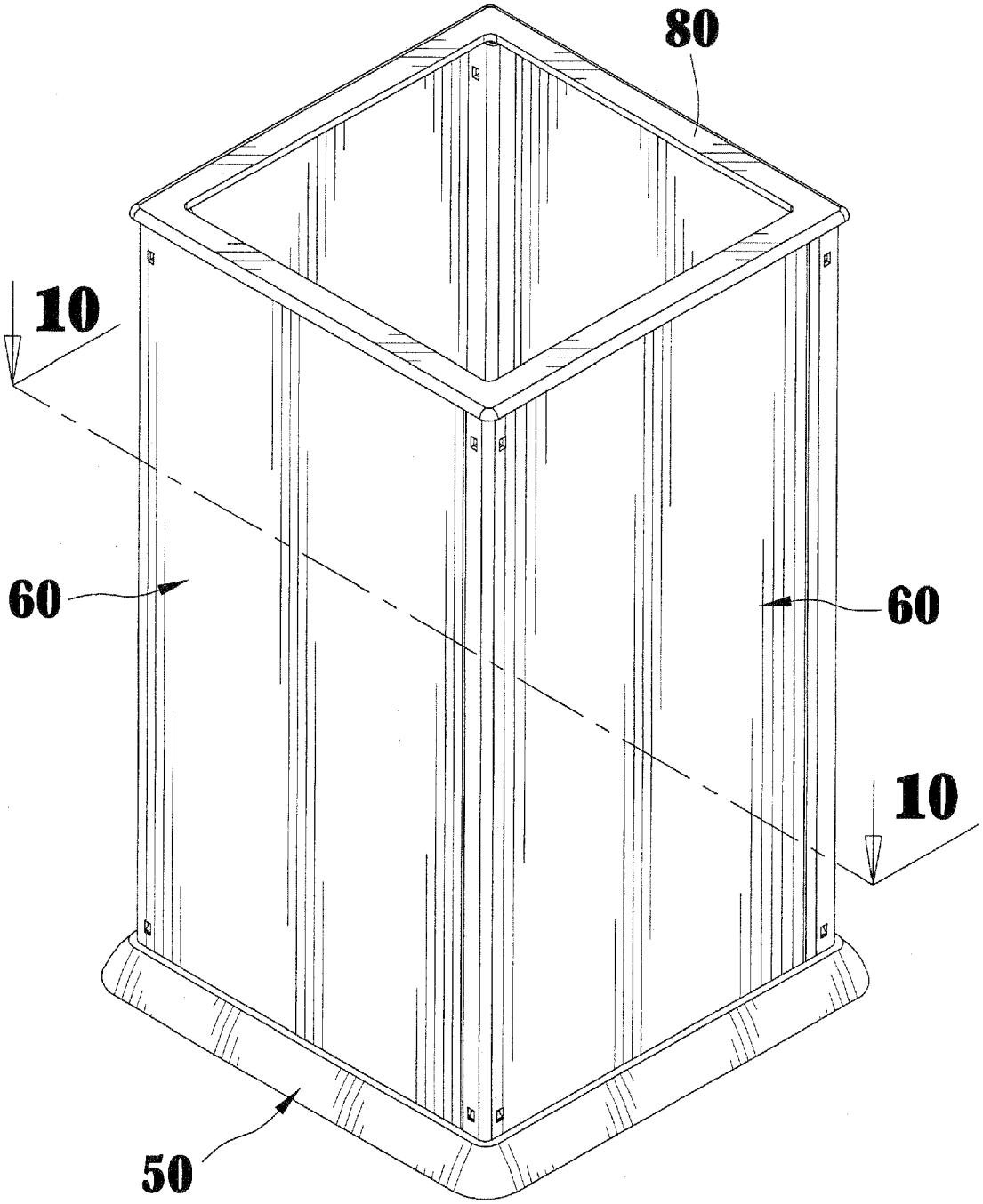

Fig.8

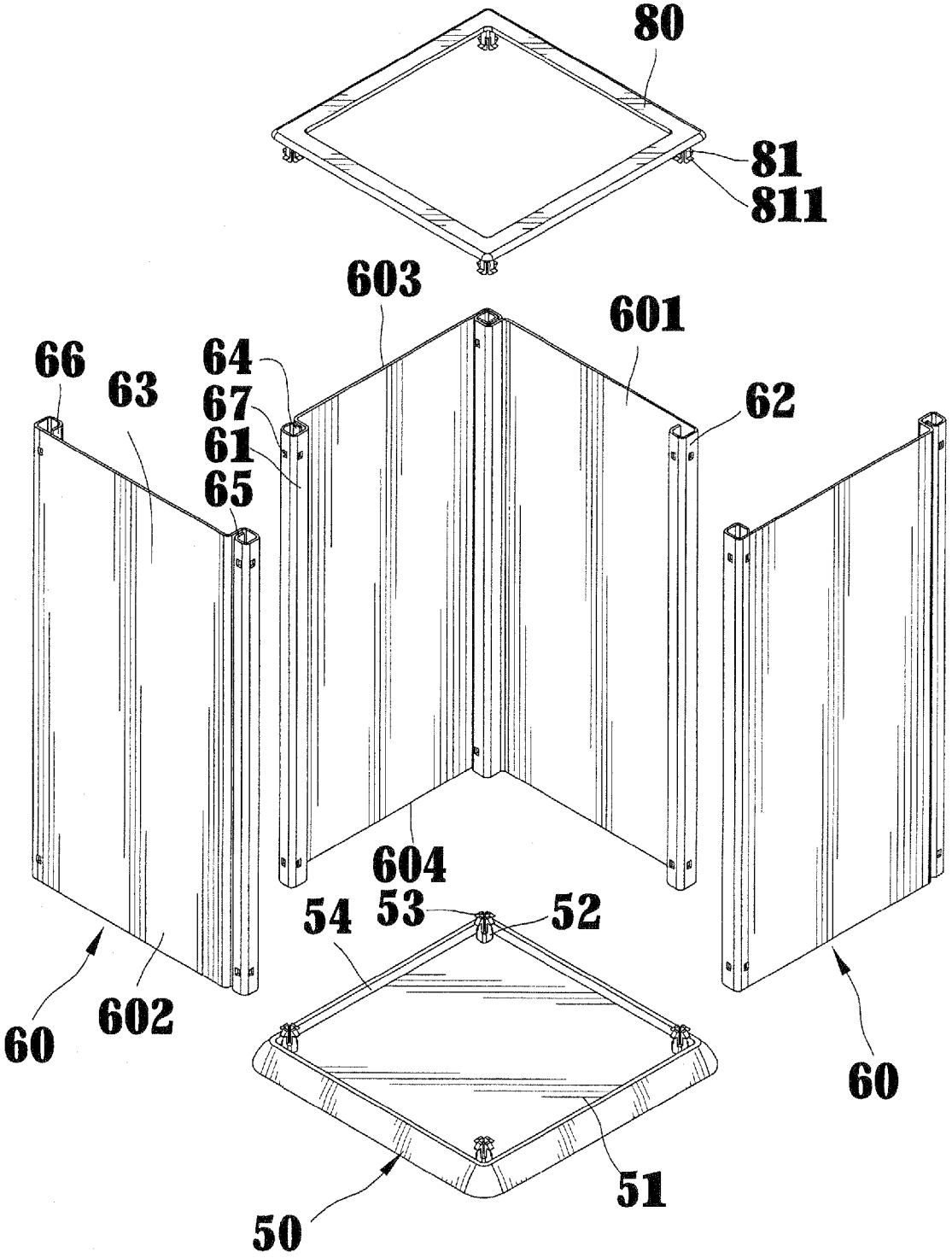

Fig.9

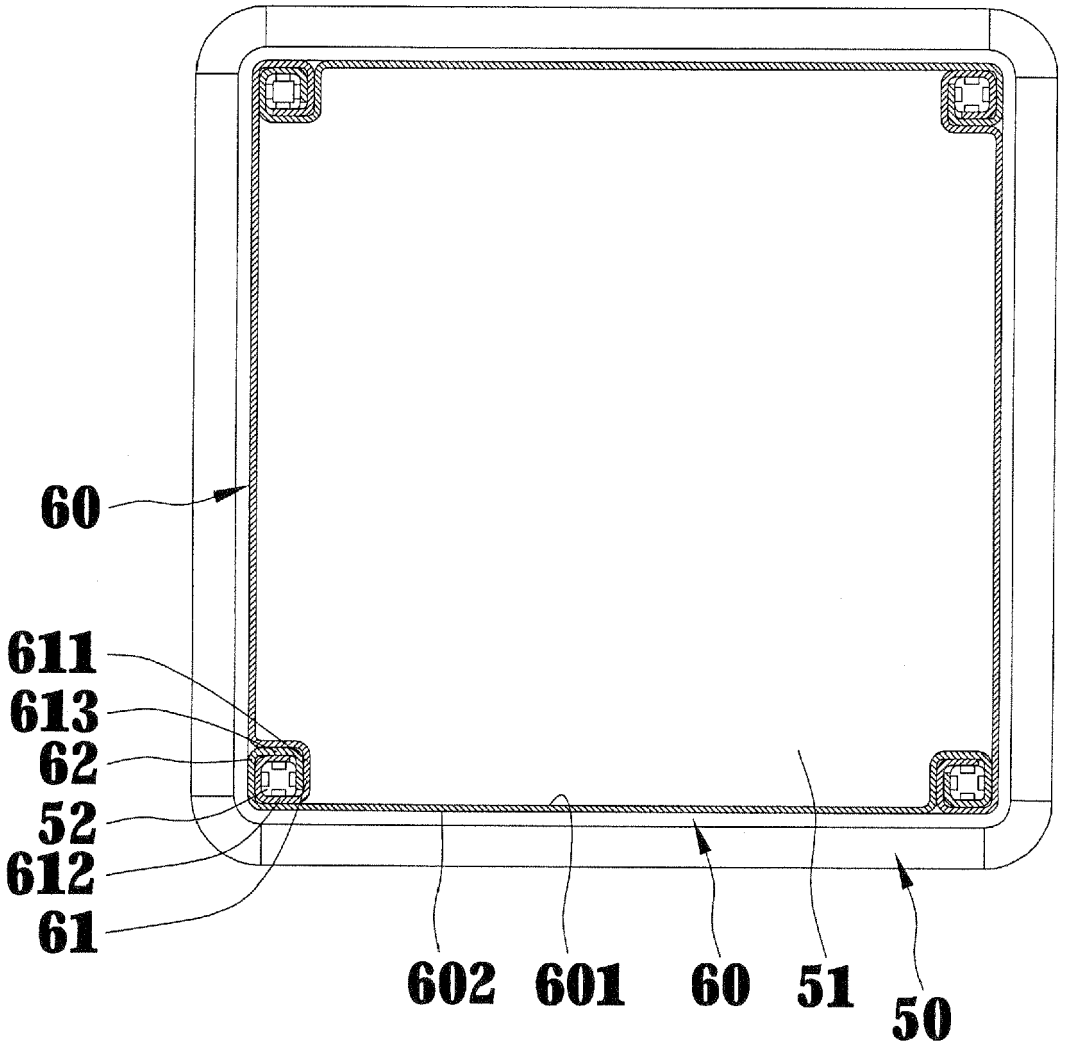

Fig.10

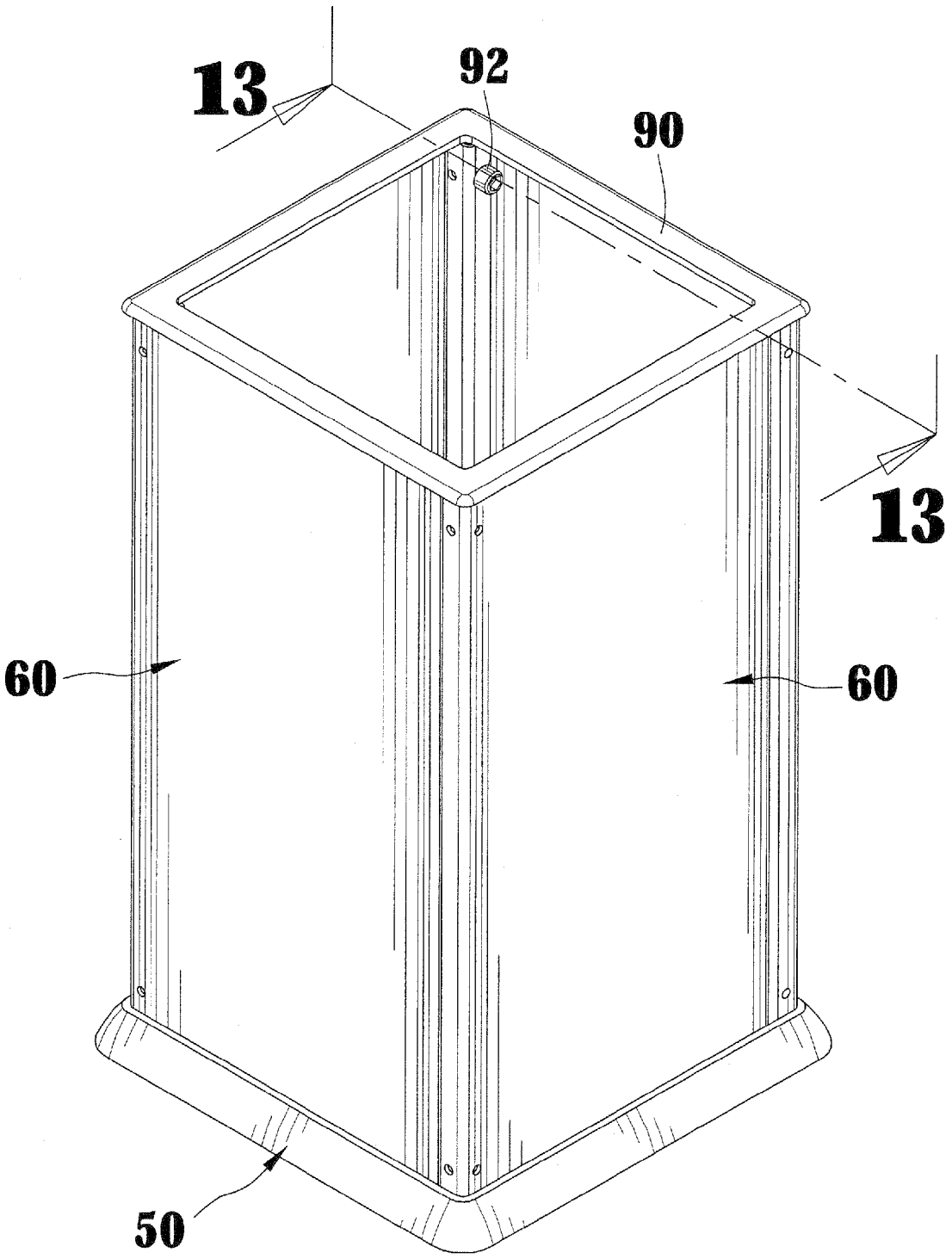

Fig.11

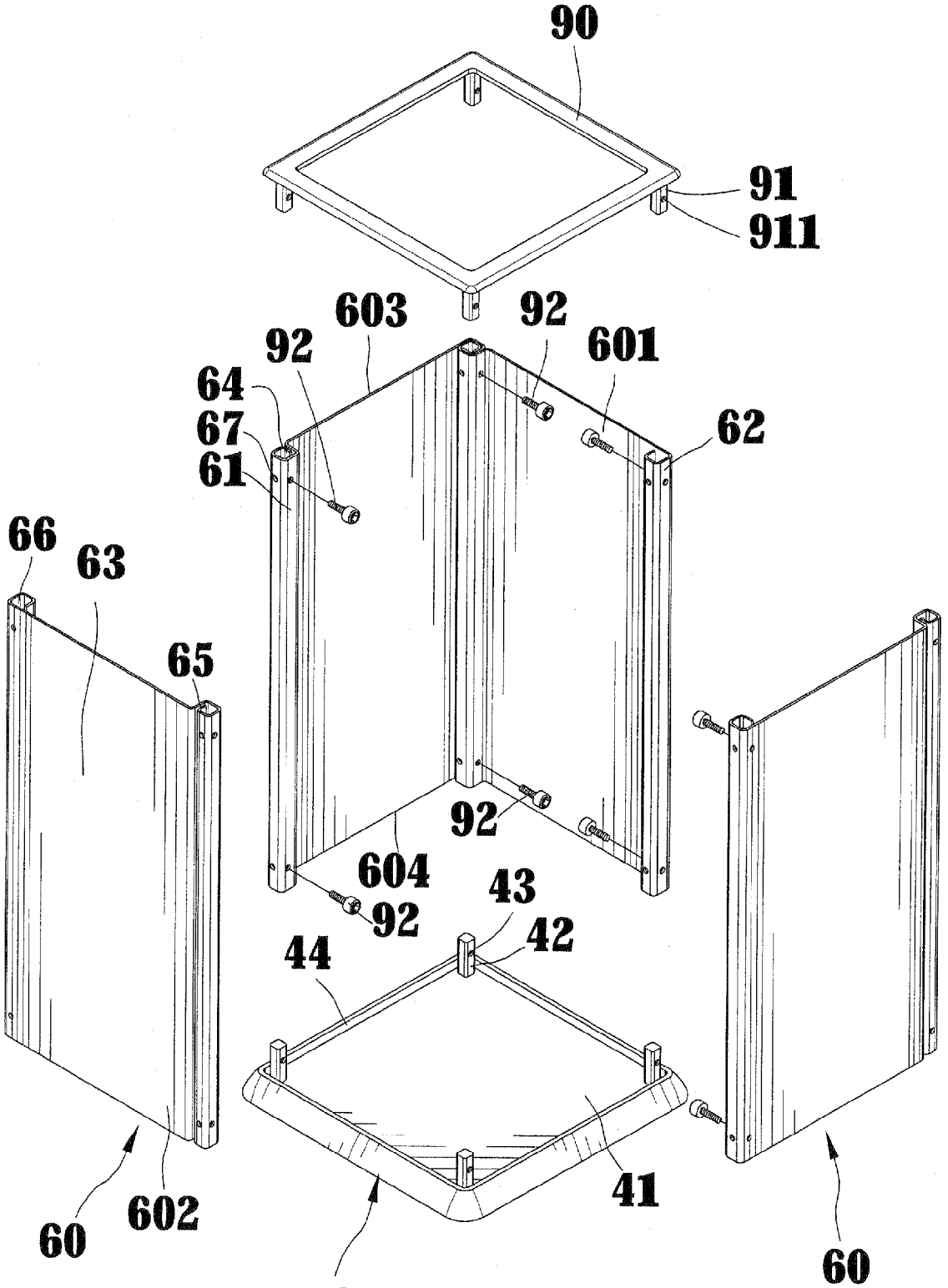
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Fig.12

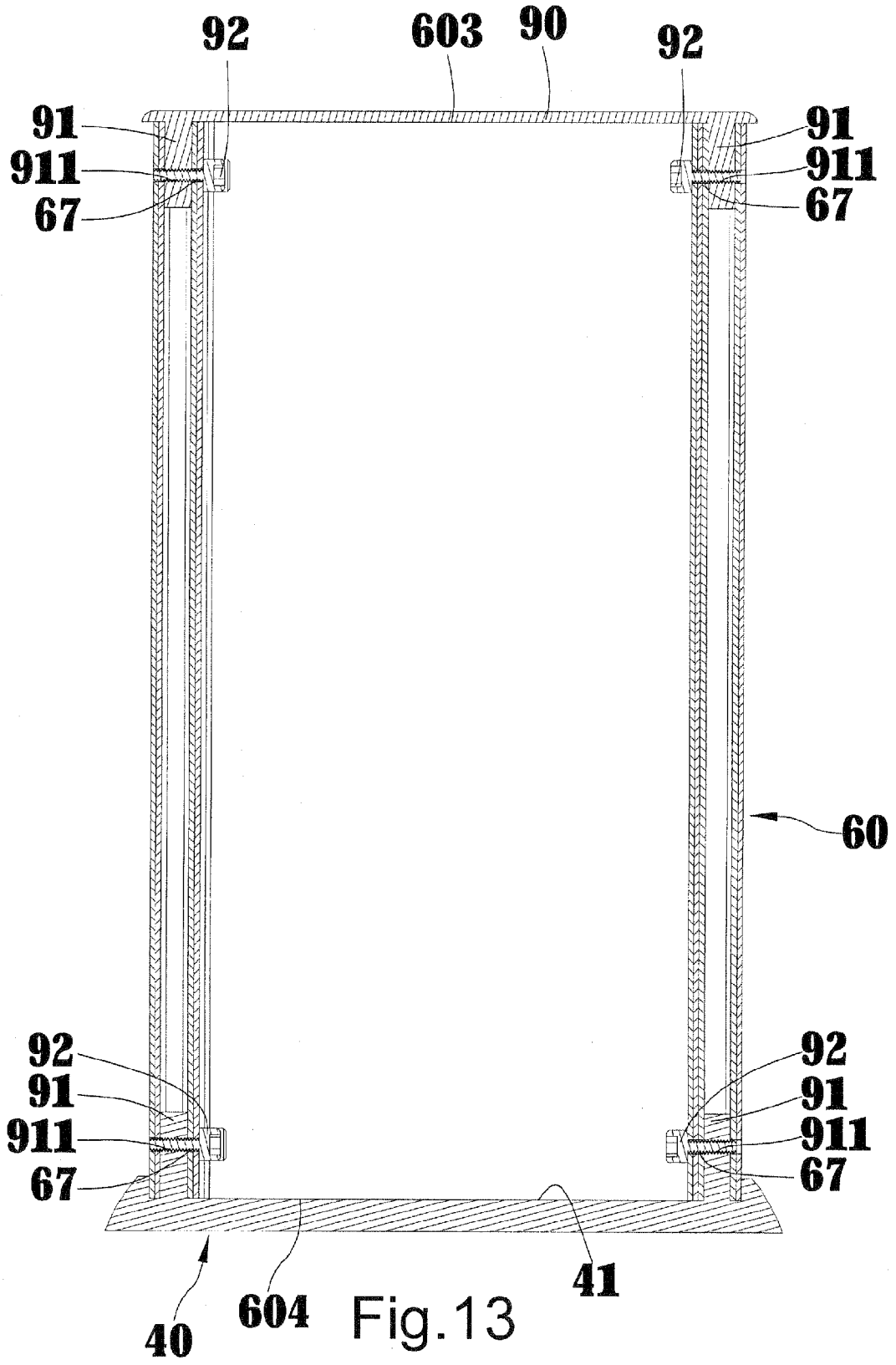
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Fig.13

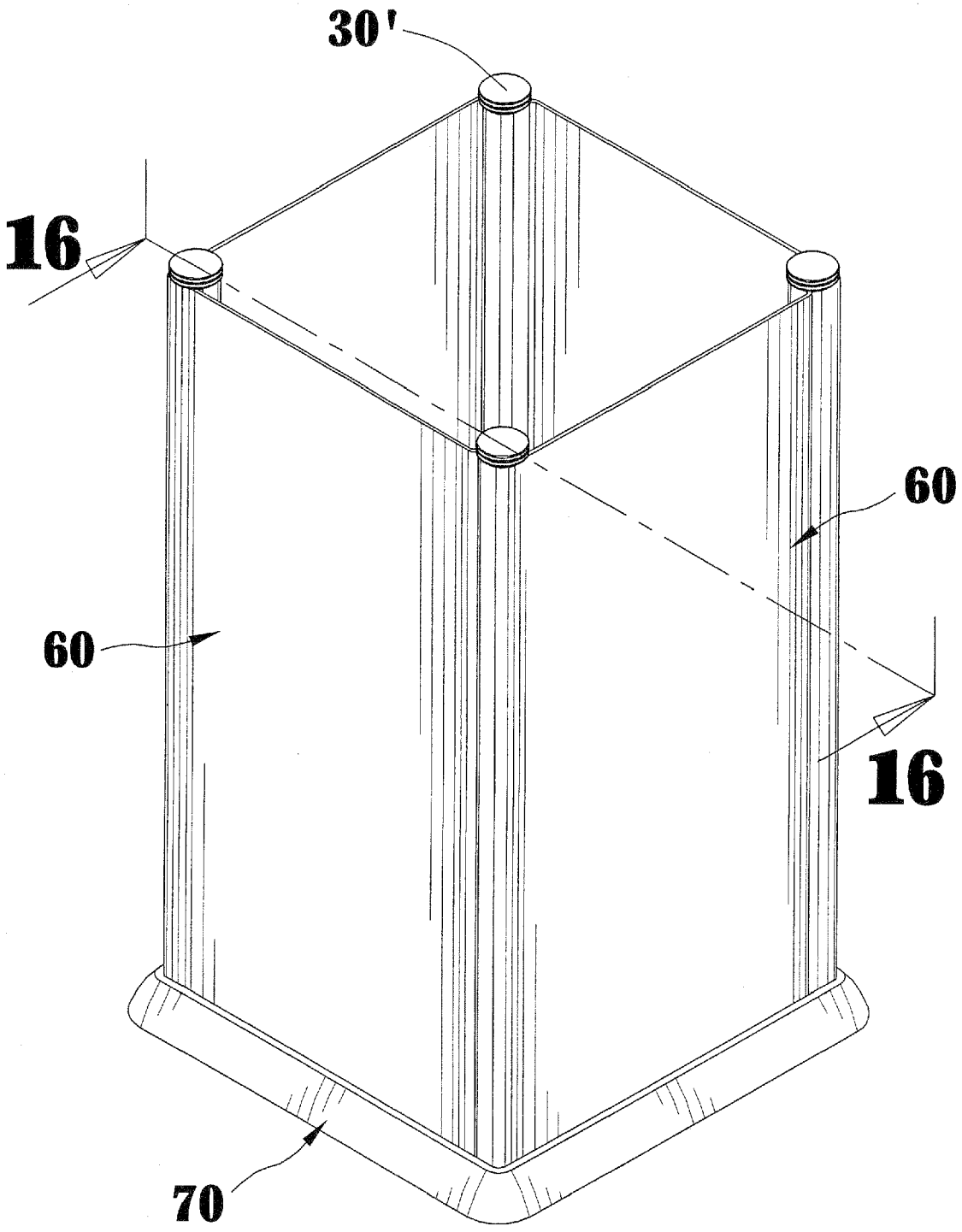

Fig.14

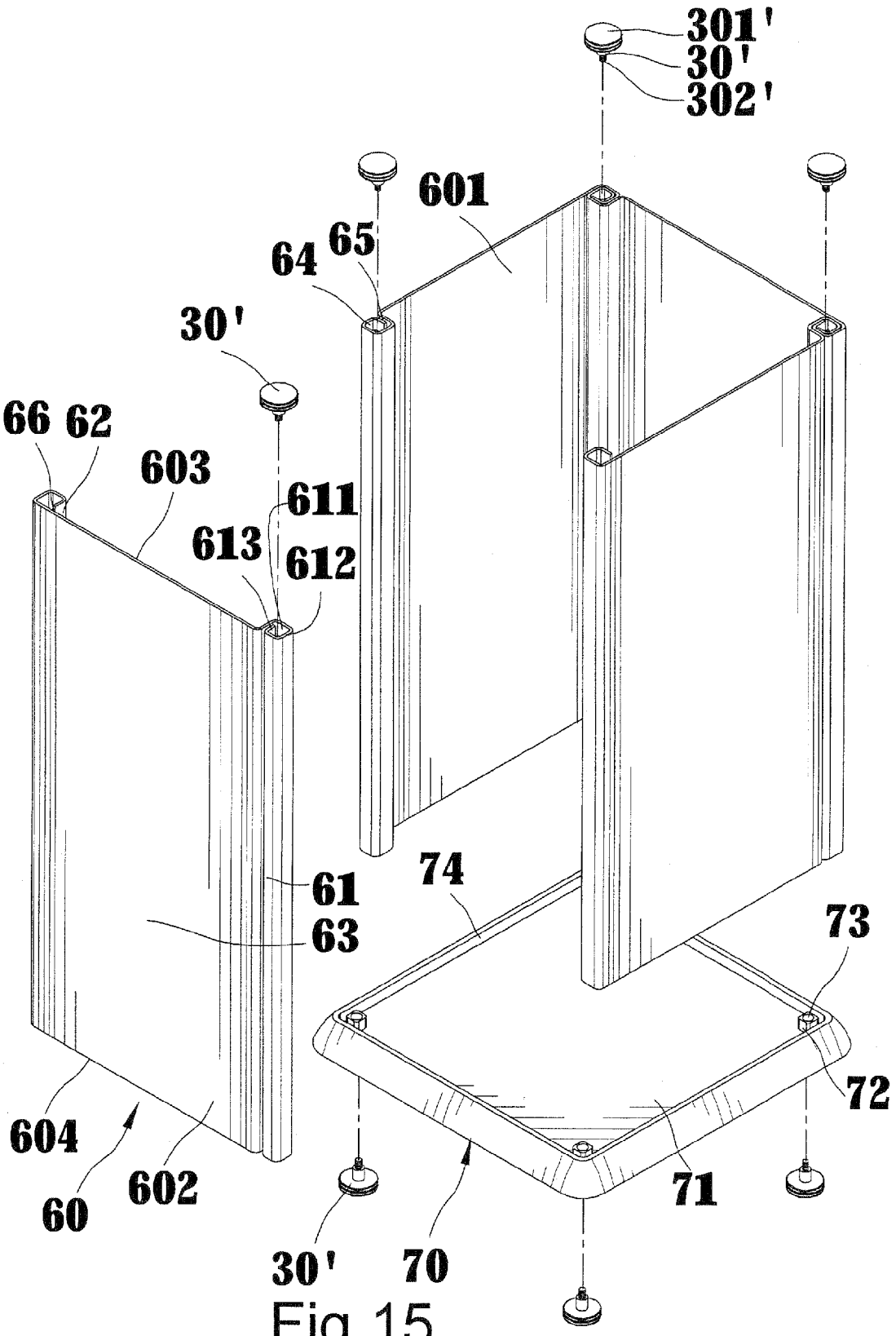
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Fig.15

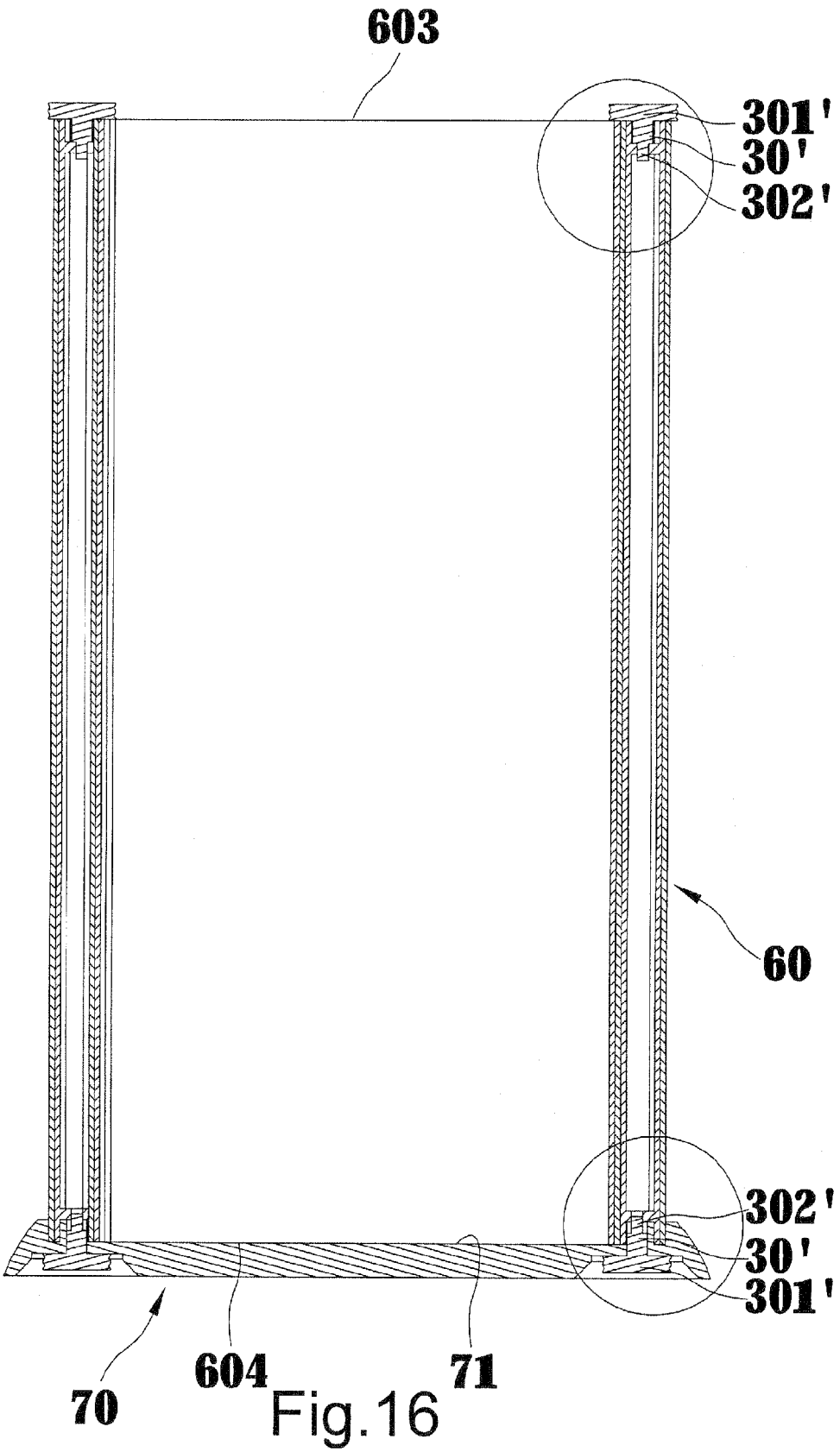

Fig.16

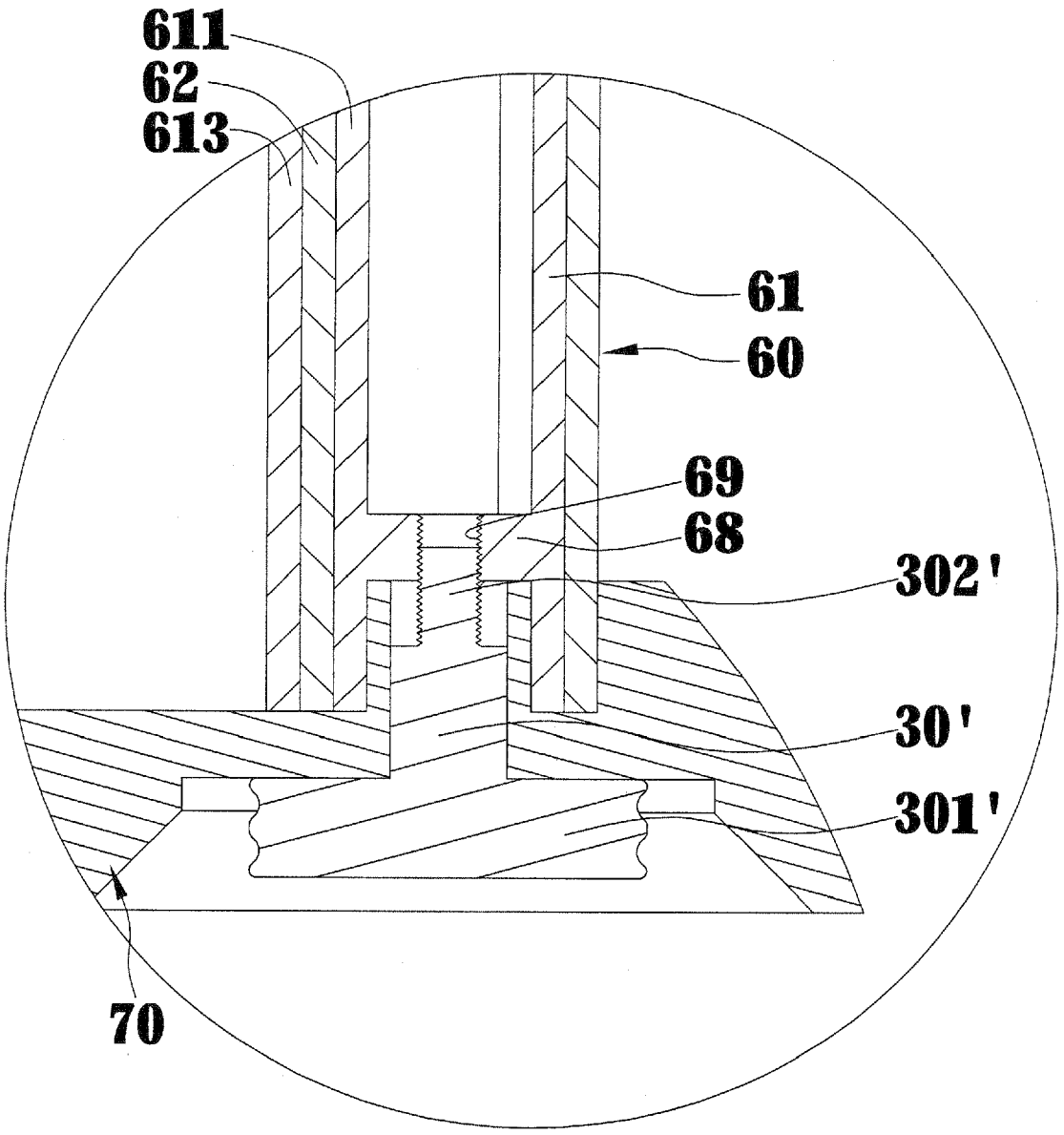

Fig.17

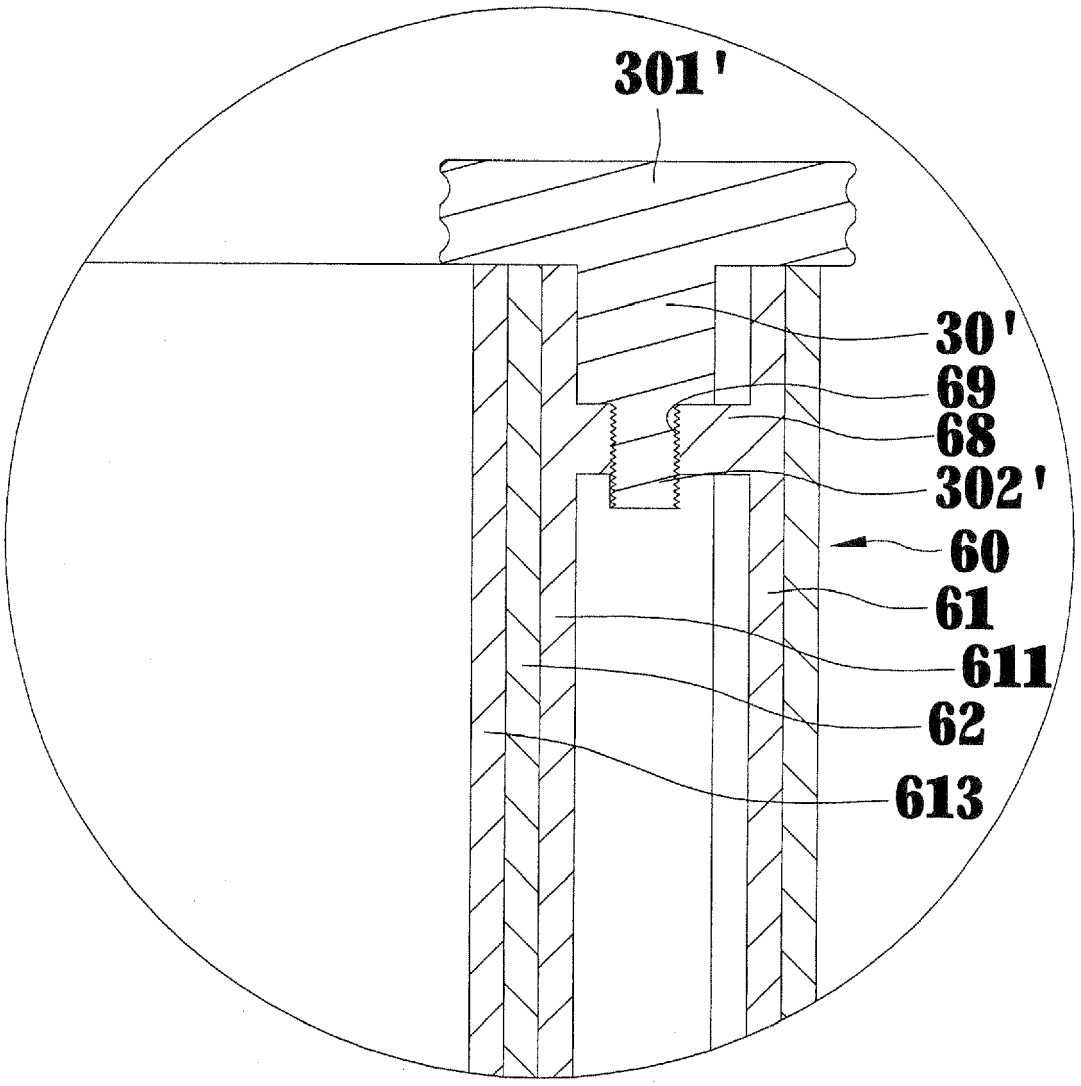

Fig.18

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 11 6800

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2006/261060 A1 (BAEZ VICTOR M [US]) 23 November 2006 (2006-11-23) * paragraph [0059] - paragraph [0066]; figures 1-7 *	1,2,4-15	INV. B65D6/16
X	US 1 543 268 A (DORA THIEME ANNA) 23 June 1925 (1925-06-23) * page 1; figures 1-7 *	1,2,4-15	
X	GB 234 737 A (DANIEL FORBES EBBERT) 4 June 1925 (1925-06-04) * page 1, line 32 - line 36; figure 4 *	1,2,4-15	
A	US 3 424 365 A (VENTURI EMILIO) 28 January 1969 (1969-01-28) * column 2, line 35 - line 56; figure 1 *	3	
A	FR 2 815 326 A (DEMEURANT GERARD MICHEL LIONEL [FR]) 19 April 2002 (2002-04-19) * figure 2 *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 February 2008	Bevilacqua, Vincenzo

CATEGORY OF CITED DOCUMENTS

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28-02-2008

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82