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(54) Paperboard carrier with handle

(57) There is provided a paperboard carton 11 having a base panel, a top panel 29, side panels 21, 22 and end walls comprising an end flap 16 hingedly connected to the base panel and adhesively secured to end panels 25 hingedly connected to the lower side panels 21. The ends of the carton 11 are cut away so that the carton resembles a basket style container but the carton can be produced on a machine for fully enclosed packs.

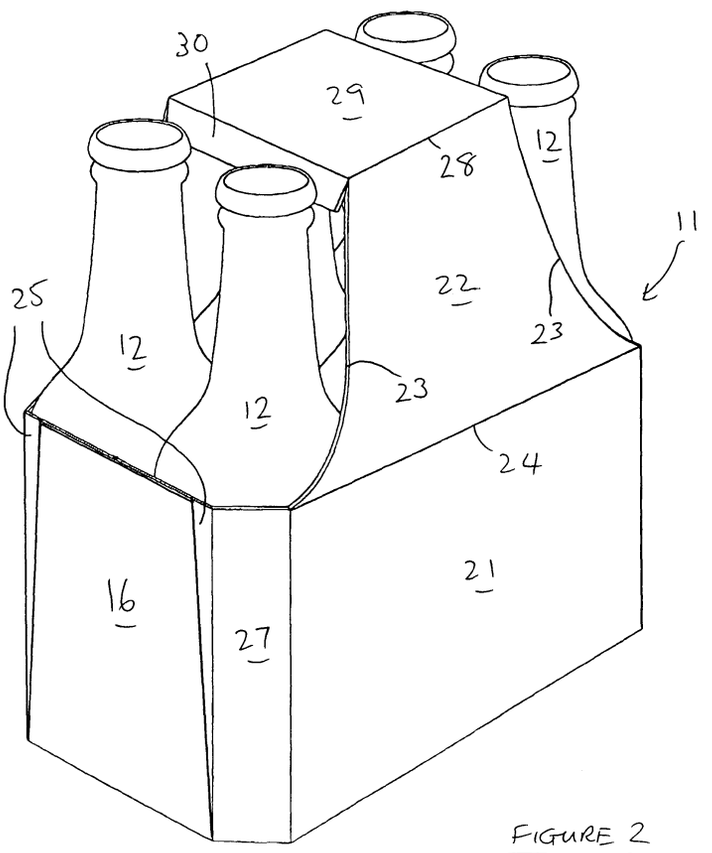

FIGURE 2

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Description

[0001] This invention relates to paperboard cartons for receiving a number of articles such as bottles or cans.

[0002] Many types of paperboard carton are known. One type of carton is a fully enclosed pack, which is generally a rectangular cuboid in shape and completely surrounds the articles. Some fully enclosed packs taper slightly towards their top, especially when containing bottles. Another type of carton is a basket style pack where the articles, usually but not exclusively bottles, are more visible and are arranged in substantially open-topped compartments on both sides of a central handle portion. To produce these two types of carton, it has conventionally been necessary to use two different machines.

[0003] According to the present invention there is provided a paperboard carton for receiving a plurality of articles, said carton having a base panel, a pair of oppositely disposed end walls upstanding from said base panel, a pair of oppositely disposed side panels upstanding from said base panel and extending between edges of the end walls, and a top wall extending between the two side panels in a substantially central position between the two end walls, the two end walls each comprising an end flap hingedly connected to the base panel and adhesively connected to a pair of end panels hingedly connected to the respective side panels; the two end walls, the two side panels and the top wall being cut away at the two ends of the carton such that the two end walls and the end parts of the side panels are shorter in height than the central portions of the two side panels where said side panels are connected to the top wall, said top wall being dimensioned in the direction parallel to the side panels so as to constitute a handle for the carton.

[0004] Preferably the top wall is dimensioned such that, when the base panel is substantially horizontal, articles located in the carton adjacent the end walls can be lifted vertically out of the carton without obstruction by the top wall. In preferred arrangements a row of articles is, in use, located in the carton adjacent and in alignment with each end wall.

[0005] In some preferred embodiments a single row of articles is, in use, located below the top wall. In certain embodiments the width of the top wall is substantially equal to the diameter of the articles.

[0006] A further preferred feature is that a tuck-panel is hingedly connected to each end edge of the top panel so as, in use, to be folded under the top wall. Conveniently each tuck-panel extends substantially from one side panel to the other side panel.

[0007] With some arrangements, the junctions between the side panels and the end panels have bevelled sub-panels.

[0008] Another preferred feature is that the upper edges of the side panels are angled outwardly from the top wall to the respective ends of the side panels.

[0009] 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 paperboard blank for producing a carton according to the present invention,
Figure 2 is a perspective view of the carton produced from the figure 1 blank,
Figure 3 is a plan view of the figure 2 arrangement, and
Figure 4 is a plan view similar to figure 3 of a modified arrangement.

[0010] In figures 1 to 3 there is shown a paperboard blank 10 for producing a carton 11 for containing six bottles 12 in a 2 x 3 array. Other arrays are of course possible by altering the dimensions of the blank 10 in a conventional manner. Also, other articles could be contained in the carton, not just bottles.

[0011] The blank 10 has a generally rectangular base panel 13 on which the bottles 12 stand in the assembled carton 11 The base panel 13 in this arrangement has bevelled corners 14 so as to follow the contours of the bottle array more closely. Hingedly connected to end edges 15 are end flaps 16. Hingedly connected to one side edge 17 is an adhesive panel 18 and to the other side edge 19 is a first side wall 20.

[0012] The part 21 of the side wall 20 connected to the base panel 13 extends the full length of the side edge 19. The part 22 of the side wall 20 remote from the base panel 13 is cut away at its ends and the cut away areas are defined by inwardly tapering upper edges 23. In this arrangement a crease 24 extends between the parts 21 and 22 of the side wall 20 and is provided to allow the upper part 22 to hinge inwardly slightly so as to follow more closely the contours of the necks of the bottles 12.

[0013] End panels 25 extend from the end edges 26 of the lower part 21 of the side wall 20, and incorporate bevel panels 27 which are provided to cooperate with the bevelled corners 14 of the base panel 13. The end panels 25 are not the full height of the side wall 20 but are substantially the same height as the lower part 21 of the side wall.

[0014] The top edge 28 of the side wall is hingedly connected to a top panel 29 which has an opposite edge 28 which is a hinge connection to a second side wall 20. This second side wall 20 has the same features as described above in relation to the first side wall and so similar features have been given the same reference numerals. Similar end panels 25 are also provided.

[0015] The top panel 29 is clearly of a reduced length in the direction X by virtue of the cut away portions of the side walls and so the reduced size top panel 29 constitutes a handle for the carton 11. Tuck panels 30 extend between and perpendicular to the top edges 28. The tuck panels 30, when folded under the top panel 29, increase the comfort of the handle when the carton is in

use.

[0016] To assemble the carton 11, a sleeve is formed from the blank 10 by adhering the adhesive panel 18 to the second side wall 20 so that free edge 31 of the second side wall 20 coincides substantially with the side edge 17 of the base panel 13. Also, in the illustrated arrangement, the tuck panels 30 are folded upwardly slightly, out of alignment with the top panel 29 during assembly. The bottles 12 can then be inserted through an open end of the sleeve arrangement, the upwardly folded tuck panels 30 assisting loading by providing a lead-in for the bottles and preventing the bottle tops from striking a raw paperboard edge when entering the carton.

[0017] Once the bottles 12 have been inserted the end panels 25 are folded around the open ends of the sleeve and the end flaps 16 are folded upwardly and adhered to the end panels 25 thereby forming end walls. The packed carton is now complete.

[0018] The geometry of the blank 10 is such that the top, side and end panels are cut away. In this embodiment the length of the top panel 29 in the direction X is substantially equal to the diameter of one bottle. This means that in the 2 x 3 array shown, the rows of bottles 12 lying adjacent the end walls of the carton 11 can be lifted vertically out of the carton, with only the central row of bottles 12 being located under the top panel 29/handle.

[0019] It will be appreciated, therefore, that this carton 11 is assembled using normal assembly procedures for a fully enclosed pack whereas, in use, the carton 11 behaves in a similar manner to a basket style pack. This enables better use of existing machinery by being able to use it for manufacturing two basic types of pack rather than one.

[0020] Other features of geometry will be apparent to the skilled reader. Clearly it will be normal for the end walls of the carton 12 to be of about the same height as the lower parts 21 of the side walls 20 but this need not necessarily be so. Also, each row of bottles adjacent the end walls could incorporate more than two bottles, or could even have just one bottle in a 1 x 3 array.

[0021] Furthermore the central row could be replaced by a pair of rows, with the top panel extending generally centrally above and partially covering both central rows. This may, however, result in difficulty in grasping the top panel as a handle and so grip holes may be made in the top panel to overcome this.

[0022] The carton is also suitable for bottle arrays which are not plain rectangular. Figure 4 is an example of a nesting 3-2-3 array where the top panel is narrower than the diameter of the bottles. The end rows of bottles adjacent the end walls can still be removed vertically from the carton without interference by the side walls and top panel. Other such arrays having nesting rows of bottles could also be accommodated.

[0023] It will also be clear that the carton lends itself to being used as a carrier for returnable bottles and can also be used as a suitable display device for sale of single bottles.

Claims

1. A paperboard carton for receiving a plurality of articles, said carton having a base panel, a pair of oppositely disposed end walls upstanding from said base panel, a pair of oppositely disposed side panels upstanding from said base panel and extending between edges of the end walls, and a top wall extending between the two side panels in a substantially central position between the two end walls, the two end walls each comprising an end flap hingedly connected to the base panel and adhesively connected to a pair of end panels hingedly connected to the respective side panels; the two end walls, the two side panels and the top wall being cut away at the two ends of the carton such that the two end walls and the end parts of the side panels are shorter in height than the central portions of the two side panels where said side panels are connected to the top wall, said top wall being dimensioned in the direction parallel to the side panels so as to constitute a handle for the carton.

2. A carton as claimed in claim 1 wherein the top wall is dimensioned such that, when the base panel is substantially horizontal, articles located in the carton adjacent the end walls can be lifted vertically out of the carton without obstruction by the top wall.

3. A carton as claimed in claim 2 wherein a row of articles is, in use, located in the carton adjacent and in alignment with each end wall.

4. A carton as claimed in any one of claims 1 to 3 wherein a single row of articles is, in use, located below the top wall.

5. A carton as claimed in claim 4 wherein the width of the top wall is substantially equal to the diameter of the articles.

6. A carton as claimed in any one of claims 1 to 5 wherein a tuck-panel is hingedly connected to each end edge of the top panel so as, in use, to be folded under the top wall.

7. A carton as claimed in claim 6 wherein each tuck-panel extends substantially from one side panel to the other side panel.

8. A carton as claimed in any one of claims 2 to 7 in conjunction with claim 2 wherein the junctions between the side panels and the end panels have bevelled sub-panels.

9. A carton as claimed in any one of claims 1 to 8 wherein the upper edges of the side panels are angled outwardly from the top wall to the respective ends of the side panels.

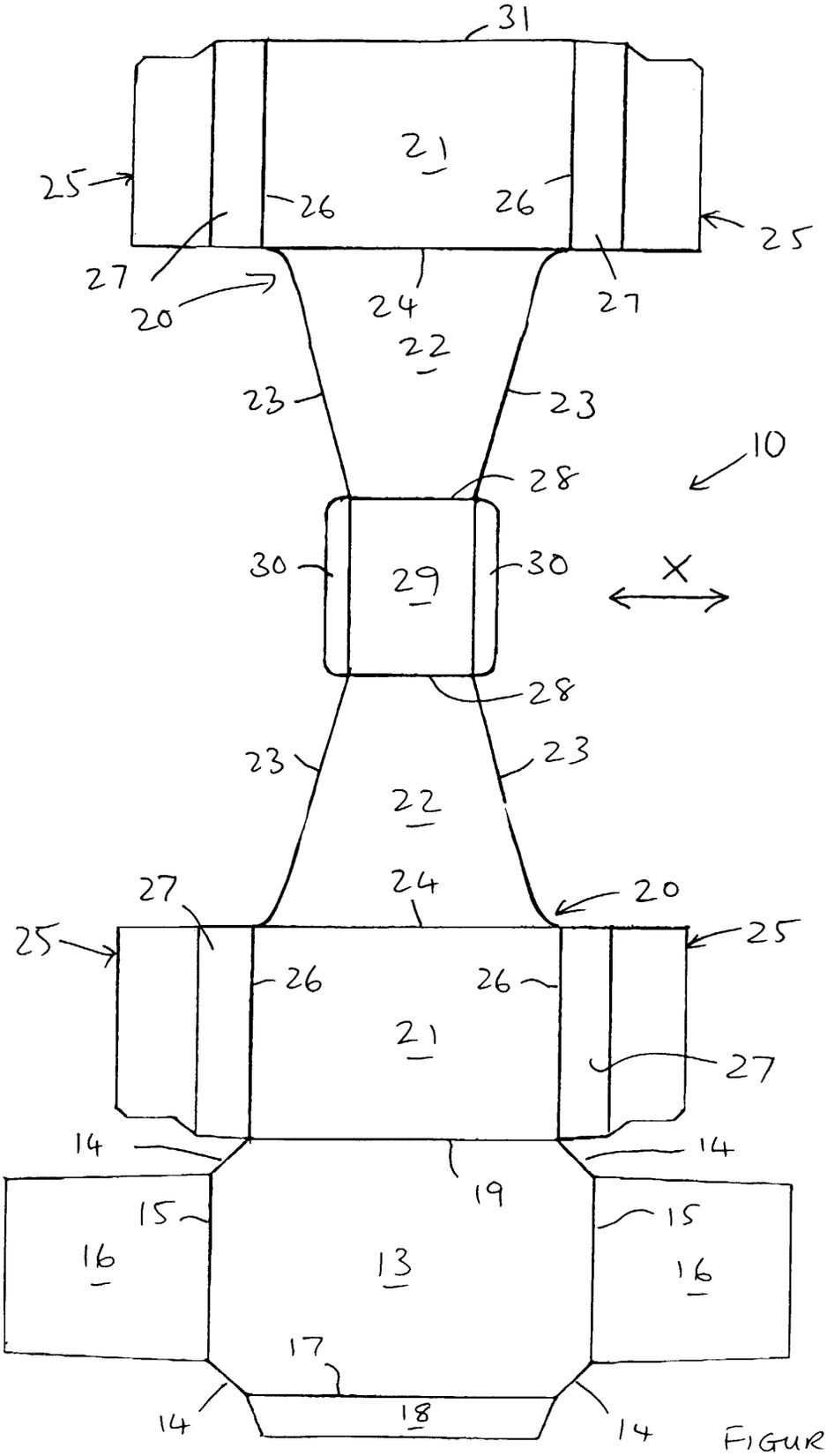
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FIGURE 1

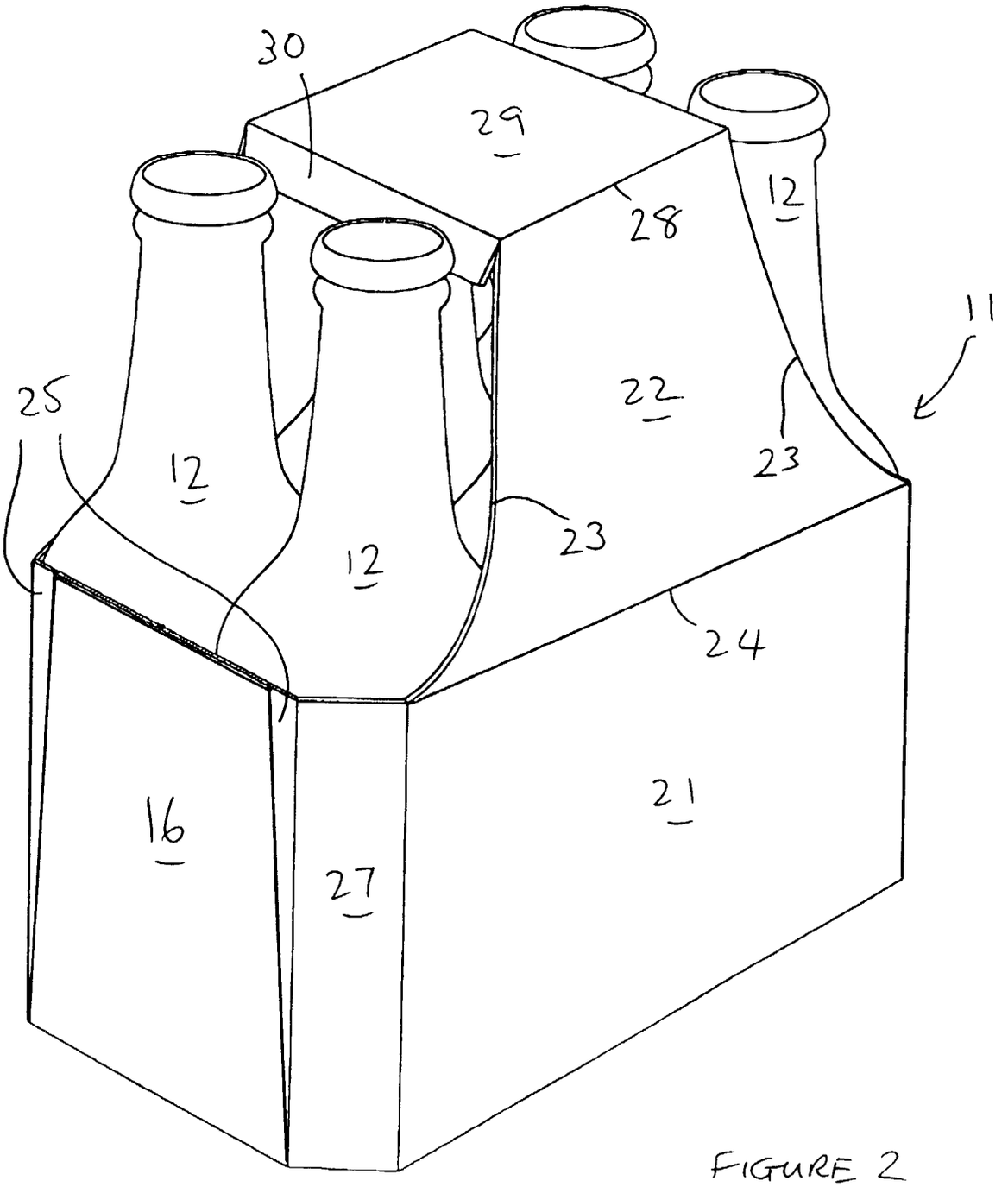

FIGURE 2

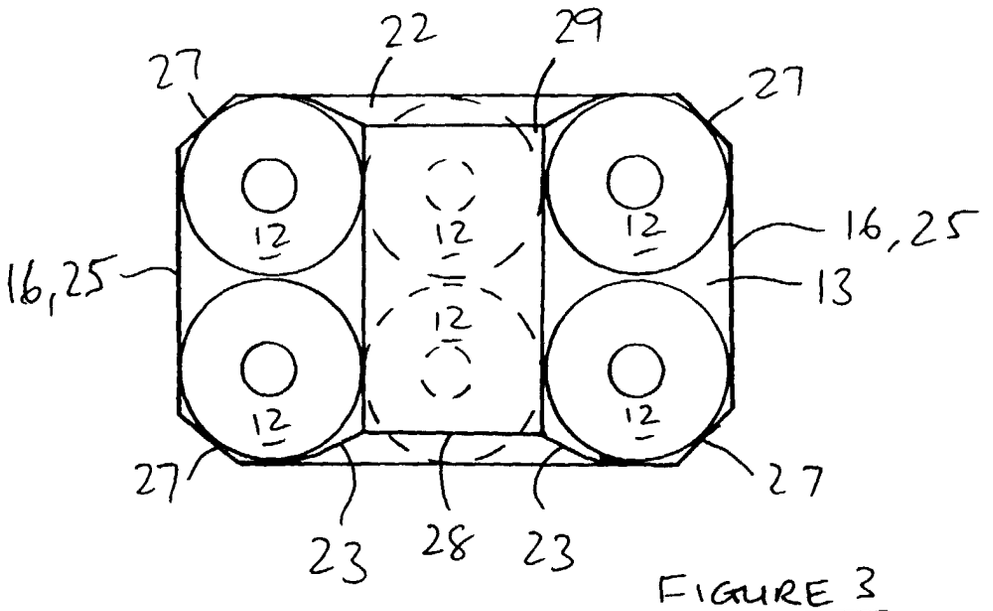

FIGURE 3

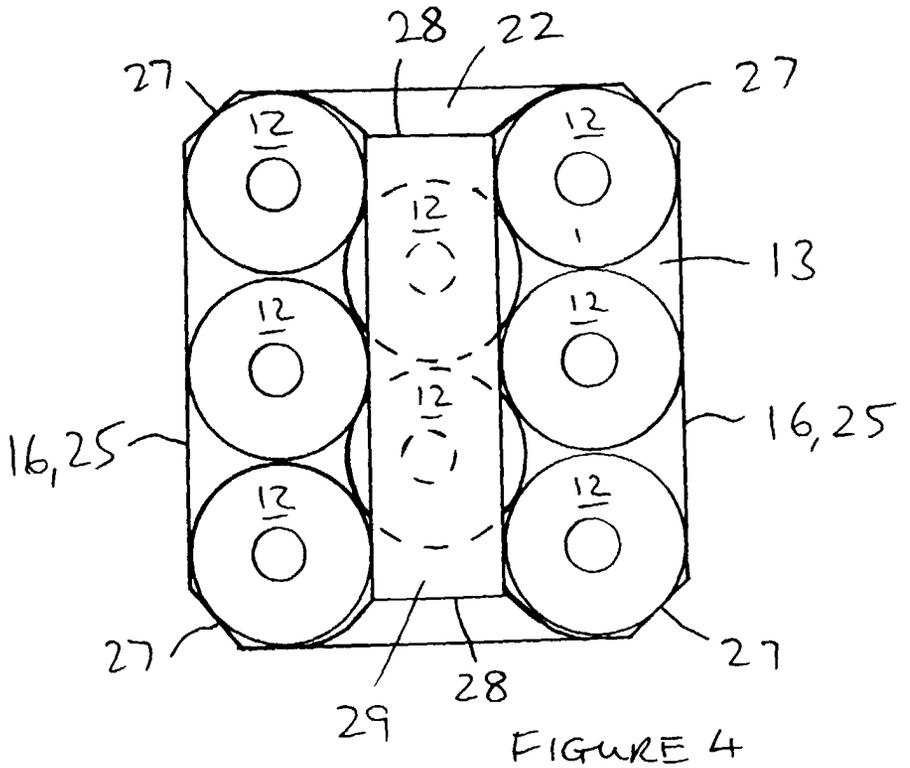

FIGURE 4

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EUROPEAN SEARCH REPORT

Application Number
EP 99 30 5253

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	18 October 1999	Spettel, J

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 30 5253

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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