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(54) **ARTICLE CARRIER**

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Description

Background of the Invention

[0001] The invention relates to an article carrier and more particularly to a carrier of the top gripping type which grips the tops of articles such as bottles and enables a number of articles to be carried.

[0002] Article carriers of the top gripping type are known for example from U.S. Patent No. 2,397,716 which discloses a bottle carrier used to package two rows of three bottles. The carrier grips the underside of the removable cap of the bottles using a double tab arrangement. It is further known to provide a top gripping can carrier as disclosed in U.S. Patent No. 2,737,326 wherein a plurality of tabs are used to engage the underside of a crown cork closure fitted to a coned top of the can in a so-called sunburst arrangement.

[0003] Further examples of known article carriers are for example disclosed in U.S. Patent 3,073,644 and French Patent No. 1181153. These patent specifications disclose similar bottle carrier arrangements wherein two rows of bottles are carried by a carrier having a locking tab which engages the underside of a protruding bulge on the neck of the bottle rather than the underside of the cap. In both these patents, a bottle neck is loaded in the carrier by being passed through an aperture in a horizontal panel but withdrawal of the bottle is restricted by a locking tab arrangement which effects a reduction in the size of the aperture for removal of a bottle and locks the bulge in the bottle neck against withdrawal.

[0004] Various problems exist with these known types of article carrier including for example the fact that the load of the bottles is borne only in the top horizontal panel of the carrier which can rip thus accidentally releasing bottles, and that the carriers are formed by blanks using a gluing process which can be expensive, complex and which does not allow as tight a wrapping of a blank around the article necks as might be preferred.

[0005] Another approach is illustrated in DE 1 915 479 which shows a handle structure formed from a pair of panels, one of the panels forms the side wall in a top gripping carton and the other panel is connected to the top wall. However, extending the side wall of a top gripping carton is not suitable where two or more rows of articles are required to be packaged. This prior art disclosure relates to a carrier for a single row of articles. In the present invention tie means connects a pair of bottom wall portions to maintain a spaced relationship between them. No such tie means is required nor suggested for the carrier of the DE '479 disclosure.

[0006] The invention seeks to avoid or at least mitigate these and other problems of the prior art. According to one aspect of the invention there is therefore provided an article carrier for packaging articles in two or more rows, comprising a pair of opposed top and bottom walls interconnected by a pair of opposed side walls, said bottom wall including a pair of bottom wall portions hingably

connected respectively to said side walls and disposed side by side with a space therebetween, a handle structure associated with said top wall, and an internal panel structure extending between said top and bottom walls and including a pair of shoulder panels hingably connected respectively to said bottom wall portions, said internal panel structure being connected to said handle structure so that the load of the packaged articles is borne at least in part by the internal panel structure when the carrier is lifted by said handle structure characterised by tie means formed, in part, from one of said shoulder panels and connecting between said bottom wall portions such that said tie means bridges said space to maintain the spaced relationship between said bottom wall portions. Preferably, the internal panel structure may be formed from material which is disposed between the bottom wall portions when the carrier is in blank form. More preferably, the tie means is provided by at least one locking tab.

[0007] According to another optional feature of this aspect of the invention each of the bottom wall portions may have at least one aperture for receiving part of an article, and the tie means extends from one of the bottom wall portions into the at least one aperture in the other bottom wall portion. Preferably, the at least one aperture may be an aperture for receiving a necked article which article assists in maintaining the tie means and the aperture locked together.

[0008] According to another optional feature of this aspect of the invention the top wall may have at least one aperture associated with the bottom wall apertures for receiving part of the neck of an article, the top wall comprising means for retaining the article in the carrier against accidental removal. Preferably, the article retaining means may comprise a plurality of locking tabs surrounding each receiving aperture in the top wall panel and hingably connected thereto so as operably to engage the underside of a radially protruding portion of a necked article.

[0009] According to another optional feature of this aspect of the invention there may further comprise article release means to enable an article to be readily released from the carrier. Optionally, the article release means may be a tearaway tab which interconnects the associated receiving apertures in the top and bottom wall panels.

[0010] According to another optional feature of this aspect of the invention the shoulder panels may be connected together. Preferably, the shoulder panels may be hingably connected together along a common upper edge thereof. More preferably, the handle structure may comprise a pair of opposed upright handle panels having upper edges disposed above said common upper edge of said shoulder panels. Optionally, a handle ply portion may be formed from one of said shoulder panels and project upwardly above the common upper edge, said handle ply portion being disposed between the upright handle panels.

[0011] According to a further optional feature of this aspect of the invention the handle structure may comprise a pair of upright handle panels, wherein the top wall includes a pair of top wall portions hingably connected respectively to lower edges of the handle panels, and an upper portion of the internal panel structure is disposed between the handle panels. Optionally, the handle panels may protrude upwardly from the top of the carrier.

[0012] According to a still further optional feature of this aspect of the invention the handle structure may comprise finger apertures provided in each of the handle panels and the internal panel structure and a locking tab hingably connected to one of the handle panels which is displaceable downwardly to interlock the handle panels and the internal panel structure.

[0013] According to yet another optional feature of this aspect of the invention the top wall may include a pair of overlapped top wall portions, the handle structure may comprise aligned finger gripping apertures formed respectively in the top wall portions, and an upper portion of the internal panel structure is disposed such that a finger gripping aperture in the upper portion is in alignment with the finger gripping apertures in the top wall portions.

[0014] A second aspect of the invention provides a blank for forming an article carrier for packaging articles in two or more rows. comprising a top wall panel, a first side wall panel, a bottom wall panel portion, an internal partition structure, a second bottom wall panel portion, a second side wall panel hingedly connected together in series and a handle structure associated with the top wall panel. The internal partition structure includes a pair of shoulder panels hingedly connected respectively to the bottom wall portions, the internal panel structure is adapted to be connected to the handle structure in a set up condition characterised in that tie means formed, in part, from one of the shoulder panels in connecting between the first and second bottom wall portions such that the tie means maintains the spaced relationship between the first and second bottom wall portions in a set up condition. Preferably, the tie means may be provided by at least one locking tab.

[0015] According to an optional feature of the second aspect of the invention each of the bottom wall portions has at least one aperture for receiving part of an article, and the tie means extends from one of the bottom wall portions into the at least one aperture in the other bottom wall portion. Preferably, the top wall may have at least one aperture associated with the bottom wall apertures for receiving part of the neck of an article, the top wall comprising means for retaining the article in the carrier against accidental removal. More preferably, the article retaining means may comprise a plurality of locking tabs surrounding each receiving aperture in the top wall panel and hingably connected thereto so as operably to engage the underside of a radially protruding portion of a necked article. Optionally, there may further comprise

article release means to enable an article to be readily released from the carrier.

[0016] According to another optional feature of the second aspect of the invention the article release means may be a tearaway tab which interconnects the associated receiving apertures in the top and bottom wall panels. Preferably, the shoulder panels may be hingably connected together along a common upper edge thereof. More preferably, the handle structure may comprise a pair of opposed upright handle panels having upper edges disposed above the common upper edge of the shoulder panels.

[0017] According to another optional feature of the second aspect of the invention the handle structure may comprise a pair of upright handle panels, wherein the top wall includes a pair of top wall portions hingably connected respectively to lower edges of the handle panels, and an upper portion of the internal panel structure is disposed between the handle panels.

[0018] Embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

FIGURE 1 is a plan view of a first embodiment of a blank for forming a carrier according to the invention;

FIGURE 2 shows a second embodiment of a blank for forming a carrier according to the invention;

FIGURE 3 shows a partial view of part of the blank shown in Figure 1;

FIGURE 4 shows a side elevation view of a carrier being formed from the blank as shown in Figure 1;

FIGURE 5 shows a side elevation view at a later stage of the forming process shown in Figure 4;

FIGURE 6 shows a side elevation view of a carrier according to the invention after completion of the process shown in Figures 4 and 5;

FIGURE 7 is a plan view of a blank for forming a third embodiment of an article carrier according to the invention;

FIGURE 8 shows a schematic view of a blank shown in Figure 7 after a first step in the carrier formation process;

FIGURE 9 shows a side elevation view of a carrier shown in Figures 7 and 8 at a packaging stage of the formation process;

FIGURE 10 shows a side elevation view of a carrier shown in Figure 9 at a later stage of formation;

FIGURE 11 shows a side elevation view of a carrier as formed during the steps shown in Figures 7 to 10;

FIGURE 12 is a plan view of a fourth embodiment of a blank for forming a carrier according to the invention; and

FIGURE 13 is a side elevation view of a carrier formed from the blank shown in Figure 12.

Detailed Description of the Preferred Embodiments

[0019] Referring to Figure 1, there is shown a blank 10 comprising a series of hingably interconnected panels. A first handle panel 12 comprises a handle aperture 72 which defines a handle tab 76 which is hingable about fold line 78. Panel 12 is hinged to top panel portion 14 along hinge line 32. The top panel portion 14 comprises upper receiving aperture 52 which defines a locking rim 54 which extends into a locking tab 50, having locking edge 55, which is hinged along fold line 32. A series of three upper receiving apertures 52 are provided on each side of the blank 10 such that six bottles can be carried in the formed carton. Of course any number of articles may be provided for by suitably adapting the blank.

[0020] Upper panel portion 14 is hinged along fold line 34 to a side panel 16 comprising tearaway strips 74 which allow access to articles retained in the formed carrier. Side wall 16 is hingably connected along fold line 36 to a base panel portion 18 comprising lower article receiving apertures 57. The rim of apertures 57 define, in part, at least an article flange locking tab 56 which is hinged along fold line 38 to the edge of an internal shoulder panel 20. Hinge line 38 is interrupted in each of the flange locking tabs 56 shown in Figure 1 to provide a locking lug 70.

[0021] Internal shoulder panel 20 is hingably connected to a second internal shoulder and handle panel 22 along fold line 40. The panel 22 comprises a handle aperture 72' in a handle ply region 21 and a series of three carrier locking tabs 62 cut adjacent fold line 42. The locking tabs 62 comprise a head 64 having shoulders which operably engage the rim of aperture 57 in base panel portion 18 thereby to lock base panel portions 18 and 24 together in fairly close proximity in use. Additionally, carrier locking tabs 62 comprise a secondary locking means 66 cut in head 64 to interrupt fold line 68. When head 64 is folded upwardly about 68 so as to engage apertures 57, head 64 also engages locking lug 70 thereby to provide a double locking means.

[0022] Base panel portion 24 is hingably connected to panel 22 along interrupted fold line 42. Base panel portion 24 comprises a series of three lower article receiving apertures 57, the rims of which each define in part flange locking tabs 56 similar to those contained within base panel portion 18. Panel 24 is hingably connected to side panel 26 along fold line 44. The side panel 26 also comprises tearaway strips 74 in common with side panel 16. Side panel 26 is foldably connected to top panel portion 28 along fold line 46. This top panel portion 28 in common with top panel 14 comprises a series of upper article receiving apertures 52 and locking tabs 50. A further handle panel 30 comprising a handle aperture 72 is then provided.

[0023] An enlarged view of the article top locking tab 50 is shown in Figure 3. Here it can be seen that aperture 52 and locking tab 50 are provided substantially by two

overlapping circle holes to provide the neck clench mechanism described in relation to Figures 4 to 6.

[0024] Referring to Figures 4 to 6, it can be seen that internal shoulder panels 20 and 22 are first erected by engaging locking means 62 in apertures 57 and passing the partially formed carrier over the necks of an array of articles such as bottles B. As the bottle necks pass through apertures 57 the locking tabs 56 and locking heads 64 are folded upwardly until eventually the upper edges 58 of locking tabs 56 engage the underside of annular flanges F provided on the bottle necks below the bottle caps C. It can be seen that the bottle neck acts to retain the head 64 of locking means 62 in the aperture 57 in base panel portion 18, this helps to retain the internal panels 20 and 22 in their erected form. The top panels 14 and 28 are then folded so that the bottle cap C are passed through upper article receiving apertures 52 as shown in Figure 4. As the upper panel portions 14 and 28 are folded downwardly over the bottle cap C so locking tabs 50 are moved upwardly over associated fold lines 32 or 48. Referring to Figure 5 it can be seen that at a later stage in the forming process the upper receiving apertures 52 are able to pass over the flanges F on the article necks due to the large aperture created when locking tab 50 is displaced from the upper panel portions. By moving the upper panel portions 14 and 28 further downward so side panels 16 and 26 pass entirely beneath the flanges F. Further, tabs 50 are folded downwardly so as to engage the underside of cap C and thereby cause the rim 54 of apertures 52 to swing into engagement with the bottle necks at under the flanges F as best shown in Figure 6. Thus, each bottle B is retained in two apertures and by two locking tabs 50 and 56 and the rim of the upper aperture 52.

[0025] To form the completed carrier, handle panels 12 and 30 are folded into position to provide alignment of the three handle apertures 72, in panels 12, 22 and 30. Thus creating a three-ply handle wherein the middle panel acts to transfer the load in the carrier into the base and parts of the carrier other than the top of the carrier.

[0026] Tabs 76 are provided in apertures 72 in handle panels 12 and 30 as shown in Figure 1, which can be folded through the slightly larger aperture 72' provided in inner handle panel 22 to lock all three panels 12, 22 and 30 together. For example, one of tabs 76 in either of panels 12 or 30 could be folded through both the other adjacent apertures, or tab 76 in panel 12 could be folded through aperture 72' by 180° and then tab 76 in panel 30 could be folded through aperture 72' by 180° to lock tab 76 of panel 12 underneath it. Other locking configurations are possible. This method of locking the carrier in an erected form has the advantage of not requiring any gluing to maintain the carrier. Additionally, the carrier is maintained in its formed condition through the action of tabs 50 which lock the handle panels next to each other by a mechanical action in cooperation with the bottles in the carrier. A relatively tightly packed carrier is achieved using this mechanical locking arrangement of

handle tabs 76 and/or tabs 50 compared to a carrier formed using a gluing process.

[0027] A blank 10a is shown in Figure 2 which is similar to blank 10 shown in Figure 1 and where blank 10a comprises like integers to blank 10 which are suffixed with the letter a. It can be seen however that a carrier formed from blank 10a is for use with a single row of three bottles only and not for two rows described earlier. Thus, carrier 10a does not comprise panels equivalent to internal panels 20 and 22 or locking means 62.

[0028] A base panel portion 18a comprises three apertures 57a for receiving article. The base panel portion 18a is hingably connected to side panel 26a along fold line 39a. The side panel 26a is then foldably connected to a handle panel 30a along fold line 47a. In common with carrier 10, carrier 10a engages a necked article by first passing apertures 57 over the top of the article thus displacing flange locking tabs 56a upwardly about fold line 60a. By folding upper panel portion 14a over the top of the article, the upper locking tabs 50a are displaced upwardly about fold line 32a thus providing the enlarged key-hole shaped apertures 52a which allow the upper panel 14a to pass over the flange F of the necks of the articles B. Locking tab 50a can be passed downwardly over the cap C of the article B to engage the underside of the cap which causes the rim 54a of aperture 52a to swing into engagement with the underside of the flange F. This provides an article locking arrangement similar to that described in relation to carrier 10.

[0029] Handle panels 12a and 30a can then be brought together to provide handle aperture 72a. The panels 12a and 30a could be glued together for example or otherwise attached by passing tab 76a hinged to one of the handle panels through the aperture provided in the other associated handle panel.

[0030] In common with the first embodiment, the blank is designed so that the side panels, in this case 16a and 26a, contour the shape of the bottle necks. This is achieved since top panel 14a is narrower than base panel 18a and since the panels are not held together by gluing.

[0031] A further embodiment of the invention is shown in Figures 7 to 11 wherein features common to carrier 10 are given the same two digit reference numbers prefixed by the numeral 1. Thus a carrier 110 is provided having a handle panel 112 hingably connected to an upper panel portion 114 and so on in series as with carrier 10 such that there is provided a side panel 116, a base panel portion 118, an internal panel 120, an internal panel 122 having a handle region 121, a base panel portion 124, a side panel 126, an upper panel portion 128 and the handle panel 130. However, in this embodiment there are no equivalent locking tabs to flange locking means 56 since this carrier 110 is designed for articles B1 which do not have flanges F as provided on articles B shown in Figure 4 for example.

[0032] Carrier 110 therefore acts on the underside of the bottle caps C1 in order to retain articles B1 in the

carrier. To do this there are provided a series of tabs 151 which form a so-called sunburst feature in the top panel portions 114 and 128.

[0033] To erect carrier 110 the end portions are moved together to enable locking means 162 to engage apertures 157 in a similar manner to that described in relation to carrier 10. Thus, as shown in Figure 8, heads 164 engage apertures 157 and secondary locking means 166 engage locking lugs 170. The partially formed carrier 110 can then be passed over the tops of articles B1 as shown in Figure 9. This causes the head 164 to fold upwardly. The carrier is then folded upwardly so as to bring handle panels 112 and 130 together against the handle region 121 of internal handle panel 122. The partially formed carrier 110 is then passed downwardly over the articles B1 as shown in Figure 10. The upper panel portions 128 and 114 are then passed over the caps C1 of the articles B1 as shown in Figure 11 so that the tabs 151 engage the underside of the cap C1 thereby to retain the articles B1 in the formed carrier 110.

[0034] The carrier panels 112, 122 and 130 are then brought together and in order to retain the carrier in its formed state, one or both of hingable flaps 176 provided in the handle panels 112 and 130 are passed through the associated apertures of one or more of the other panels, for example, in the manner described earlier in relation to handle tabs 76.

[0035] A further embodiment of the invention is shown in Figures 12 and 13. This embodiment is similar to that shown in Figures 7 to 11 and accordingly like integers are given the same numerals suffixed by the letter a. Thus, carrier 110a comprises a top panel portion 114a and a series of hingably interconnected panels 116a to 128a which are folded to form the carrier in a similar manner to carrier 110.

[0036] In this embodiment the handle panel apertures are replaced by finger gripping apertures 171a which are provided in panels 128a, 121a and 114a. The upper panel portion 114a comprises two finger apertures each being defined by tabs 176a hingably connected to the upper panel portion 114a along hinge lines 178a. Thus, in the formed carrier, upper panel portion 114a and 128a are overlapped with each other so as to align apertures in all three panels 114a, 128a and 121a, such that finger aperture tabs 176a can be passed downwardly through associated apertures 171a as best shown in Figure 13 thereby to lock the panels together in the formed carrier 110a.

Claims

1. An article carrier for packaging articles in two or more rows, comprising a pair of opposed top and bottom walls interconnected by a pair of opposed side walls (16, 26; 116, 126; 116a, 126a), said bottom wall including a pair of bottom wall portions (18, 24; 118, 124; 118a, 124a) hingably connected re-

spectively to said side walls and disposed side by side with a space therebetween, a handle structure associated with said top wall, and an internal panel structure extending between said top and bottom walls and including a pair of shoulder panels (20, 22; 120, 122; 120a, 122a) hingably connected respectively to said bottom wall portions, said internal panel structure being connected to said handle structure so that the load of the packaged articles is borne at least in part by the internal panel structure when the carrier is lifted by said handle structure, **characterised by** tie means formed, in part, from one of said shoulder panels (22, 122, 122a) and connecting between said bottom wall portions such that said tie means bridges said space to maintain the spaced relationship between said bottom wall portions.

2. The article carrier as claimed in claim 1 wherein said internal panel structure is formed from material which is disposed between said bottom wall portions when the carrier is in blank form.
3. The article carrier as claimed in claim 1 or claim 2 wherein the tie means is provided by at least one locking tab (62, 162, 162a).
4. The article carrier according to any of the preceding claims wherein each of said bottom wall portions has at least one aperture (57, 157, 157a) for receiving part of an article, and said tie means extends from one of said bottom wall portions (22, 122, 122a) into said at least one aperture in the other bottom wall portion (20, 120, 120a).
5. The article carrier according to claim 4 wherein the at least one aperture (57, 157, 157a) is an aperture for receiving a necked article which article assists in maintaining the tie means and the aperture locked together.
6. The article carrier as claimed in claim 4 or claim 5 wherein the top wall has at least one aperture (52, 152, 152a) associated with the bottom wall apertures for receiving part of the neck of an article, the top wall comprising means for retaining the article in the carrier against accidental removal.
7. The article carrier as claimed in claim 6 wherein the article retaining means comprises a plurality of locking tabs (51, 151, 151a) surrounding each receiving aperture in the top wall panel and hingably connected thereto so as operably to engage the underside of a radially protruding portion of a necked article (C, C1).
8. The article carrier as claimed in claim 6 or claim 7 further comprising article release means to enable

an article to be readily released from the carrier.

9. The article carrier as claimed in claim 8 wherein the article release means is a tearaway tab (74, 174) which interconnects the associated receiving apertures in the top and bottom wall panels.
10. The article carrier as claimed in any one of the preceding claims wherein said shoulder panels (20, 22; 120, 122; 120a, 122a) are connected together.
11. The article carrier as claimed in claim 10 wherein said shoulder panels (20, 22; 120, 122) are hingably connected together along a common upper edge (40, 140) thereof.
12. The article carrier as claimed in claim 11 wherein said handle structure comprises a pair of opposed upright handle panels (12, 30; 112, 130) having upper edges disposed above said common upper edge of said shoulder panels (20, 22; 120, 122).
13. The article carrier as claimed in claim 12 wherein a handle ply portion (21, 121) is formed from one of said shoulder panels (20, 22; 120, 122) and project upwardly above said common upper edge, said handle ply portion being disposed between said upright handle panels (12, 30; 112, 130).
14. The article carrier according to any of claims 1 to 11 wherein the handle structure comprises a pair of upright handle panels (12, 30; 112, 130), wherein said top wall includes a pair of top wall portions (14, 28; 114, 128) hingably connected respectively to lower edges of said handle panels, and an upper portion of said internal panel structure is disposed between said handle panels.
15. The article carrier as claimed in claim 14 wherein the handle panels protrude upwardly from the top of the carrier.
16. The article carrier as claimed in claim 14 or claim 15 wherein the handle structure comprises finger apertures (72, 72') provided in each of the handle panels and the internal panel structure and a locking tab (76) hingably connected to one of the handle panels which is displaceable upwardly to interlock the handle panels and the internal panel structure.
17. The article carrier as claimed in any of claims 1 to 11 wherein said top wall includes a pair of overlapped top wall portions (114a, 128a), said handle structure comprises aligned finger gripping apertures (171, 171a) formed respectively in said top wall portions, and an upper portion (121a) of said internal panel structure is disposed such that a finger gripping aperture in said upper portion (121a)

is in alignment with said finger gripping apertures in said top wall portions (114a, 128a).

18. A blank for forming an article carrier for packaging articles in two or more rows, comprising a top wall panel (14), a first side wall panel (16, 116, 116a), a bottom wall panel portion (18, 118, 118a), an internal partition structure, a second bottom wall panel portion (24, 124, 124a), a second side wall panel (26, 126, 126a) hingedly connected together in series and a handle structure associated with the top wall panel, the internal partition structure including a pair of shoulder panels (20, 22; 120, 122; 120a, 122a) hingedly connected respectively to said bottom wall portions, said internal panel structure is adapted to be connected to the handle structure in a set up condition **characterised in that** tie means formed, in part, from one of said shoulder panels (22, 122, 122a) in connecting between the first and second bottom wall portions such that said tie means maintains the spaced relationship between the first and second bottom wall portions in a set up condition.
19. The blank as claimed in claim 18 wherein the tie means is provided by at least one locking tab (62, 162, 162a).
20. The blank as claimed in claim 19 or claim 20 wherein each of said bottom wall portions has at least one aperture (57, 157, 157a) for receiving part of an article, and said tie means extends from one of said bottom wall portions (22, 122, 122a) into said at least one aperture in the other bottom wall portion (20, 120, 120a).
21. The blank as claimed in claim 20 wherein the top wall has at least one aperture (52, 152, 152a) associated with the bottom wall apertures for receiving part of the neck of an article, the top wall comprising means for retaining the article in the carrier against accidental removal.
22. The article carrier as claimed in claim 21 wherein the article retaining means comprises a plurality of locking tabs (51, 151, 151a) surrounding each receiving aperture in the top wall panel and hingably connected thereto so as operably to engage the underside of a radially protruding portion of a necked article (C, C1).
23. The blank as claimed in claim 22 further comprising article release means to enable an article to be readily released from the carrier.
24. The blank as claimed in claim 23 wherein the article release means is a tearaway tab (74, 174) which interconnects the associated receiving apertures in

the top and bottom wall panels.

25. The blank as claimed in claim 24 wherein said shoulder panels (20, 22; 120, 122) are hingably connected together along a common upper edge (40, 140) thereof.
26. The blank as claimed in claim 25 wherein said handle structure comprises a pair of opposed upright handle panels (12, 30; 112, 130) having upper edges disposed above said common upper edge of said shoulder panels (20, 22; 120, 122).
27. The blank as claimed in any of claims 18 to 25 wherein the handle structure comprises a pair of upright handle panels (12, 30; 112, 130), wherein said top wall includes a pair of top wall portions (14, 28; 114, 128) hingably connected respectively to lower edges of said handle panels, and an upper portion of said internal panel structure is disposed between said handle panels.
28. A blank or blanks for forming a carton as claimed in any of claims 1 to 17.

Patentansprüche

1. Ein Gegenstandsträger zur Verpackung von Gegenständen in zwei oder mehr Reihen, umfassend ein Paar von gegenüberliegenden oberen Wänden und Bodenwänden, die durch ein Paar von gegenüberliegenden Seitenwänden (16, 26; 116, 126; 116a, 126a) miteinander verbunden sind, wobei die Bodenwand ein Paar von Bodenwandabschnitten (18, 24; 118, 124; 118a, 124a) umfasst, die jeweils gelenkig mit den Seitenwänden verbunden und nebeneinander mit einem Abstand dazwischen angeordnet sind, eine zu der oberen Wand dazugehörige Griffstruktur, und eine innere Wandflächenstruktur, die sich zwischen den oberen Wänden und den Bodenwänden erstreckt und ein Paar von Schulterwandflächen (20, 22; 120, 122; 120a, 122a) umfasst, die jeweils gelenkig mit den Bodenwandabschnitten verbunden sind, wobei die innere Wandflächenstruktur mit der Griffstruktur derart verbunden ist, dass die Last der verpackten Gegenstände mindestens teilweise durch die innere Wandflächenstruktur getragen wird, wenn der Träger durch die Griffstruktur angehoben wird, **gekennzeichnet durch** eine Verbindungseinrichtung, die teilweise aus einer der Schulterwandflächen (22, 122, 122a) ausgebildet ist und Bodenwandabschnitte verbindet, derart, dass die Verbindungseinrichtung den Abstand überbrückt, um die beabstandete Beziehung zwischen den Bodenwandabschnitten aufrechtzuerhalten.

2. Gegenstandsträger nach Anspruch 1, wobei die innere Wandflächenstruktur aus Material ausgebildet ist, das zwischen den Bodenwandabschnitten angeordnet ist, wenn der Träger in Form des Zugschnitts vorliegt. 5
3. Gegenstandsträger nach Anspruch 1 oder 2, wobei die Verbindungseinrichtung durch mindestens eine Verschlusslasche (62, 162, 162a) bereitgestellt ist. 10
4. Gegenstandsträger nach einem der vorstehenden Ansprüche, wobei jeder der Bodenwandabschnitte mindestens eine Öffnung (57, 157, 157a) zur Aufnahme eines Teils eines Gegenstands aufweist, und wobei sich die Verbindungseinrichtung von einem der Bodenwandabschnitte (22, 122, 122a) in die mindestens eine Öffnung in dem anderen Bodenwandabschnitt (20, 120, 120a) erstreckt. 15
5. Gegenstandsträger nach Anspruch 4, wobei die mindestens eine Öffnung (57, 157, 157a) eine Öffnung zur Aufnahme eines Gegenstands mit Hals ist, wobei der Gegenstand dabei unterstützt, die Verbindungseinrichtung und die Öffnung miteinander verbunden zu halten. 20
6. Gegenstandsträger nach Anspruch 4 oder 5, wobei die obere Wand mindestens eine zu den Bodenwandöffnungen dazugehörige Öffnung (52, 152, 152a) zur Aufnahme eines Teils des Halses eines Gegenstands aufweist, wobei die obere Wand eine Einrichtung zum Zurückhalten des Gegenstands in dem Träger gegen ein unbeabsichtigtes Herausnehmen umfasst. 25
7. Gegenstandsträger nach Anspruch 6, wobei die Einrichtung zum Zurückhalten des Gegenstands eine Vielzahl von Verschlusslaschen (51, 151, 151a) umfasst, die jede aufnehmende Öffnung in der oberen Wandfläche umgeben und die gelenkig damit verbunden sind, so dass sie die Unterseite eines radial vorstehenden Abschnitts eines Gegenstands mit Hals (C, C1) wirksam in Eingriff nehmen. 30
8. Gegenstandsträger nach Anspruch 6 oder 7, der ferner eine Gegenstandsfreigabeeinrichtung umfasst, durch die ein Gegenstand in einfacher Weise aus dem Träger freigegeben werden kann. 35
9. Gegenstandsträger nach Anspruch 8, wobei die Gegenstandsfreigabeeinrichtung eine Abreisslasche (74, 174) ist, welche die dazugehörigen aufnehmenden Öffnungen in den oberen Wandflächen und den Bodenwandflächen miteinander verbindet. 40
10. Gegenstandsträger nach einem der vorstehenden Ansprüche, wobei die Schulterwandflächen (20, 22; 120, 122; 120a, 122a) miteinander verbunden sind. 45
11. Gegenstandsträger nach Anspruch 10, wobei die Schulterwandflächen (20, 22; 120, 122) entlang einer gemeinsamen Oberkante (40, 140) davon gelenkig miteinander verbunden sind. 50
12. Gegenstandsträger nach Anspruch 11, wobei die Griffstruktur ein Paar von gegenüberliegenden aufrechten Griffwandflächen (12, 30; 112, 130) mit Oberkanten umfasst, die über der gemeinsamen Oberkante der Schulterwandflächen (20, 22; 120, 122) angeordnet sind. 55
13. Gegenstandsträger nach Anspruch 12, wobei ein Grifflagenabschnitt (21, 121) aus einer der Schulterwandflächen (20, 22; 120, 122) ausgebildet ist und nach oben über die gemeinsame Oberkante vorsteht, wobei der Grifflagenabschnitt zwischen den aufrechten Griffwandflächen (12, 30; 112, 130) angeordnet ist.
14. Gegenstandsträger nach einem der Ansprüche 1 bis 11, wobei die Griffstruktur ein Paar von aufrechten Griffwandflächen (12, 30; 112, 130) umfasst, wobei die obere Wand ein Paar von oberen Wandabschnitten (14, 28; 114, 128) umfasst, die jeweils gelenkig mit Unterkanten der Griffwandflächen verbunden sind und wobei ein unterer Abschnitt der inneren Wandflächenstruktur zwischen den Griffwandflächen angeordnet ist.
15. Gegenstandsträger nach Anspruch 14, wobei die Griffwandflächen von dem Oberteil des Trägers nach oben vorstehen.
16. Gegenstandsträger nach Anspruch 14 oder 15, wobei die Griffstruktur Fingeröffnungen (72, 72'), die in den Griffwandflächen und der inneren Wandflächenstruktur bereitgestellt sind, und eine Verschlusslasche (76) umfasst, die gelenkig mit einer der Griffwandflächen verbunden ist und die nach oben verschiebbar ist, um die Griffwandflächen und die innere Wandflächenstruktur miteinander zu verbinden.
17. Gegenstandsträger nach einem der Ansprüche 1 bis 11, wobei die obere Wand ein Paar von überlappenden oberen Wandabschnitten (114a, 128a) umfasst, wobei die Griffstruktur ausgerichtete Fingergrifföffnungen (171, 171a) umfasst, die jeweils in den oberen Wandabschnitten ausgebildet sind, und wobei ein oberer Abschnitt (121a) der inneren Wandflächenstruktur derart angeordnet ist, dass eine Fingergrifföffnung in dem oberen Abschnitt (121a) mit den Fingergrifföffnungen in den oberen Wandabschnitten (114a, 128a) ausgerichtet ist.
18. Ein Zuschnitt zur Ausbildung eines Gegenstandsträgers zur Verpackung von Gegenständen in zwei

- oder mehr Reihen, umfassend eine obere Wandfläche (14), eine erste Seitenwandfläche (16, 116, 116a), einen Bodenwandflächenabschnitt (18, 118, 118a), eine innere Trennstruktur, einen zweiten Bodenwandflächenabschnitt (24, 124, 124a), eine zweite Seitenwandfläche (26, 126, 126a), die gelenkig miteinander in Reihe verbunden sind, und eine zu der oberen Wandfläche dazugehörige Griffstruktur, wobei die innere Trennstruktur ein Paar von Schulterwandflächen (20, 22; 120, 122; 120a, 122a) umfasst, die jeweils gelenkig mit den Bodenwandabschnitten verbunden sind, wobei die innere Wandflächenstruktur angepasst ist, um im aufgerichteten Zustand mit der Griffstruktur verbunden zu werden, **dadurch gekennzeichnet, dass** eine Verbindungseinrichtung teilweise aus einer der Schulterwandflächen (22, 122, 122a) ausgebildet ist und die ersten und zweiten Bodenwandabschnitte verbindet, derart, dass die Verbindungseinrichtung die beabstandete Beziehung zwischen den ersten und zweiten Bodenwandabschnitten in einem aufgerichteten Zustand aufrechterhält.
19. Zuschnitt nach Anspruch 18, wobei die Verbindungseinrichtung durch mindestens eine Verschlusslasche (62, 162, 162a) bereitgestellt ist.
20. Zuschnitt nach Anspruch 18 oder 19, wobei jeder der Bodenwandabschnitte mindestens eine Öffnung (57, 157, 157a) zur Aufnahme eines Teils eines Gegenstands aufweist, und wobei sich die Verbindungseinrichtung von einem der Bodenwandabschnitte (22, 122, 122a) in die mindestens eine Öffnung in dem anderen Bodenwandabschnitt (20, 120, 120a) erstreckt.
21. Zuschnitt nach Anspruch 20, wobei die obere Wand mindestens eine zu den Bodenwandöffnungen dazugehörige Öffnung (52, 152, 152a) zur Aufnahme eines Teils des Halses eines Gegenstands aufweist, wobei die obere Wand eine Einrichtung zum Zurückhalten des Gegenstands in dem Träger gegen ein unbeabsichtigtes Herausnehmen umfasst.
22. Zuschnitt nach Anspruch 21, wobei die Einrichtung zum Zurückhalten des Gegenstands eine Vielzahl von Verschlusslaschen (51, 151, 151a) umfasst, die jede aufnehmende Öffnung in der oberen Wandfläche umgeben und die gelenkig damit verbunden sind, so dass sie die Unterseite eines radial vorstehenden Abschnitts eines Gegenstands mit Hals (C, C1) wirksam in Eingriff nehmen.
23. Zuschnitt nach Anspruch 22, der ferner eine Gegenstands freigabeeinrichtung umfasst, durch die ein Gegenstand in einfacher Weise aus dem Träger freigegeben werden kann.
24. Zuschnitt nach Anspruch 23, wobei die Gegenstands freigabeeinrichtung eine Abreisslasche (74, 174) ist, welche die dazugehörigen aufnehmenden Öffnungen in den oberen Wandflächen und den Bodenwandflächen miteinander verbindet.
25. Zuschnitt nach Anspruch 24, wobei die Schulterwandflächen (20, 22; 120, 122) entlang einer gemeinsamen Oberkante (40, 140) davon gelenkig miteinander verbunden sind.
26. Zuschnitt nach Anspruch 25, wobei die Griffstruktur ein Paar von gegenüberliegenden aufrechten Griffwandflächen (12, 30; 112, 130) mit Oberkanten umfasst, die über der gemeinsamen Oberkante der Schulterwandflächen (20, 22; 120, 122) angeordnet sind.
27. Zuschnitt nach einem der Ansprüche 18 bis 25, wobei die Griffstruktur ein Paar von aufrechten Griffwandflächen (12, 30; 112, 130) umfasst, wobei die obere Wand ein Paar von oberen Wandabschnitten (14, 28; 114, 128) umfasst, die jeweils gelenkig mit Unterkanten der Griffwandflächen verbunden sind und wobei ein unterer Abschnitt der inneren Wandflächenstruktur zwischen den Griffwandflächen angeordnet ist.
28. Ein Zuschnitt oder Zuschnitte zur Ausbildung einer Schachtel nach einem der Ansprüche 1 bis 17.

Revendications

1. Porte-articles pour conditionner des articles en deux rangs ou plus, comportant une paire de parois supérieure et inférieure opposées connectées mutuellement par une paire de parois latérales opposées (16, 26 ; 116, 126 ; 116a, 126a), ladite paroi inférieure comportant une paire de parties de paroi inférieure (18, 24 ; 118, 124 ; 118a, 124a) connectées de manière articulée respectivement auxdites parois latérales, et disposées côte à côte en ayant un espace situé entre celles-ci, une structure de poignée associée à ladite paroi supérieure, et une structure de panneau intérieur s'étendant entre lesdites parois supérieure et inférieure, et comportant une paire de panneaux d'épaulement (20, 22 ; 120, 122 ; 120a, 122a) connectés de manière articulée respectivement auxdites parties de paroi inférieure, ladite structure de panneau intérieur étant connectée à ladite structure de poignée, de sorte que la charge des articles conditionnés est supportée au moins en partie par la structure de panneau intérieur lorsque le porte-articles est levé par ladite structure de poignée, **caractérisé en ce que** des moyens d'attache sont formés, en partie, à partir d'un desdits panneaux d'épaulement (22, 122,

122a), et se connectant entre lesdites parties de paroi inférieure de telle sorte que lesdits moyens d'attache chevauchent ledit espace pour maintenir la disposition espacée entre lesdites parties de paroi inférieure.

2. Porte-articles selon la revendication 1, dans lequel ladite structure de panneau intérieur est formée à partir d'un matériau qui est disposé entre lesdites parties de paroi inférieure lorsque le porte-articles est sous forme d'ébauche.
3. Porte-articles selon la revendication 1 ou 2, dans lequel les moyens d'attache sont fournis par au moins une patte de verrouillage (62, 162, 162a).
4. Porte-articles selon l'une quelconque des revendications précédentes, dans lequel chacune desdites parties de paroi inférieure a au moins une ouverture (57, 157, 157a) pour recevoir une partie d'un article, et lesdits moyens d'attache s'étendent à partir d'une desdites parties de paroi inférieure (22, 122, 122a) jusque dans ladite au moins une ouverture située dans l'autre partie de paroi inférieure (20, 120, 120a).
5. Porte-articles selon la revendication 4, dans lequel la au moins une ouverture (57, 157, 157a) est une ouverture destinée à recevoir un article muni d'un col, article qui aide à maintenir les moyens d'attache et l'ouverture verrouillés ensemble.
6. Porte-articles selon la revendication 4 ou 5, dans lequel la paroi supérieure a au moins une ouverture (52, 152, 152a) associée aux ouvertures de paroi inférieure pour recevoir une partie du col d'un article, la paroi supérieure comportant des moyens pour retenir l'article dans le porte-articles à l'encontre d'un enlèvement accidentel.
7. Porte-articles selon la revendication 6, dans lequel les moyens de retenue d'article comportent une pluralité de pattes de verrouillage (51, 151, 151a) entourant chaque ouverture de réception située dans le panneau de paroi supérieure, et connectées de manière articulée à celui-ci de manière à pouvoir coopérer de manière opérationnelle avec le côté inférieur d'une partie en saillie radialement d'un article muni d'un col (C, C1).
8. Porte-articles selon la revendication 6 ou 7, comportant de plus des moyens de libération d'article pour permettre à un article d'être libéré facilement du porte-articles.
9. Porte-articles selon la revendication 8, dans lequel les moyens de libération d'article sont constitués d'une patte de déchirement (74, 174) qui connecte

mutuellement les ouvertures de réception associées situées dans les panneaux de paroi supérieure et inférieure.

- 5 10. Porte-articles selon l'une quelconque des revendications précédentes, dans lequel lesdits panneaux d'épaulement (20, 22 ; 120, 122 ; 120a, 122a) sont connectés ensemble.
- 10 11. Porte-articles selon la revendication 10, dans lequel lesdits panneaux d'épaulement (20, 22 ; 120, 122) sont connectés de manière articulée ensemble le long d'un bord supérieur commun (40, 140) de ceux-ci.
- 15 12. Porte-articles selon la revendication 11, dans lequel ladite structure de poignée comporte une paire de panneaux verticaux opposés formant poignée (12, 30 ; 112, 130) ayant des bords supérieurs disposés au-dessus dudit bord supérieur commun desdits panneaux d'épaulement (20, 22 ; 120, 122).
- 20 13. Porte-articles selon la revendication 12, dans lequel une partie de pli de poignée (21, 121) est formée à partir d'un desdits panneaux d'épaulement (20, 22 ; 120, 122), et fait saillie vers le haut au-dessus dudit bord supérieur commun, ladite partie de pli de poignée étant disposée entre lesdits panneaux verticaux formant poignée (12, 30 ; 112, 130).
- 25 14. Porte-articles selon l'une quelconque des revendications 1 à 11, dans lequel la structure de poignée comporte une paire de panneaux verticaux formant poignée (12, 30 ; 112, 130), dans lequel ladite paroi supérieure comporte une paire de parties de paroi supérieure (14, 28 ; 114, 128) connectées de manière articulée respectivement aux bords inférieurs desdits panneaux formant poignée, et une partie supérieure de ladite structure de panneau intérieur est disposée entre lesdits panneaux formant poignée.
- 30 15. Porte-articles selon la revendication 14, dans lequel les panneaux formant poignée font saillie vers le haut à partir de la partie supérieure du porte-articles.
- 35 16. Porte-articles selon la revendication 14 ou 15, dans lequel la structure de poignée comporte des ouvertures pour doigts (72, 72') agencées dans chacun des panneaux formant poignée et la structure de panneau intérieur, et une patte de verrouillage (76) connectée de manière articulée à un des panneaux formant poignée qui peut être déplacée vers le haut pour verrouiller mutuellement les panneaux formant poignée et la structure de panneau intérieur.
- 40 17. Porte-articles selon l'une quelconque des revendi-
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- 55

cations 1 à 11, dans lequel ladite paroi supérieure comporte une paire de parties de paroi supérieure se chevauchant (114a, 128a), ladite structure de poignée comporte des ouvertures de saisie alignées pour doigts (171, 171a) formées respectivement dans lesdites parties de paroi supérieure, et une partie supérieure (121a) de ladite structure de panneau intérieur est disposée de telle sorte qu'une ouverture de saisie pour doigts située dans ladite partie supérieure (121a) est alignée avec lesdites ouvertures de saisie pour doigts situées dans lesdites parties de paroi supérieure (114a, 128a).

18. Ebauche pour former un article afin de conditionner des articles en un rang ou plus, comportant un panneau de paroi supérieure (14), un premier panneau de paroi latérale (16, 116, 116a), une première partie de panneau de paroi inférieure (18, 118, 118a), une structure de séparation intérieure, une seconde partie de panneau de paroi inférieure (24, 124, 124a), un second panneau de paroi latérale (26, 126, 126a) connectés de manière articulée ensemble en série, et une structure de poignée associée au panneau de paroi supérieure, la structure de séparation intérieure comportant une paire de panneaux d'épaulement (20, 22 ; 120, 122 ; 120a, 122a) connectés de manière articulée respectivement auxdites parties de paroi inférieure, ladite structure de panneau intérieure est adaptée pour être connectée à la structure de poignée dans un état érigé, **caractérisé en ce que** des moyens d'attache sont formés, en partie, à partir d'un desdits panneaux d'épaulement (22, 122, 122a), connectés entre les première et seconde parties de paroi inférieure, de telle sorte que lesdits moyens d'attache maintiennent la disposition espacée entre les première et seconde parties de paroi inférieure dans un état érigé.
19. Ebauche selon la revendication 18, dans lequel les moyens d'attache sont fournis par au moins une patte de verrouillage (62, 162, 162a).
20. Ebauche selon la revendication 18 ou 19, dans laquelle chacune desdites parties de paroi inférieure a au moins une ouverture (57, 157, 157a) pour recevoir une partie d'un article, et lesdits moyens d'attache s'étendent à partir d'une première desdites parties de paroi inférieure (22, 122, 122a) jusque dans ladite au moins une ouverture située dans l'autre partie de paroi inférieure (20, 120, 120a).
21. Ebauche selon la revendication 20, dans laquelle la paroi supérieure a au moins une ouverture (52, 152, 152a) associée aux ouvertures de paroi inférieure pour recevoir une partie du col d'un article, la paroi supérieure comportant des moyens pour retenir l'article dans le porte-articles à l'encontre d'un en-

lèvement accidentel.

22. Porte-articles selon la revendication 21, dans lequel les moyens de retenue d'article comportent une pluralité de pattes de verrouillage (51, 151, 151a) entourant chaque ouverture de réception située dans le panneau de paroi supérieure, et connectées de manière articulée à celui-ci de manière à coopérer de manière opérationnelle avec le côté inférieur d'une partie en saillie radialement d'un article muni d'un col (C, C1).
23. Ebauche selon la revendication 22, comportant de plus des moyens de libération d'article pour permettre à un article d'être libéré facilement du porte-articles.
24. Ebauche selon la revendication 23, dans laquelle les moyens de libération d'article sont constitués d'une patte de déchirement (74, 174) qui connecte mutuellement les ouvertures de réception associées situées dans les panneaux de paroi supérieure et inférieure.
25. Ebauche selon la revendication 24, dans laquelle lesdits panneaux d'épaulement (20, 22 ; 120, 122) sont connectés de manière articulée ensemble le long d'un bord supérieur commun (40, 140) de ceux-ci.
26. Ebauche selon la revendication 25, dans laquelle ladite structure de poignée comporte une paire de panneaux verticaux opposés formant poignée (12, 30 ; 112, 130) ayant des bords supérieurs disposés au-dessus dudit bord supérieur commun desdits panneaux d'épaulement (20, 22 ; 120, 122).
27. Ebauche selon l'une quelconque des revendications 18 à 25, dans laquelle la structure de poignée comporte une paire de panneaux verticaux formant poignée (12, 30 ; 112, 130), dans laquelle ladite paroi supérieure comporte une paire de parties de paroi supérieure (14, 28 ; 114, 128) connectées de manière articulée respectivement aux bords inférieurs desdits panneaux formant poignée, et une partie supérieure de ladite structure de panneau intérieur est disposée entre lesdits panneaux de poignée.
28. Ebauche ou ébauches pour former un cartonage selon l'une quelconque des revendications 1 à 17.

FIG. 1

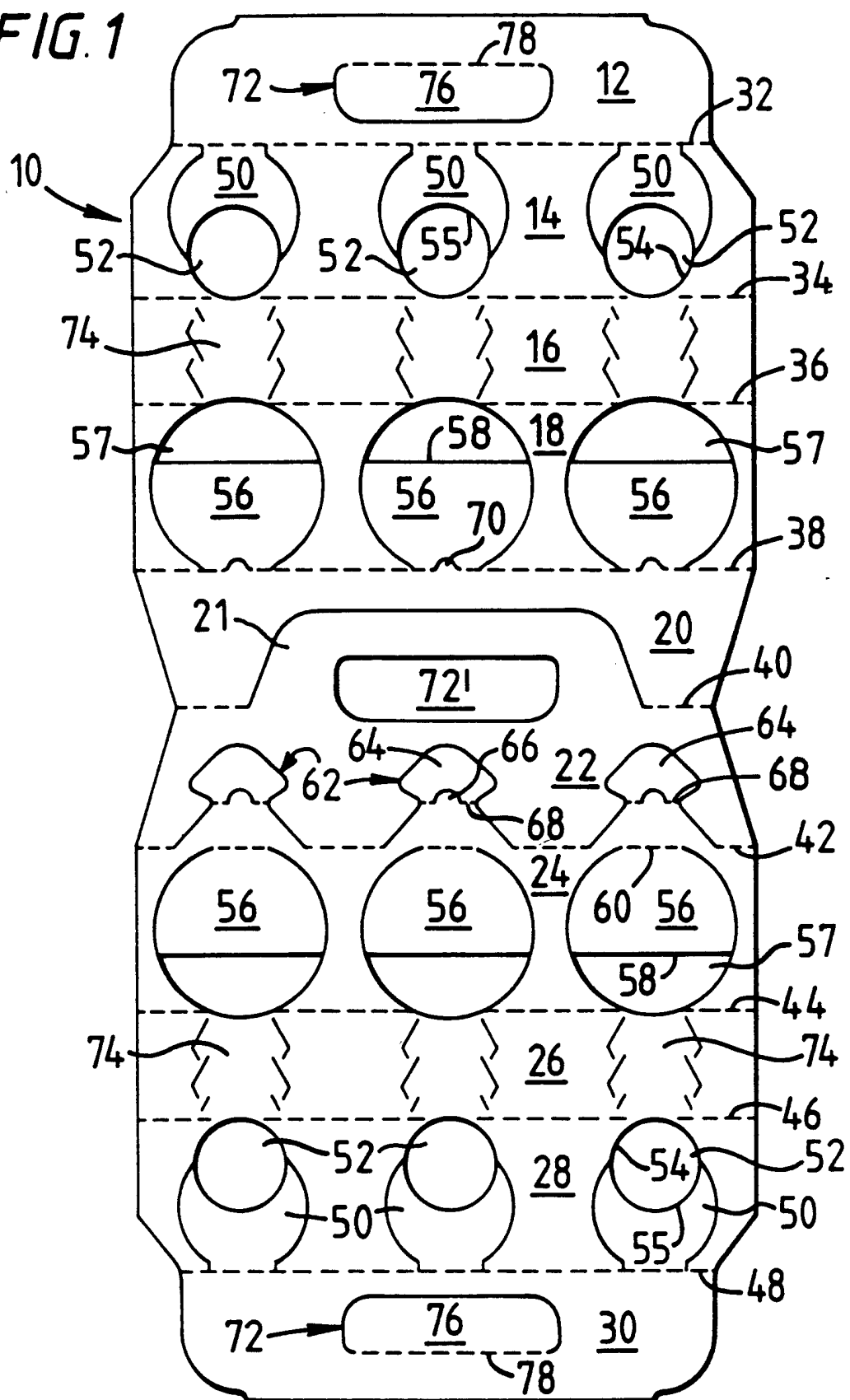


FIG. 2

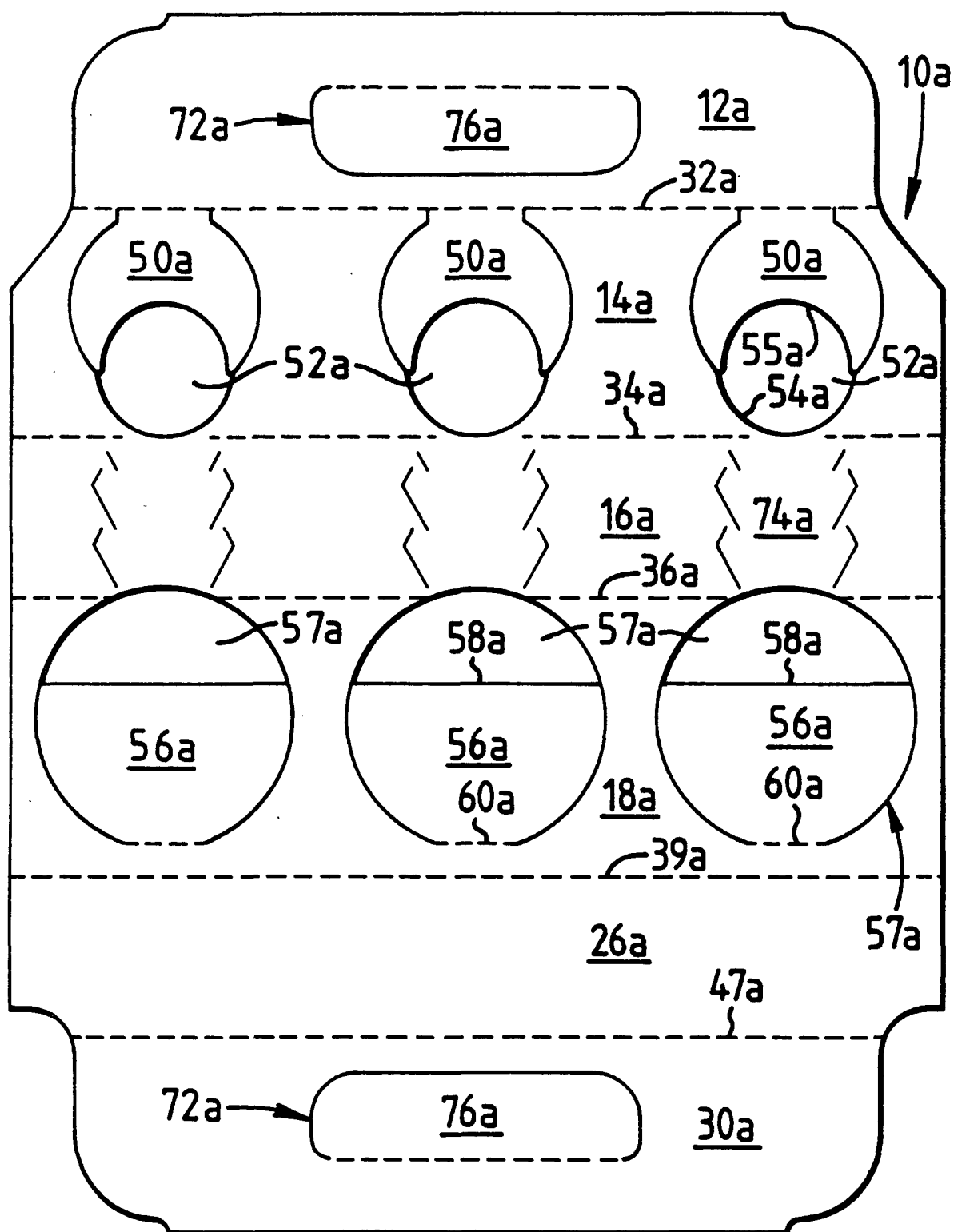


FIG. 3

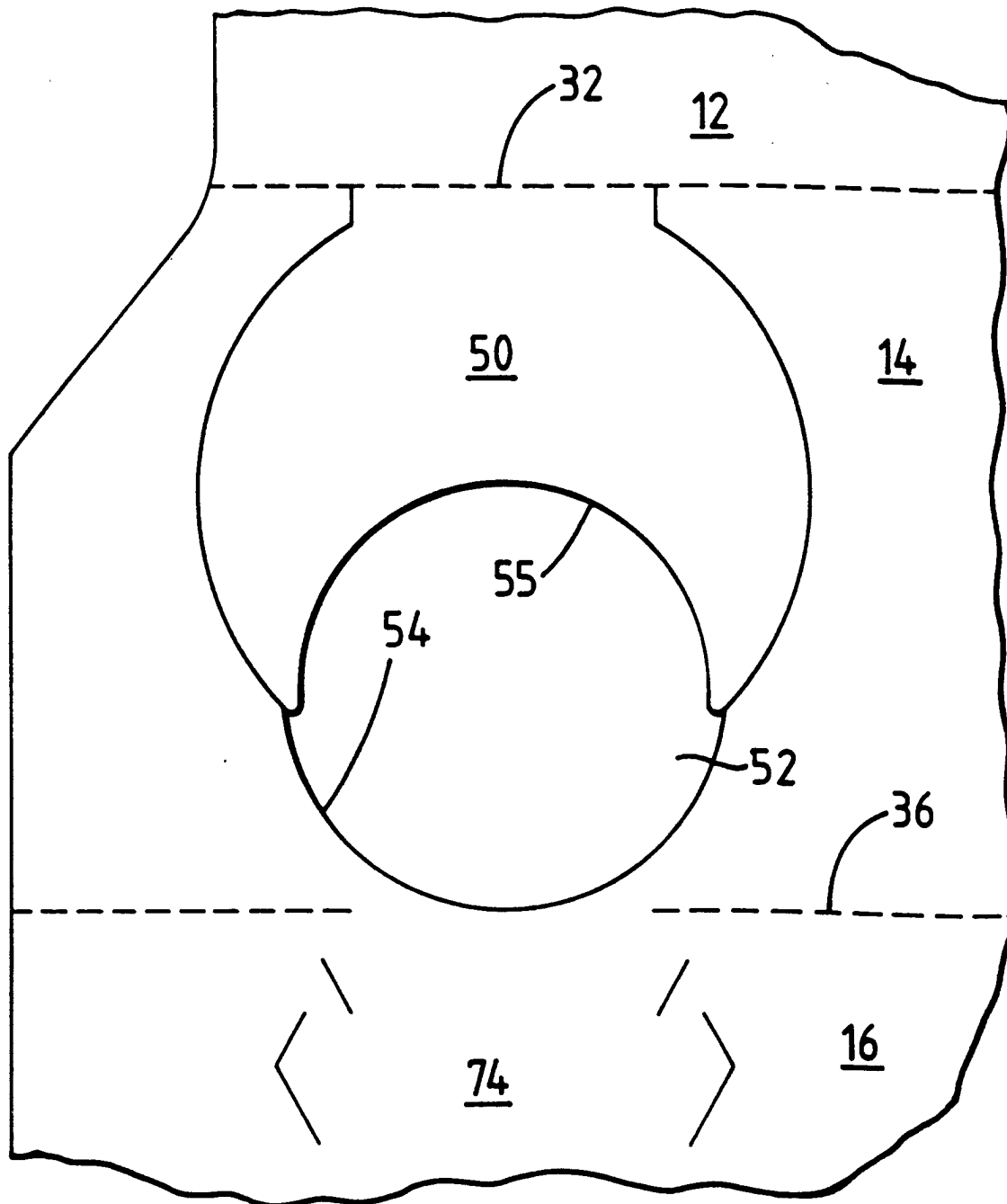


FIG. 4

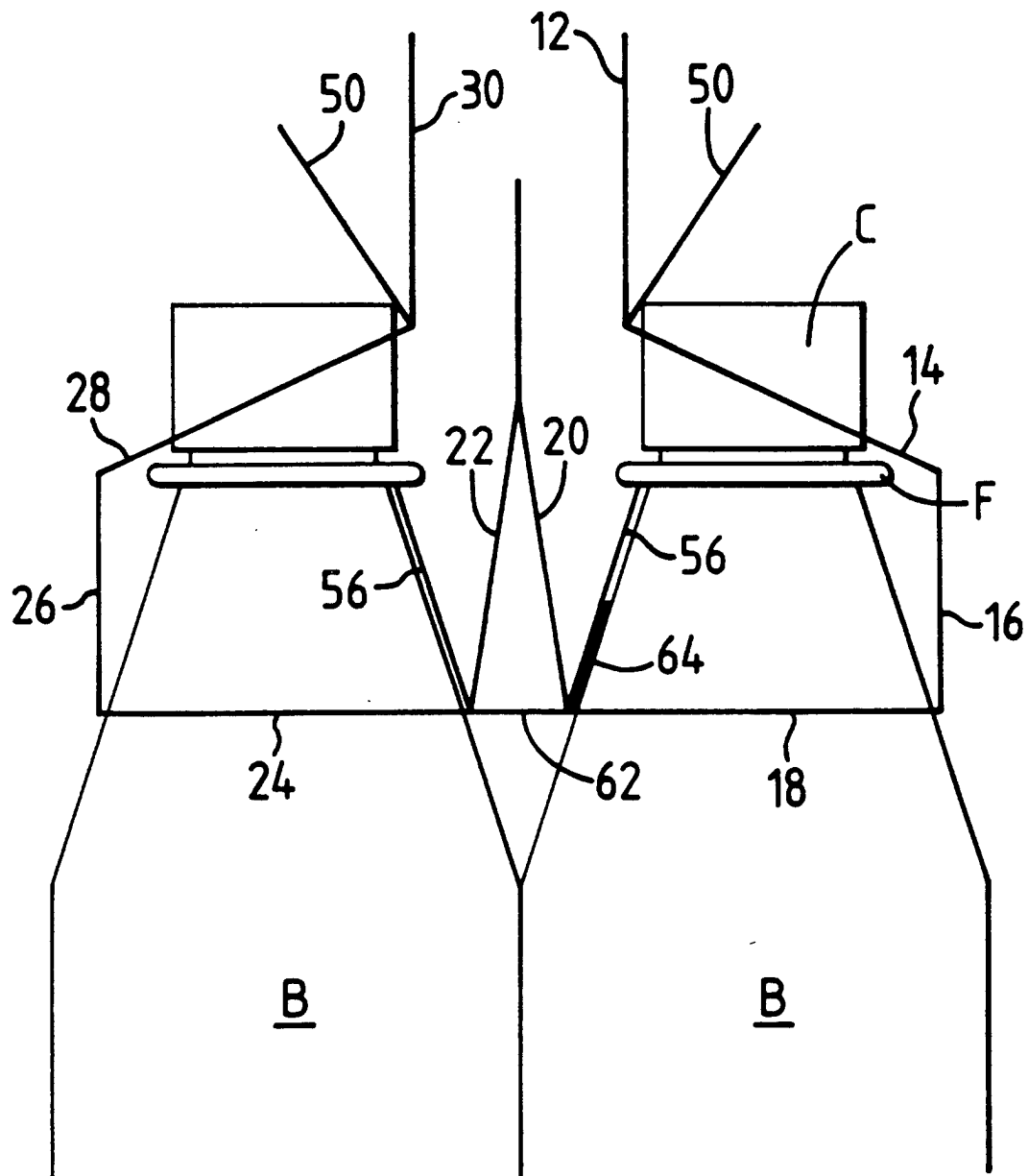


FIG. 5

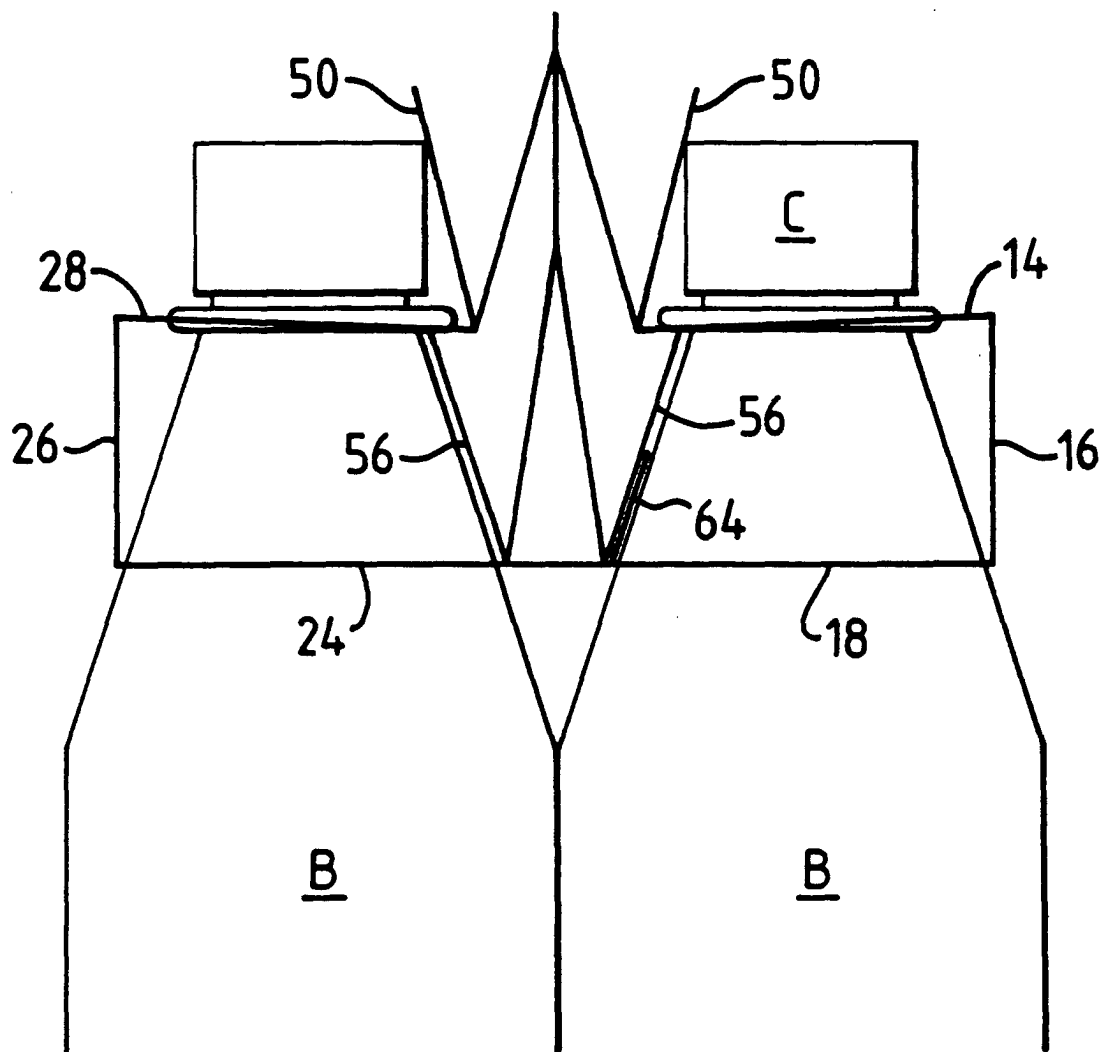


FIG. 6

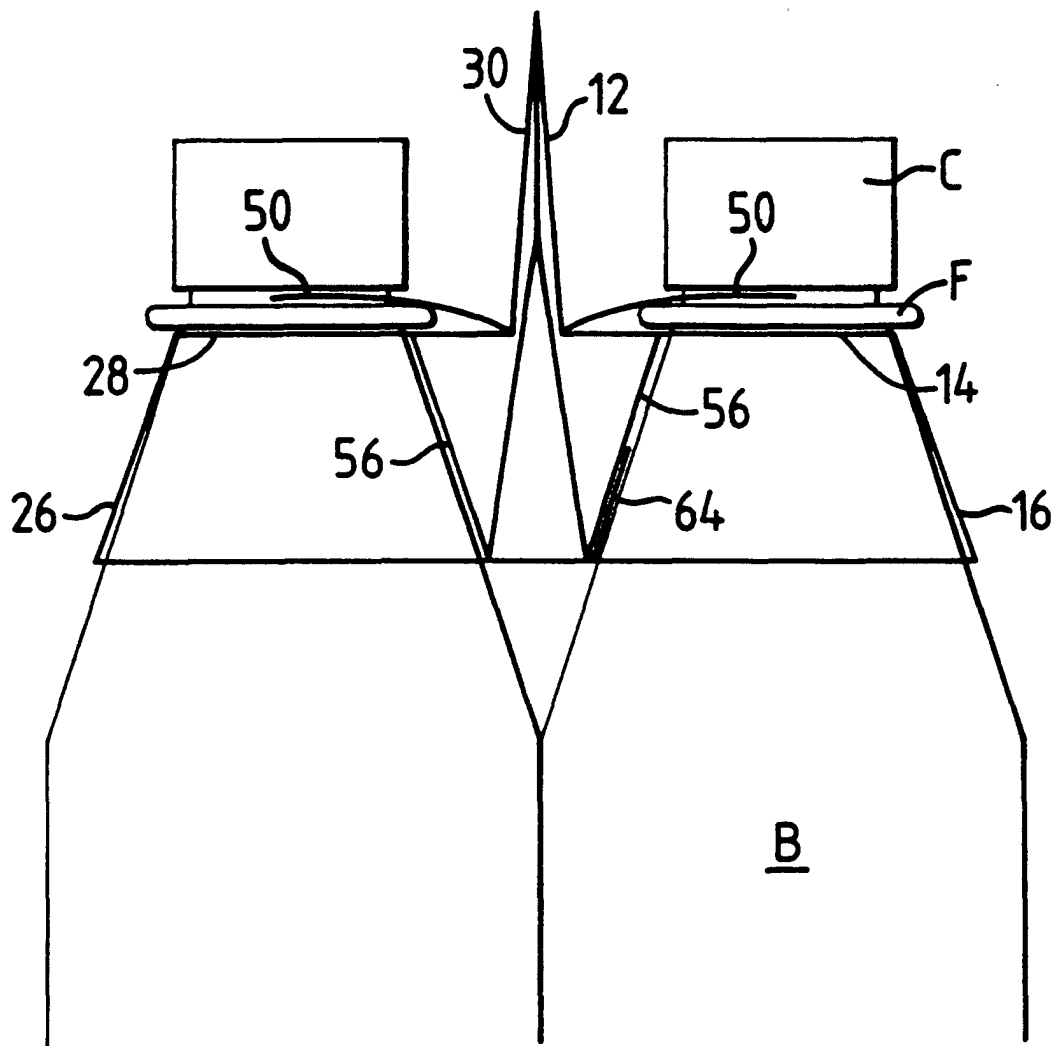
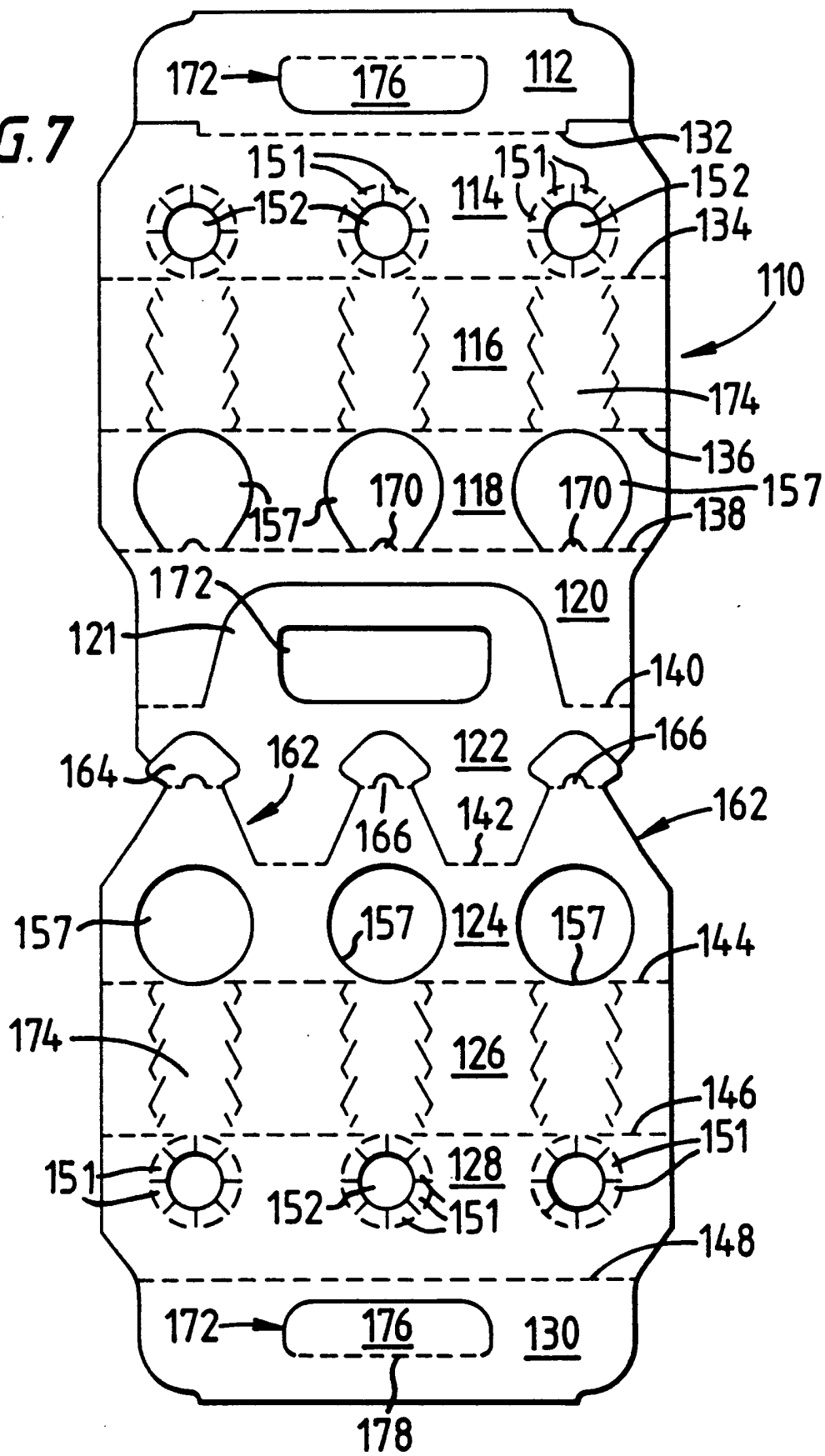


FIG. 7



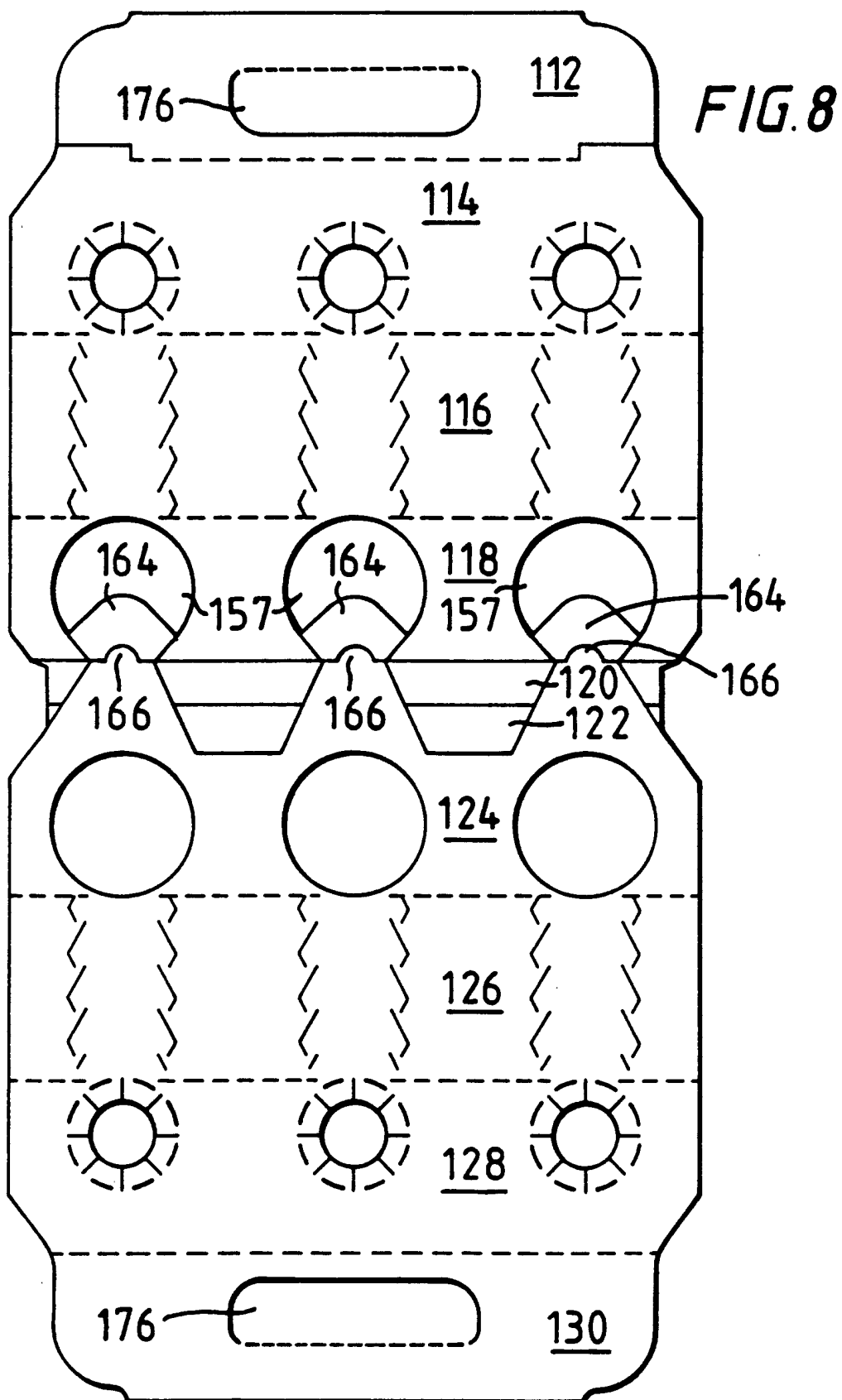
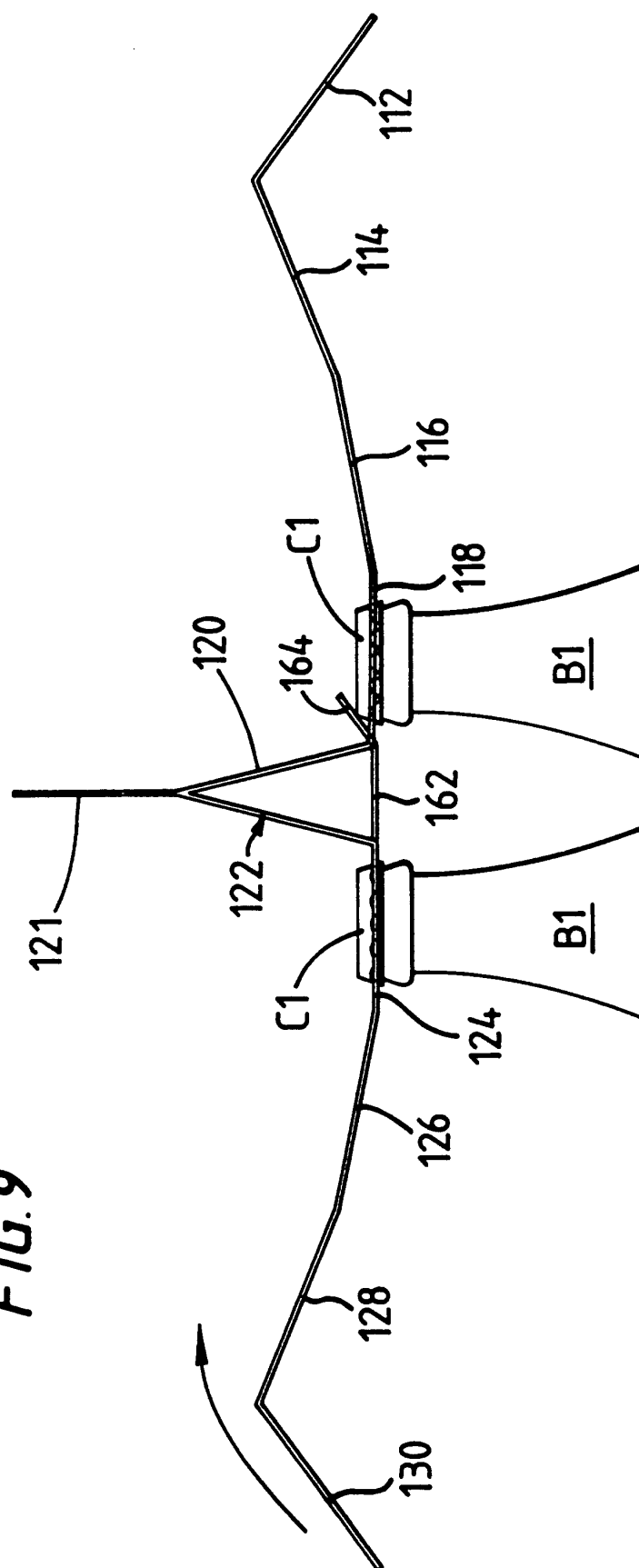


FIG. 9



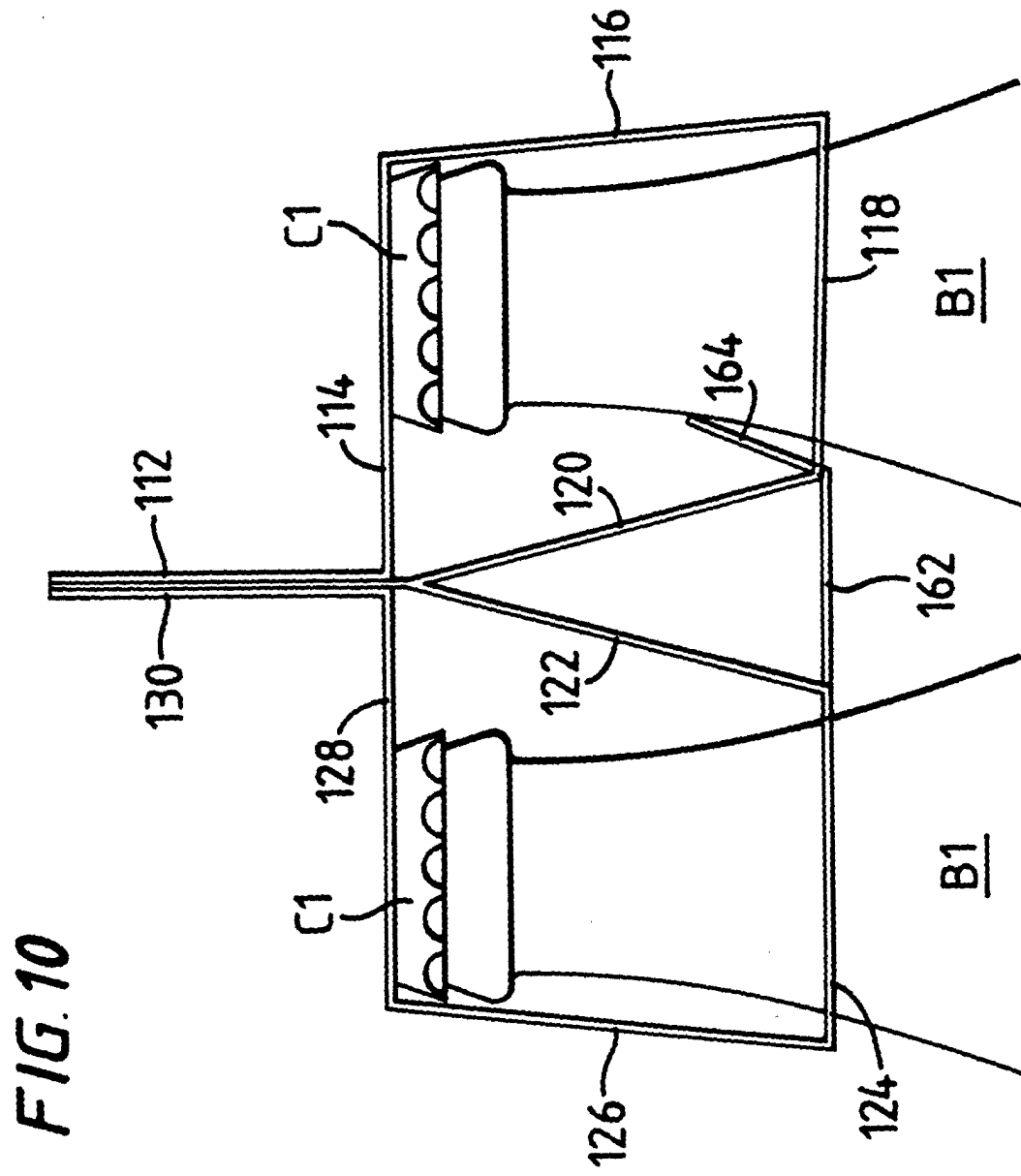


FIG. 11

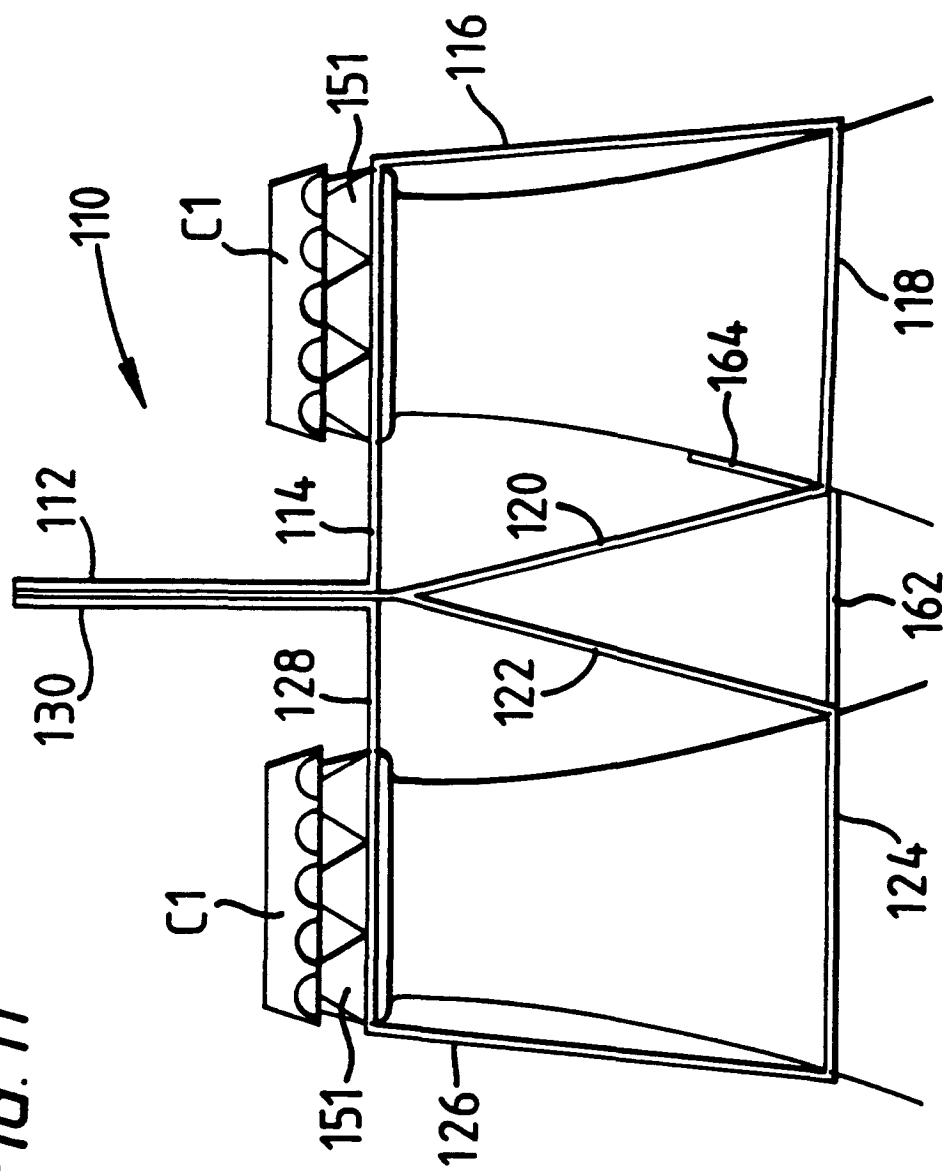


FIG. 12

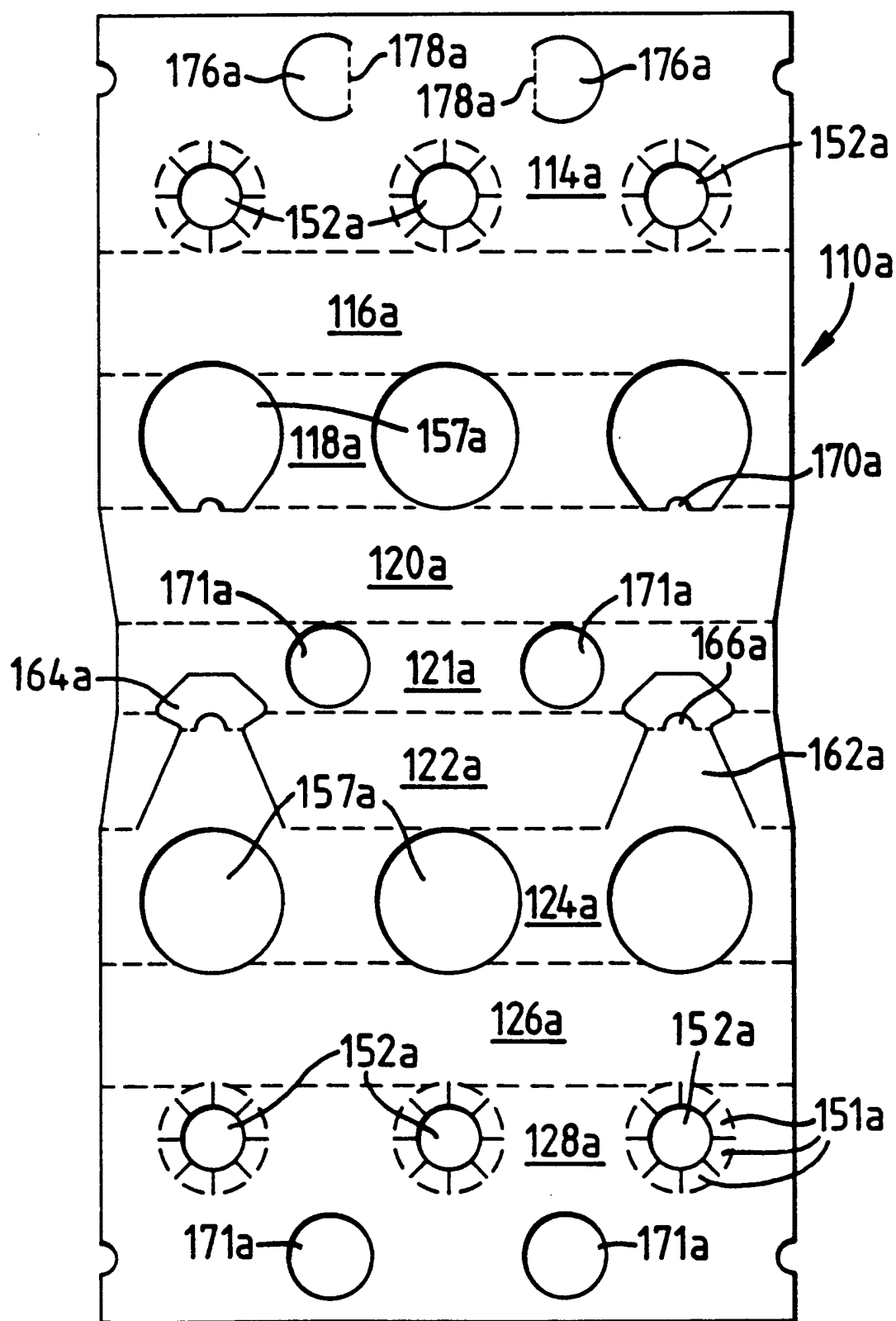


FIG. 13

