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(54) Retaining device for rimmed articles

(57) There is provided a retaining device (11) for blocks (12) of pots (13). The device has a top panel and side panels which extend below the flanges (16) of the pots (13) and are secured by sections (22) which lie

against the side walls of the pots. Formations (31) may be provided in the top panel in the form of push down flaps which also engage below the flanges (16) of the pots.

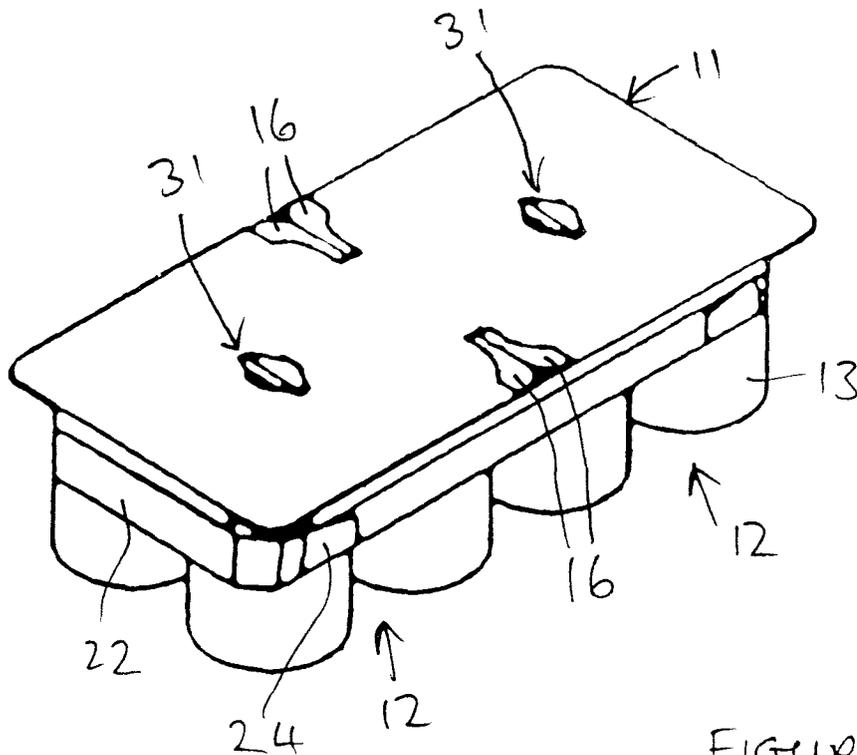


FIGURE 4

Description

This invention relates to paperboard devices for retaining a plurality of articles each having an outwardly projecting rim or flange at its top surface. Examples of such articles are pots for yoghurts and other dairy products. Such pots are often supplied in groups of 4, 6 or 8 interconnected pots in rectangular arrays with all the tops of the pots being co-planar.

According to the present invention there is provided a paperboard device for retaining a plurality of articles each having an outwardly projecting rim at its top, the device comprising a top panel for overlying the tops of the articles and a number of side panels hingedly connected to the top panel, each side panel having a first section and a second section defined by means of a fold which is substantially parallel with the hinge connection of the panel to the top panel, the second sections being provided with laterally extending securing tabs whereby in use the first sections are folded under the rims of the articles such that the second sections lie against the parts of the articles below the top rim and the securing tabs are folded around the articles and are connected to the other second sections, preferably using adhesive.

Preferably the top panel is generally rectangular having a side panel hingedly connected at each edge and in some chosen arrangements the securing tabs are provided at both ends of oppositely disposed side panels.

One preferred feature is that the securing tabs are lightly creased to assist folding around the articles.

A further feature of some arrangements is that push down flaps are provided in and are hingedly connected to the top panel for engaging below the rims of the articles and also that the flaps angle outwardly away from the hinge and have a generally straight edge connecting the angled sections which edge is substantially parallel to the hinge. Conveniently the flaps are provided in adjacent pairs with abutting straight edges.

In some arrangements the articles are pots which are preformed in rectangular blocks and the device retains a plurality of said blocks, said push down flaps extending through apertures provided between pots in the tops of the blocks.

A further preferred feature is that inwardly projecting oppositely disposed tongues are cut from the top panel and remain hingedly connected thereto along the hinge with the adjacent side, which tongues, in use, project below the rims of adjacent blocks to ensure correct spacing between adjacent blocks. Ideally said tongues are contoured so as to follow the contours of the parts of the articles below the rim.

An embodiment of the present invention will now be described in more detail. The description makes reference to the accompanying diagrammatic drawings in which:

Figure 1 shows a blank for forming a device accord-

ing to the present invention,

Figure 2 is a perspective view of two, 2 x 2 blocks of pots for retention by the figure 1 blank,

Figure 3 is a perspective view of the stages of assembly of the figure 1 blank around the blocks of figure 2, and

Figure 4 is a perspective view of the fully assembled arrangement.

In the figures there is shown a paperboard blank 10 for forming a device 11 for retaining as a multipack a pair of pot blocks 12. Each block 12 comprises four individual pots 13 which are interconnected in a 2 x 2 array. The consumer disconnects the individual pots 13 when required. Each pot has a top 14, a side wall 15 and a rim or flange 16 around its top periphery, the flanges of four pots 13 being interconnected to form the block 12 with a central aperture 30. Yoghurt is commonly sold in this type of pot but the invention is not limited to pots for such products.

As stated the blank 10 is intended to produce a device 11 for retaining two such blocks 12 thereby producing a multipack of eight pots 13. The blank 10 provides a top panel 17 which is generally rectangular so as to fit the adjacent pair of blocks 12. Hingedly connected to the top panel 17 along folds 18 are two short side panels 19 and two long side panels 20. Each side panel 19, 20 is subdivided into a first section 21 and a second section 22 by a fold 23 which is substantially parallel to the folds 18. The short side panels 19 also have lateral extensions 24 at each end of their second sections 22. The extensions 24 also have an optional series of transverse creases 25.

Centrally located along the long sides of the top panel are oppositely disposed inwardly projecting tongues 26 which are cut from the top panel 17 but which remain hingedly connected along folds 18. The side edges 27 of the tongues 26 are contoured to fit between side walls 15 of adjacent pots.

The top panel 17 also has a pair of gripper formations 31 each comprising a pair of push down flaps 32 which are cut from the top panel but which remain hingedly connected thereto by means of folds 33. Each flap 32 has an angled edge 34 on both sides of the fold 33 which edges are linked by a straight edge 35. The two flaps 32 of each formation 31 have abutting straight edges 35 before the flaps 32 are pushed down. The location of the gripper formations 31 in the top panel 17 is such that they are above the apertures 30 in the blocks 12.

The device 11 is assembled in the following manner, reference to figure 3 giving assistance in this respect. Firstly the two blocks 12 are aligned in abutting relation to each other and the blank 10 is then aligned with the blocks 12. The tongues 26 are folded down so as to be perpendicular to the top panel 17 and the long side walls 20 are folded upwardly, which movement causes the corresponding downward movement of the tongues 26.

The blank is then lowered on to the blocks 12 so that the top panel 17 lies on the tops 14 of the pots 13 and the long side walls 20 are folded down thereby moving the tongues 26 below the flanges 16 of the adjacent pots 13 of the two blocks 12. The long side walls 20 are folded further such that the first sections 21 engage under the flanges 16 of the pots 13 and the second sections 22 engage the side walls 15 of the pots below the flanges 16.

The short side walls 19 are then folded down such that the first sections 21 engage under the flanges 16 of the pots 13 and the second sections 22 engage the side walls 15 of the pots below the flanges 16. Adhesive is then applied to the ends of the lateral extensions 24 which are then folded tightly around the side walls 15 of the corner pots 13 and secured to the second portions 22 of the long side panels 20. The folding around the corner pots is assisted by the provision of the transverse creases 25.

The final action is to press the flaps 32 down through the apertures 30 in the blocks 12 such that the angled edges 34 engage below the flanges 16 of adjacent pots to provide further rigidity and integrity. The result is a secure multipack in which the pots are firmly engaged below their flanges 16 and held securely by the continuous strap like nature of the adhesively secured second portions 22 of the side panels 19, 20.

Although the invention has been described above in respect of a plurality of two 2 x 2 blocks of pots, other arrangements will be apparent. In particular the device could be adapted to retain individual pots or other block arrays or even combinations. The tongues 26 and flaps 32 are preferred optional features but other further security formations could be used.

Claims

1. A paperboard device for retaining a plurality of articles each having an outwardly projecting rim at its top, the device comprising a top panel for overlying the tops of the articles and a number of side panels hingedly connected to the top panel, each side panel having a first section and a second section defined by means of a fold which is substantially parallel with the hinge connection of the panel to the top panel, the second sections being provided with laterally extending securing tabs whereby in use the first sections are folded under the rims of the articles such that the second sections lie against the parts of the articles below the top rim and the securing tabs are folded around the articles and are connected to the other second sections.
2. A paperboard device as claimed in claim 1 wherein the top panel is generally rectangular having a side panel hingedly connected at each edge.
3. A paperboard device as claimed in claim 2 wherein the securing tabs are provided at both ends of oppositely disposed side panels and are adhesively connected to the other second sections.
4. A paperboard device as claimed in any one of claims 1 to 3 wherein the securing tabs are lightly creased to assist folding around the articles.
5. A paperboard device as claimed in any one of claims 1 to 4 wherein push down flaps are provided in and are hingedly connected to the top panel for engaging below the rims of the articles.
6. A paperboard device as claimed in claim 5 wherein the flaps angle outwardly away from the hinge and have a generally straight edge connecting the angled sections, which edge is substantially parallel to the hinge.
7. A paperboard device as claimed in claim 6 wherein the flaps are provided in adjacent pairs with abutting straight edges.
8. A paperboard device as claimed in any one of claims 5 to 7 wherein the articles are pots which are preformed in rectangular blocks and the device retains a plurality of said blocks, said push down flaps extending through apertures provided between pots in the tops of the blocks.
9. A paperboard device as claimed in any one of claims 1 to 8 wherein inwardly projecting oppositely disposed tongues are cut from the top panel and remain hingedly connected thereto along the hinge with the adjacent side, which tongues, in use, project below the rims of adjacent blocks to ensure correct spacing between adjacent blocks.
10. A paperboard device as claimed in claim 9 wherein said tongues are contoured so as to follow the contours of the parts of the articles below the rim.

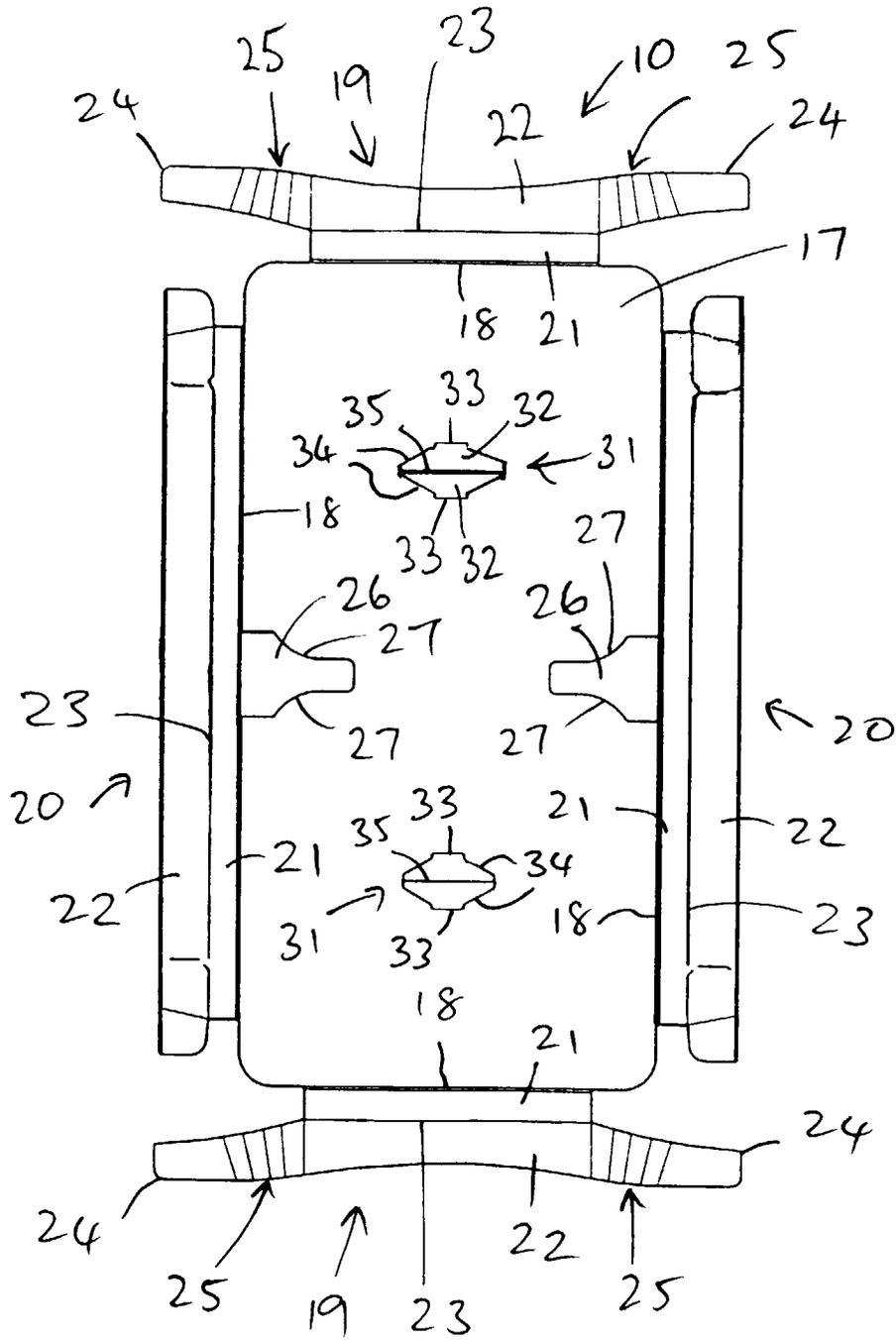


FIGURE 1

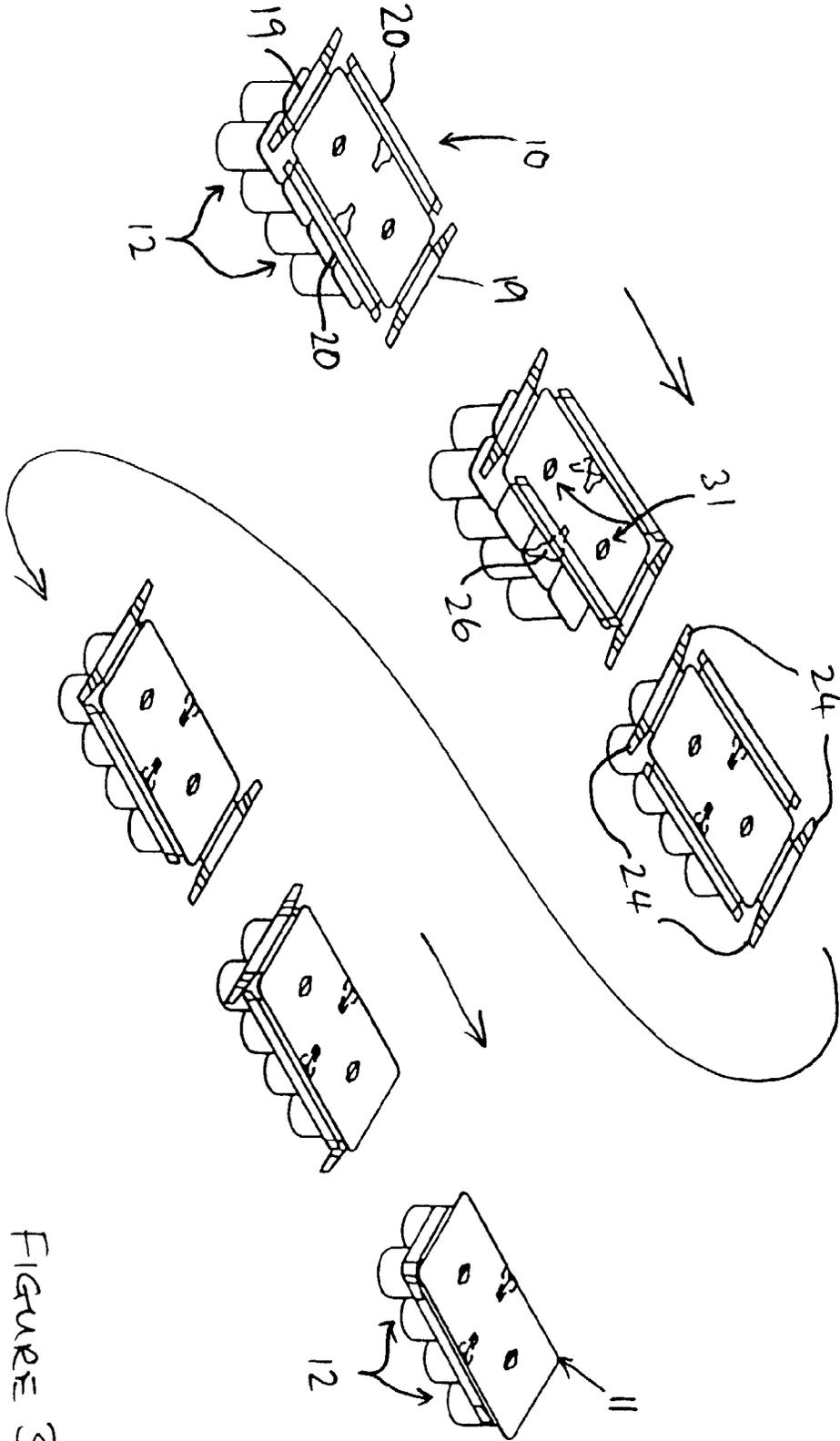


FIGURE 3

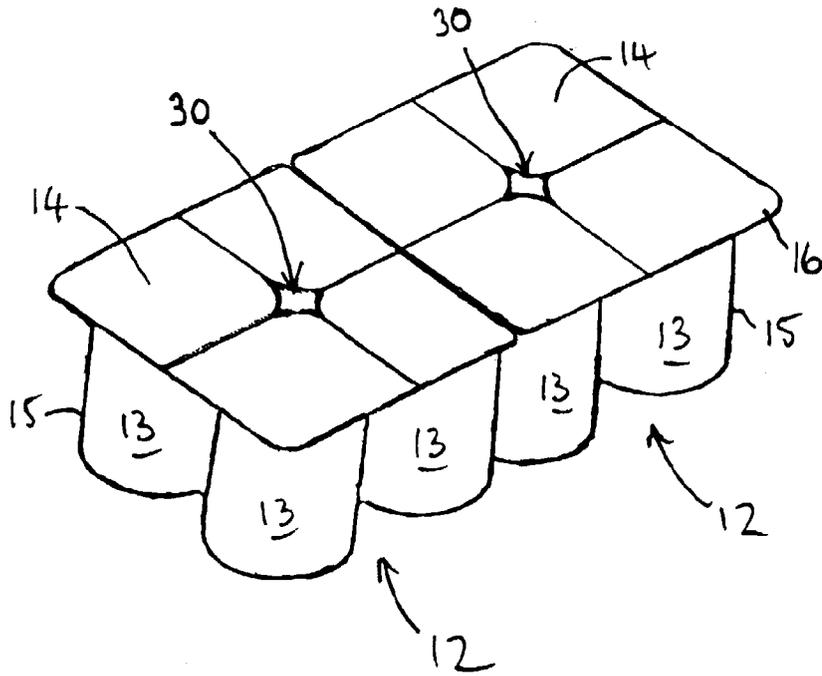


FIGURE 2

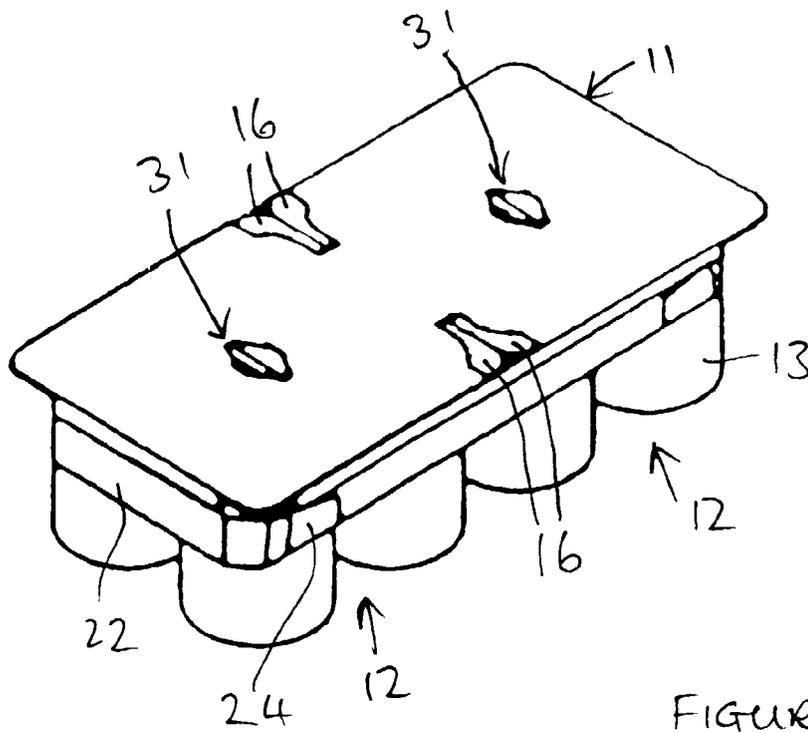


FIGURE 4



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 30 4924

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP 0 240 126 A (MEAD CORP) 7 October 1987 * the whole document * ---	1	B65D71/44
A	GB 2 280 884 A (FISHER MATTHEWS LIMITED) 15 February 1995 * figures 1-3 * -----	1,5-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 17 October 1997	Examiner Spettel, J
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
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