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(54) **Carton for bottles**

(57) There is provided a fully enclosed carton (11) for articles such as bottles (12). The carton (11) is provided at each end with a removable portion (50) defined by lines of weakening (41,43,47) in the end (38,40), side

(19,20) and top (13) panels of the carton (11). Removal of the portions (50) leaves a central handle (44) so that the carton (11) has the appearance of a basket type carrier.

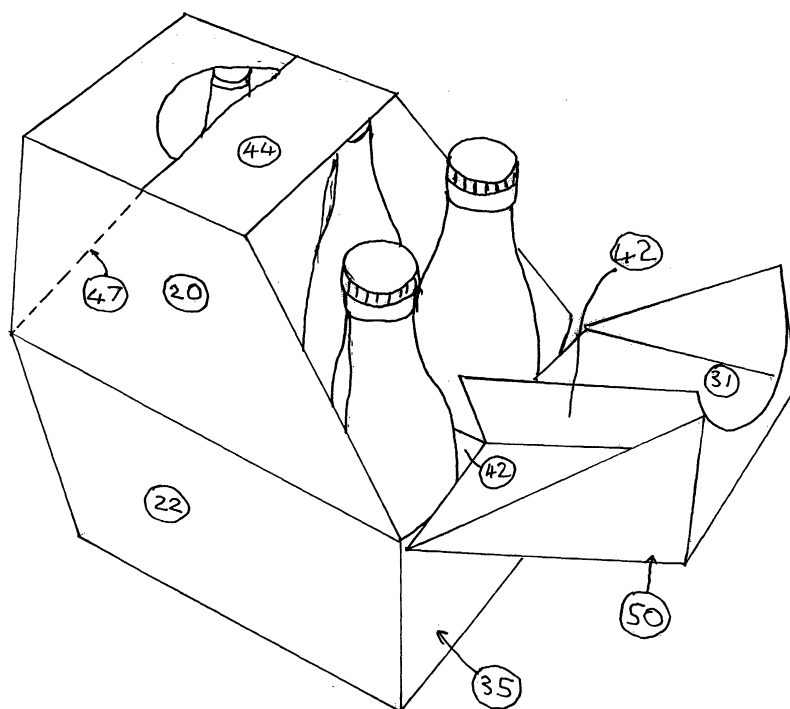


FIGURE 5

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Description

[0001] The present invention relates to paperboard cartons, particularly those containing a plurality of articles such as bottles or cans.

[0002] According to the present invention there is provided a paperboard carton for containing a number of articles, the carton comprising a top, a base, oppositely disposed first and second side walls and oppositely disposed first and second end walls, a removable portion of the carton being provided at each end of the carton, each removable portion being defined by means of lines of weakening which are provided in the top, end wall and side walls such that removal of the removable portion gives access to the articles contained in the carton.

[0003] In preferred arrangements the lines of weakening in the top are substantially equally spaced from each end of the carton and are such that when the removable portions have been removed, the remaining portion of the top defines a handle extending centrally between the first and second side walls. Such a carton resembles a basket type pack when the removable portions have been removed. Ideally the lines of weakening in the top each define a tab portion which can be folded beneath the central handle.

[0004] Conveniently the lines of weakening in the side walls, for each removable portion, extend at an angle from the ends of the line of weakening in the top to the ends of the line of weakening in the associated end panel. With some embodiments the lines of weakening in each end wall extend downwardly somewhat from the junctions with the first and second side walls and meet at a central location between the two side walls.

[0005] In preferred arrangements the side walls each comprise a lower panel which is substantially perpendicular to the base and an upper panel which is angled inwardly towards the opposite side wall and also the end walls each comprise a lower portion which is substantially perpendicular to the base and an upper portion which is angled inwardly towards the opposite end wall. Conveniently the upper and lower portions of each end wall meet along the line of weakening.

[0006] Preferably the lower portion of each end wall comprises a first part foldably connected to the lower panel of the first side wall and a second part foldably connected to the lower panel of the second side wall, the first and second parts having inwardly folded extensions which are adhesively secured to each other.

[0007] A further preferred feature is that the upper portions of each end wall comprise first and second parts which have inwardly folded extensions which are adhesively secured to each other, the first and second parts of the upper portions being adhesively secured to glue panels which are hingedly connected to the upper panel of the respective first and second side walls.

[0008] In some arrangements the top panel has at each end, an extension which is folded down and adhesively secured to the upper portions of the associated

end walls. In addition the base comprises a main base panel hingedly connected to one of the side walls and adhesively secured to a secondary base panel hingedly connected to the other of the side walls.

[0009] With some embodiments one of the inwardly folded extensions of the lower portion of each end wall has a base flap extension which extends through a slot in the main base panel, the base flap extension being folded under the main base panel and adhered thereto. Preferably each slot extends centrally between the two side walls from one end wall towards the slot at the other end, for a predetermined distance depending on the length of the associated base flaps in the direction parallel to the side walls.

[0010] Embodiments of the present invention will now be described in more detail. The description makes reference to the accompanying drawings in which:

Figure 1 shows a carton blank for producing a carton according to the present invention,

Figure 2 shows a perspective view from above and one side of a carton produced from the blank of figure 1,

Figure 3 shows a perspective view of the carton from above, one side and one end,

Figure 4 shows a view similar to figure 3,

Figure 5 shows a view similar to figure 3 with one removable portion partially removed, and

Figure 6 shows a view similar to figure 5 with both removable portions fully detached.

[0011] The figures show a paperboard blank 10 for producing a carton 11 which, in this embodiment contains six bottles 12. The carton 11 could however be readily adapted to contain a different number of bottles or indeed other articles such as cans.

[0012] When assembled, the carton 11 is fully enclosed and has a top 13, a base 14, first and second side walls 15, 16 and first and second end walls 17, 18. Because the carton 11 is shown for use with bottles, the tops of side and end walls taper inwardly so as to follow to some extent the shape of the bottles. The side walls 15, 16 therefore each have an upper panel 19, 20 and a lower panel 21, 22 and the end walls 17, 18 therefore each have an upper portion 23, 24 and a lower portion 25, 26. The base 14 comprises a main base panel 27 which is hingedly connected to the lower panel 21 of the first side wall 15 and which is, in use, adhesively secured to a secondary minor base panel 28 which is hingedly connected to the lower panel 22 of the second side wall 16. Centrally located at each end of the main base panel 27 is a slot 29, the use of which will become apparent later in the description.

[0013] At each end of the top 13 is a top extension 30 which is hingedly connected to the top 13. At each end of each upper side panels 19, 20 is hingedly connected a generally triangular glue panel 31. A central lengthwise fold 32 is also provided in the top 13 and the top

extensions 30.

[0014] Each lower end portion 25, 26 comprises a first part 33, 34 hingedly connected to the first lower side panel 21 and a second part 35, 36 hingedly connected to the second lower side panel 22. Each upper end portion 23, 24 comprises a first upper part 37, 38 and a second upper part 39, 40 each connected to an associated lower part 33-36 by means of an end line of weakening 41. The upper and lower first and second parts of the end panels have reinforcing extensions 42. In use, adjacent reinforcing extensions 42 are folded inwardly and are adhesively secured together. At each end, one of the extensions has a base flap 43 which in use extends through the associated slot 29 in the main base panel 27 and is then folded and glued to the underside of the main base panel 27.

[0015] Further lines of weakening 43 are provided in the top 13. Both lines 43 extend from the first side wall 15 to the second side wall 16 and define a handle 44 which is disposed centrally between the end walls 17, 18. The lines 43 also define tab portions 45 which are hingedly connected to the handle 44 by creases 46 so that the tab portions 45 can be folded under the handle 44 to improve comfort. The lines of weakening 42 then lead into further lines of weakening 47 provided in the side walls 15, 16. The lines of weakening 47 extend at an angle across the side walls 15, 16 and meet the ends of the lines of weakening 41 in the end walls 17, 18.

[0016] To assemble the carton 11 the triangular glue panels 31 are folded inwardly and adhesive is applied. Then the end parts 33-36 and extension 42 are folded inwardly against the side panels. This causes the glue panels 31 to become secured to the associated upper end parts 37-40. Then the blank 10 is folded about the fold 32 in the top 13. Adhesive is applied to the reinforcing extensions 42 and the extensions associated with one side wall 15 are secured to the respective extensions 42 associated with the other side wall 16. This results in a part assembled carton which can either be filled and fully assembled or can be supplied to a customer in a flattened form prior to filling and final assembly.

[0017] Once the reinforcing extensions 42 are glued the carton can be opened up and lowered over the group of six bottles 12 to be contained. The main base panel 27 is then folded up underneath the bottles 12 with the base flaps 43 extending through the respective slots 29. The minor base panel 28 is then folded and glued to the main base panel 27 and the base flaps 43 are folded and glued to the underside of the main base panel 27. It will be appreciated that the length of the slots 29 and the dimensions of the base flaps 42 are ideally such that they hold the end walls in the correct position relative to the base 14 and to the side walls prior to gluing. The top extensions 30 are then folded down and glued to the respective end walls 17, 18.

[0018] The resulting carton 11 is therefore a fully enclosed carton incorporating a handle 44. The adhesively

secured extensions 42 provide reinforcement and rigidity. In addition the top extensions 30 and the base flaps 43 also improve the rigidity of the carton. The set of lines of weakening 41, 43, 47 at each end of the carton 11 define a removable portion 50. It will however be appreciated that the actual shape of the portions 50 could be altered by changing the shape and location of the lines of weakening.

[0019] To carry the carton 11, the tab portions 45 are pushed through and folded under the central handle 44. This is shown in figure 4.

[0020] To gain access to the bottles 12, the removable portion 50 at each end can be torn away by virtue of the lines of weakening 41, 43, 47. This is shown in various stages in figures 5 and 6. It will be appreciated that the figure 6 arrangement, with both portions 50 removed, has the appearance of a basket type carrier which enables the consumer to fill the carrier with empty bottles to return to the retailer or to take for recycling.

[0021] Removal of only one portion 50 as shown in figure 5 can also enable a retailer to sell individual bottles 12 rather than the whole carton of six bottles.

[0022] It has also been found that the top extensions 30 not only provide rigidity in the assembled carton but also assist in the removal process of the portions 50 by providing rigidity and integrity in the portion 50 being removed.

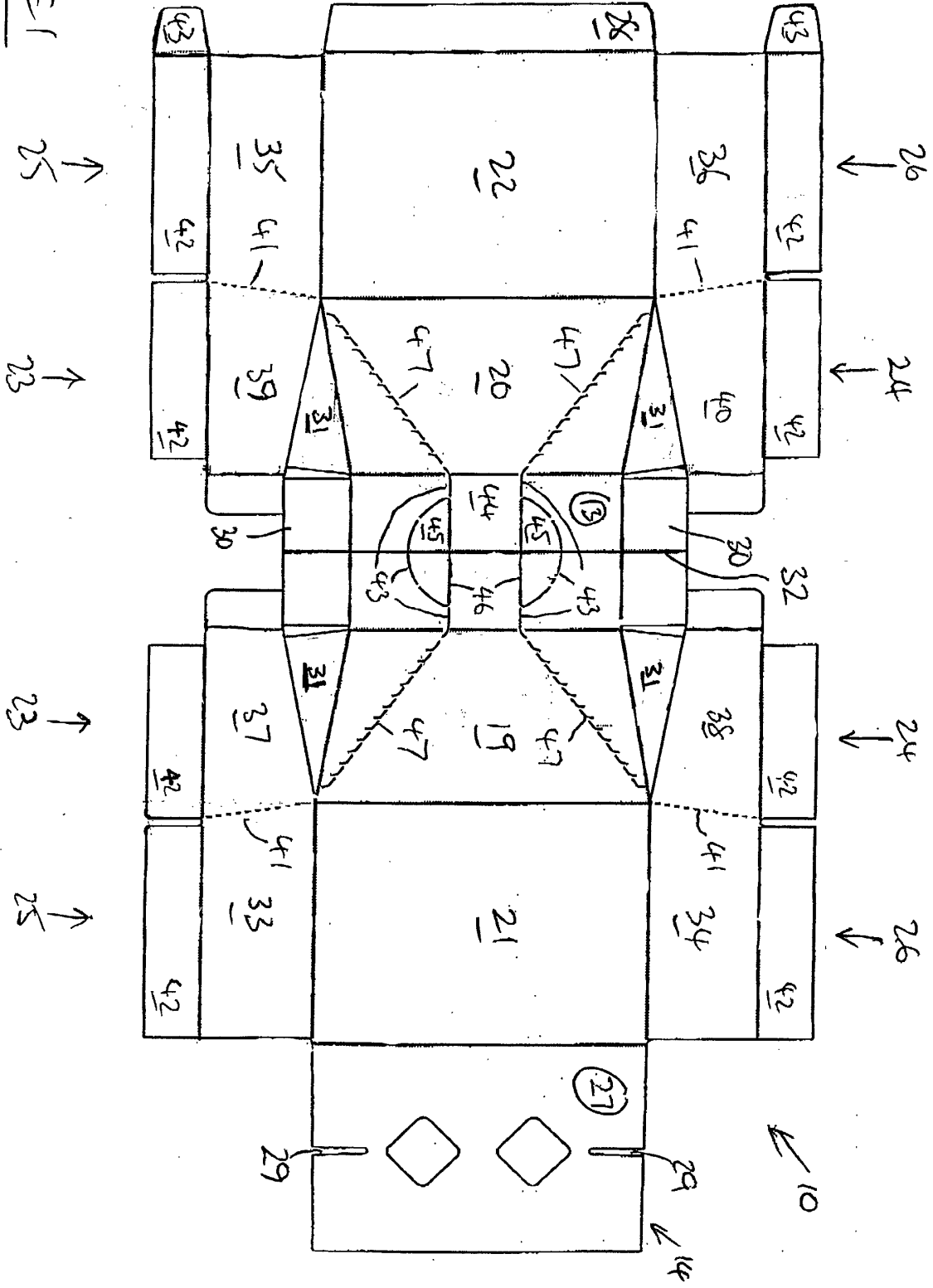
Claims

1. A paperboard carton for containing a number of articles, the carton comprising a top, a base, oppositely disposed first and second side walls and oppositely disposed first and second end walls, a removable portion of the carton being provided at each end of the carton, each removable portion being defined by means of lines of weakening which are provided in the top, end wall and side walls such that removal of the removable portion gives access to the articles contained in the carton.
2. A paperboard carton as claimed in claim 1 wherein the lines of weakening in the top are substantially equally spaced from each end of the carton and are such that when the removable portions have been removed, the remaining portion of the top defines a handle extending centrally between the first and second side walls.
3. A paperboard carton as claimed in claim 2 wherein the lines of weakening in the top each define a tab portion which can be folded beneath the central handle.
4. A paperboard carton as claimed in any one of claims 1 to 3 wherein the lines of weakening in the side walls, for each removable portion, extend at an

angle from the ends of the line of weakening in the top to the ends of the line of weakening in the associated end panel.

5. A paperboard carton as claimed in any one of claims 1 to 4 wherein the lines of weakening in each end wall extend downwardly somewhat from the junctions with the first and second side walls and meet at a central location between the two side walls. 5 10
6. A paperboard carton as claimed in any one of claims 1 to 5 wherein the side walls each comprise a lower panel which is substantially perpendicular to the base and an upper panel which is angled inwardly towards the opposite side wall. 15
7. A paperboard carton as claimed in any one of claims 1 to 6 wherein the end walls each comprise a lower portion which is substantially perpendicular to the base and an upper portion which is angled inwardly towards the opposite end wall. 20
8. A paperboard carton as claimed in claim 7 wherein the upper and lower portions of each end wall meet along the line of weakening. 25
9. A paperboard carton as claimed in claim 7 or claim 8 wherein the lower portion of each end wall comprises a first part foldably connected to the lower panel of the first side wall and a second part foldably connected to the lower panel of the second side wall, the first and second parts having inwardly folded extensions which are adhesively secured to each other. 30 35
10. A paperboard carton as claimed in any one of claims 7 to 9 wherein the upper portions of each end wall comprise first and second parts which have inwardly folded extensions which are adhesively secured to each other, the first and second parts of the upper portions being adhesively secured to glue panels which are hingedly connected to the upper panel of the respective first and second side walls. 40 45
11. A paperboard carton as claimed in any one of claims 7 to 10 wherein the top panel has at each end, an extension which is folded down and adhesively secured to the upper portions of the associated end walls. 50
12. A paperboard carton as claimed in any one of claims 1 to 11 wherein the base comprises a main base panel hingedly connected to one of the side walls and adhesively secured to a secondary base panel hingedly connected to the other of the side walls. 55
13. A paperboard carton as claimed in claim 10 or claim 11 or claim 12 in conjunction with claim 10 wherein one of the inwardly folded extensions of the lower portion of each end wall has a base flap extension which extends through a slot in the main base panel, the base flap extension being folded under the main base panel and adhered thereto.
14. A paperboard carton as claimed in claim 13 wherein each slot extends centrally between the two side walls from one end wall towards the slot at the other end, for a predetermined distance depending on the length of the associated base flaps in the direction parallel to the side walls.

FIGURE 1



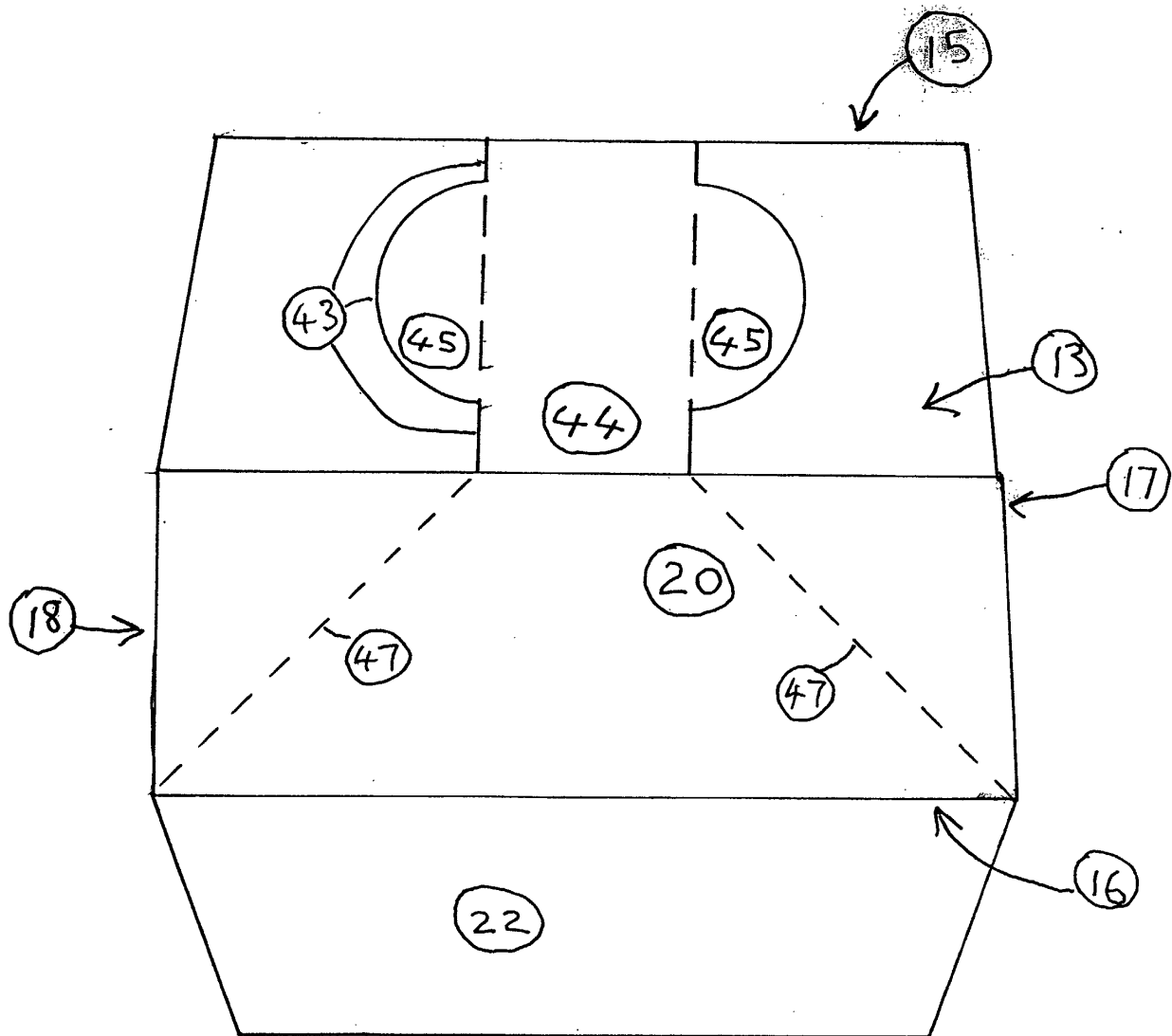


FIGURE 2.

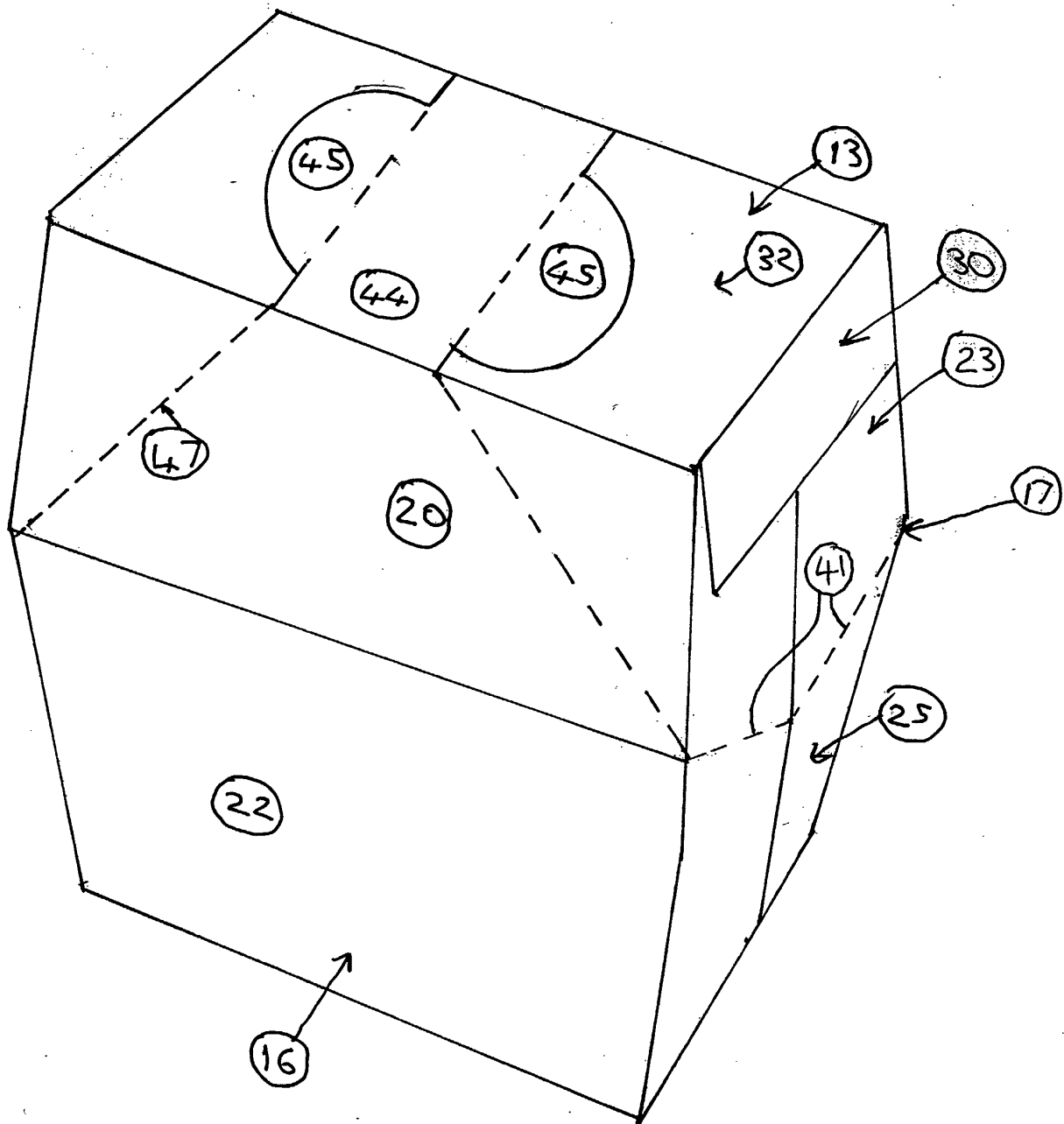


FIGURE 3

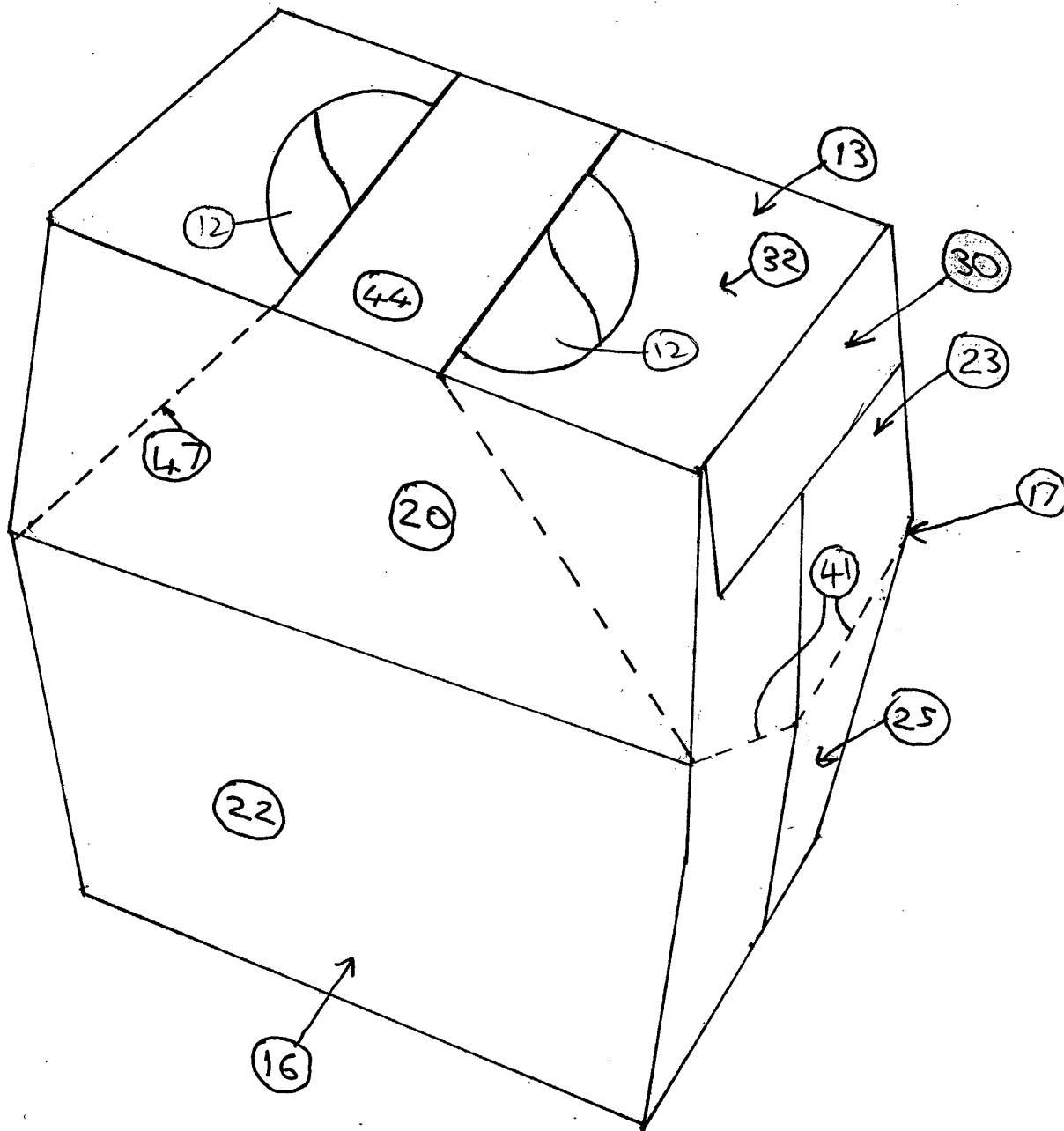


FIGURE 4

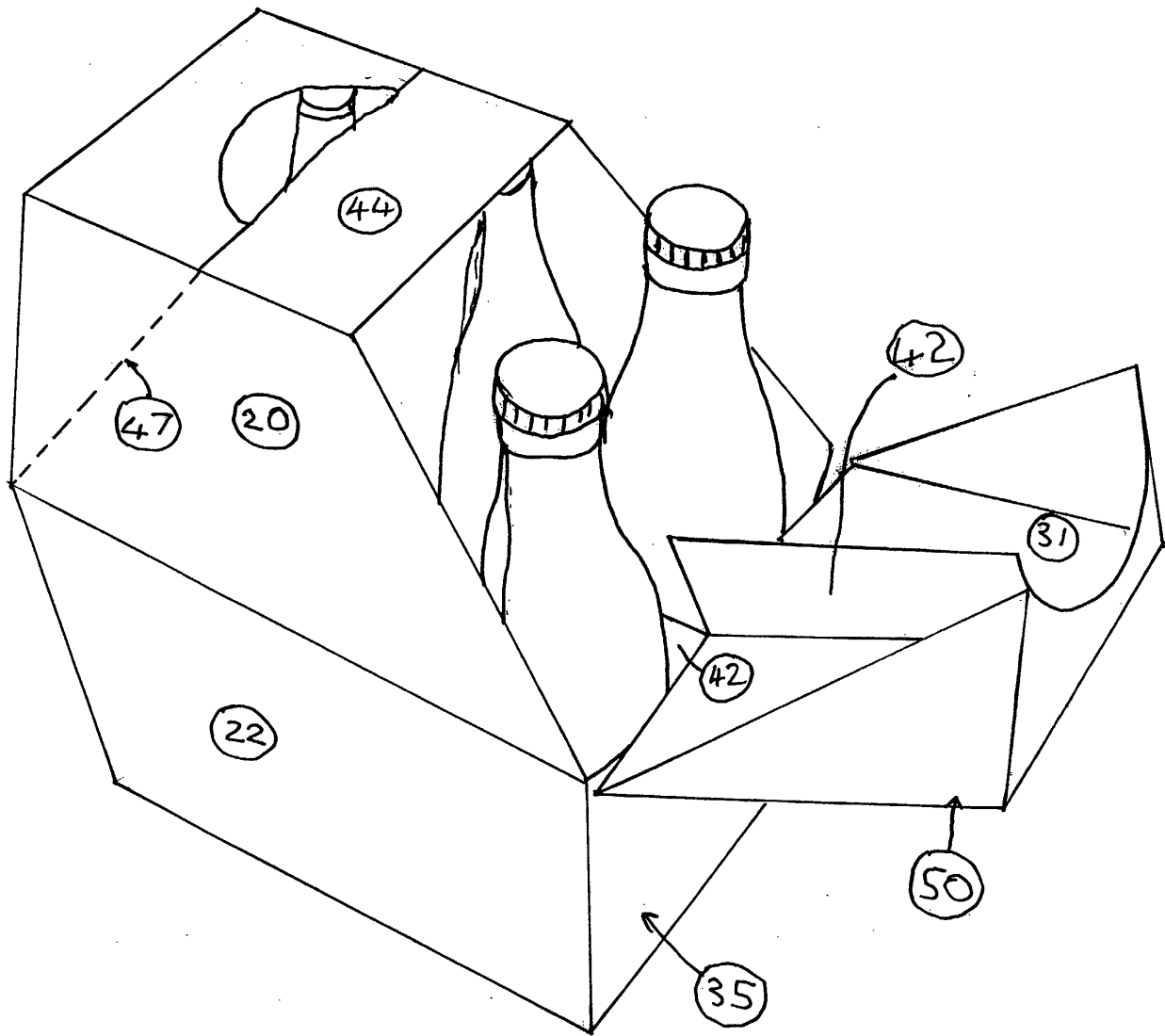


FIGURE 5

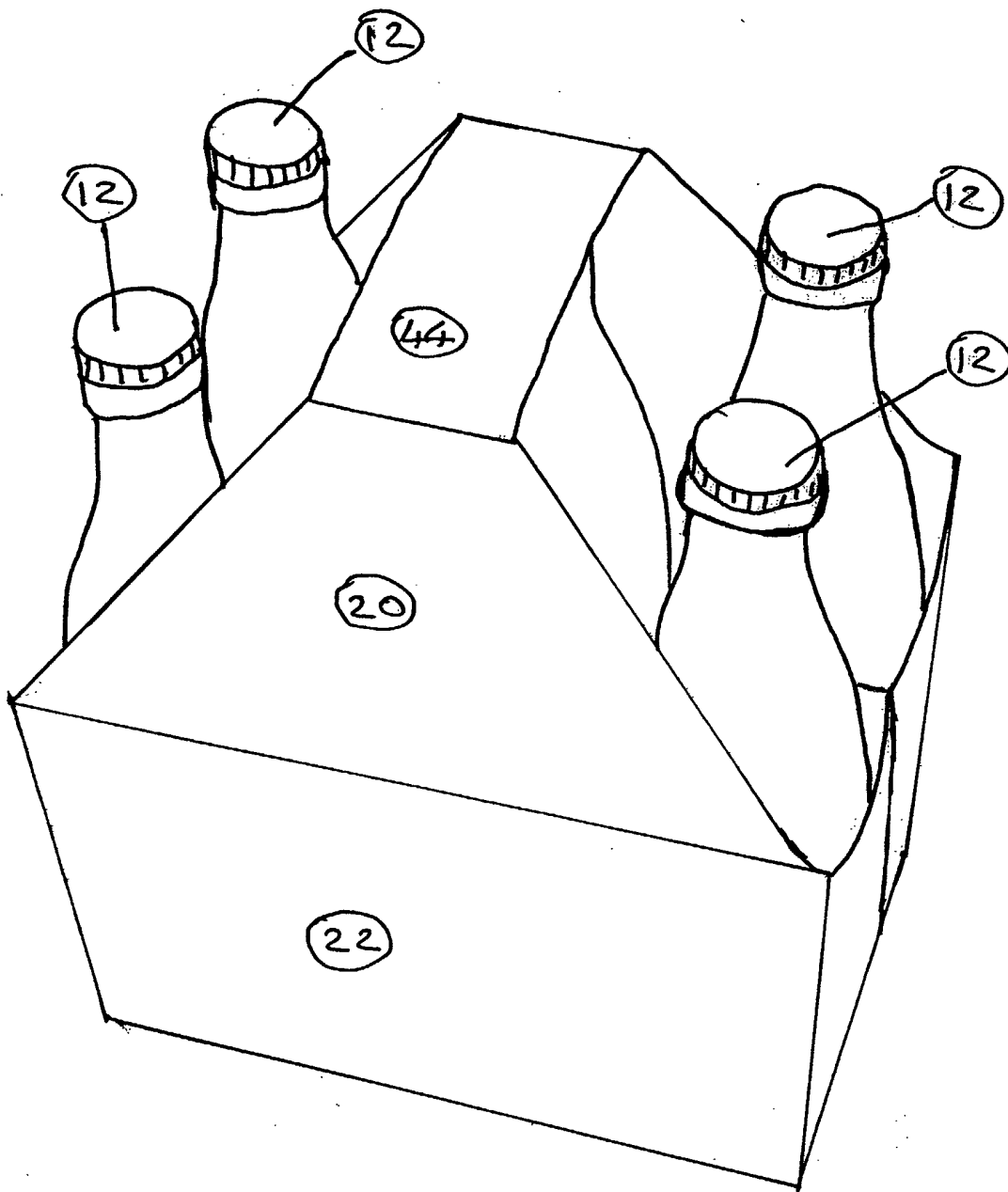


FIGURE 6