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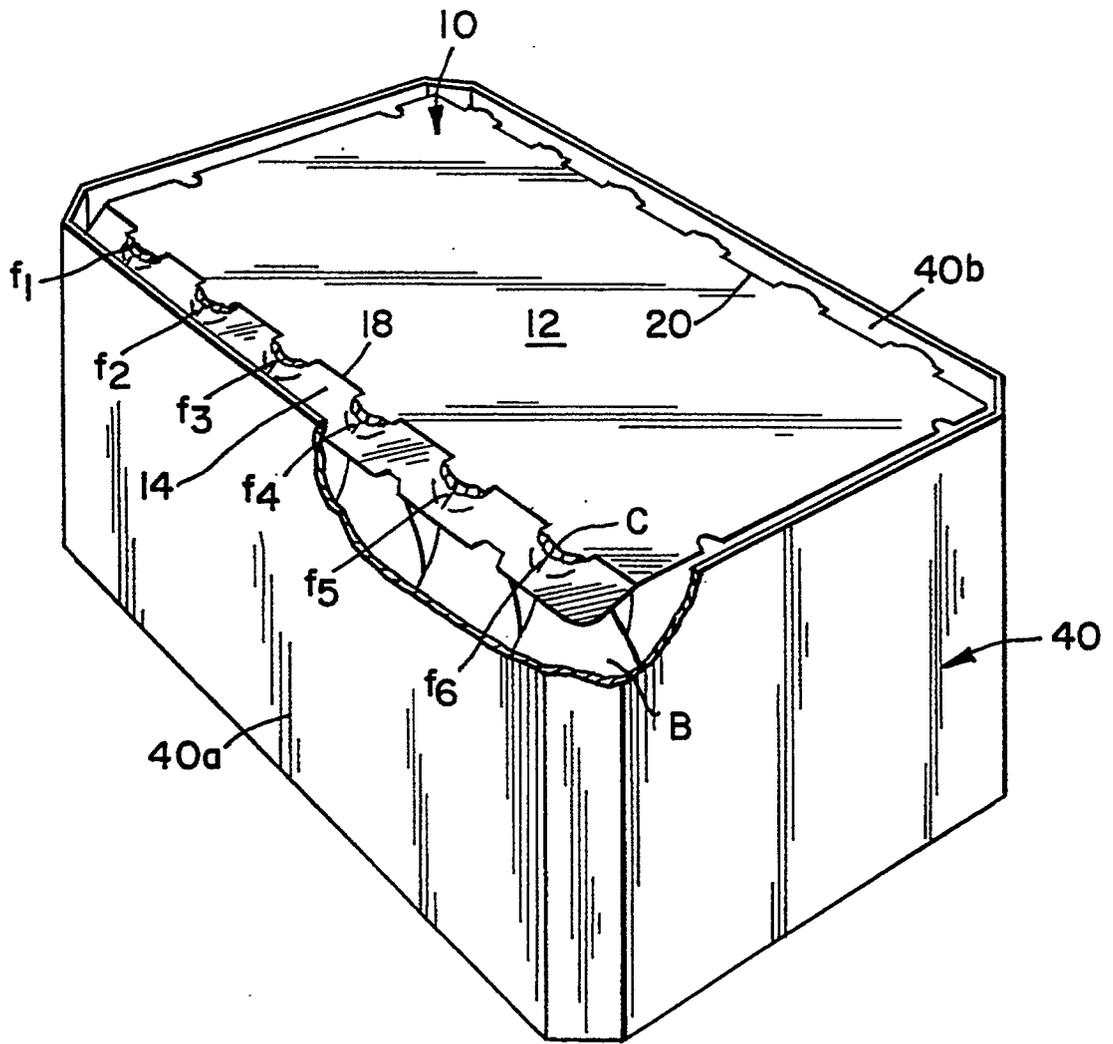
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54 **Bottle crate cover panels.**

57 The invention relates to a cover panel (10) for closing the open top of a bottle crate. The cover panel (10) comprises a main central panel (12) and a marginal strip (14,16) hinged to the main panel (12) along hinge lines (18,20) which extend adjacent to the tops of the bottles arranged in an outer row of the bottles contained within the crate. The cover panel (10) further comprises a plurality of bottle cap engaging formations (f) provided along the hinge line (18,20). Displacement of the marginal strip (14,16) out of the plane of the main central panel (10) causes each of the engaging formations (f) to take a form in which it can receive a bottle cap so as to secure the cover panel (10) on or within the open top of the bottle crate.

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FIG. 2.



This invention relates to a cover panel for closing the open top of a bottle crate or like container thereby providing a dust inhibiting top closure upon which brand name identification and/or advertising graphics may be displayed.

A bottle crate cover panel having means to engage the tops of bottles disposed in a crate is disclosed in GB-406,511, EP-A-0 217 148 and EP-A-0 051 835. Of these EP-A-0 051 835 shows a bottle crate cover panel having a main central panel and a pair of marginal end panels hinged at opposite ends respectively of the main panel. Bottle neck receiving apertures are formed in the marginal end panels which are inclined downwardly relative to the main panel when the cover is fitted into the crate.

One aspect of the invention provides a panel formed from paperboard or similar foldable sheet material for substantially closing the open top of a bottle crate, the panel having a main central panel and a marginal strip which is hinged to said main panel, wherein a plurality of bottle cap engaging formations are formed adjacent said marginal strip and wherein said hinge passes through said bottle cap engaging formations adjacent to it when the panel is in its planar form, and wherein displacement of the marginal strip out of the plane of said main central panel puts each of said bottle cap engaging formations into a form in which it can receive a bottle cap so as to secure the panel in position in the crate top.

Another aspect of the invention provides the combination of a bottle crate and a cover panel as defined in the immediately preceding paragraph.

Crate cover panels embodying the invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

FIGURE 1 is a plan view of a first paperboard crate cover panel according to the invention;

FIGURE 2 is a perspective view of a bottle crate as seen from above and one end with a corner portion cut away and having the cover panel shown in Figure 1 fitted in position;

FIGURE 3 is a plan view of a second paperboard crate cover panel according to the invention;

FIGURE 4 is a perspective view similar to Figure 2 but showing the cover panel of Figure 3 fitted therein;

FIGURE 5 is a plan view of a fourth paperboard cover panel according to the invention; and

FIGURE 6 is a perspective view of a bottle crate having the cover panel shown in Figure 5 fitted in position.

Referring first to Figures 1 and 2 of the drawings, a bottle crate closure panel 10 is formed from paperboard or like foldable sheet material. Panel 10 comprises a planar rectangular main panel 12 having along each of its two opposed longitudinal edges a foldable marginal strip 14 and 16 hinged to the main panel along respective interrupted fold lines 18 and

20.

Each of the foldable marginal strips is formed with a linear series of identical cut and score line for-

5 mations f1-f6 and f¹-f⁶, each of which is adapted to engage and lock onto the crown cork cap of a bottle accommodated in the crate. Thus, when the panel is in its planar condition the fold lines 18 and 20 effectively pass through the formations f1-f6 and f¹-f⁶.

10 Since all the cut and score line formations are identical only that identified as "f1" will be described in detail it being understood, of course, that such detail also is applicable to each of the other formations.

15 Formation f1 comprises a tongue 22 which is struck from marginal strip 14 so that it is defined by parallel cuts 24, 26 and end connecting cut 28. End connecting cut 28 also defines a pair of locking edges of foldable locking tabs 30 and 32 respectively which otherwise are defined by respective arcuate score lines 34 and 36 and separating score line 38.

20 In order to secure the cover panel 10 in position in the open top of a crate 40 the marginal strips 14 and 16 are folded downwardly at an oblique angle with respect to the top of the crate about their respective interrupted fold lines so as to create an opening between each tongue and its associated locking tabs thereby to expose the locking edges of the locking tabs. The panel 10 is applied onto the tops of bottles 'B' accommodated in the crate so that peripheral portions of the bottle caps 'C' in the outermost rows of bottles adjacent side walls 40a and 40b of the crate are received in the openings whereby the locking edges of each pair of locking tabs engage underneath the rim of a respective bottle cap, as shown in Figure 2. Fold lines 18 and 20 are interrupted by the series of tongues which remain in the plane of the main panel 12 and are seated on the tops of the bottle caps. Fold lines 18 and 20 are set inwardly from the longitudinal edges of the panel by a distance which is slightly wider than half the diameter of the bottle caps so that the panel is kept in tension between the outermost longitudinal rows of bottles.

45 Referring now to Figures 3 and 4 of the drawings, bottle crate cover panel 42 also comprises a rectangular main panel 44 having longitudinal marginal strips 46 and 48 hinged to the main panel along respective interrupted fold lines 50 and 52.

50 The cover is formed with four identical cut and score formations f1-f4 each of which is struck partially from the main panel 44 and partially from one of the marginal strips. The formations are positioned on the cover panel so that the fold lines 50 and 52 pass through the formations when the cover panel is in planar condition thereby to engage those bottles accommodated in the crate 54 adjacent the side walls

54a and 54b which are next to each of the corner bottles. Since the cut and score formations are identical, that identified as f1 will now be described in detail such description also being applicable to each of the other formations.

Formation f1 comprises a tongue 56 struck from main panel 44 and a foldable panel 58 hinged to the main panel on either side of the tongue about fold lines 60 and 62 and to the marginal strip 46 along fold line 64. The end edges of the foldable panel are defined by cut lines 66 and 68. Aligned with the end edge of the tongue, the foldable panel is formed with an intermediate fold line 70 which is interrupted by a central opening 68. Central opening 68 is surrounded by a series of deformable locking tabs 70. When the marginal strips are folded out of the plane of the main panel and downwardly with respect to the top of the bottle crate 54, the formations are displaced inwardly about fold lines 60, 62, 64 and intermediate fold line 70 so that the formations each provide a stepped platform 'P' in which the central opening is put into register with a bottle cap which it is to engage. The bottle caps of the four bottles to be secured by the formations are received through the central openings thereby displacing the locking tabs which engage under the rim of the respective bottles.

Figure 5 shows a rectangular crate cover panel 72 comprising a main panel 74 and marginal strips 76 and 78 foldably joined to the main panel along longitudinal fold lines 80 and 82 respectively. Adjacent each of the marginal strips the lower panel is formed with a linear series of identical openings such as the opening identified as 'A'. Opening 'A' has a straight locking edge 84 substantially aligned with the fold line 82 so that the fold line effectively passes through the aperture 'A' and contiguous arcuate peripheral edges 86 and 88 which meet to form a peak 90 opposite the mid point of the straight locking edge. When the marginal strips are folded out of the plane of the main panel each of the openings 'A' are put in a position to receive the cap of a bottle whereby the locking edge 84 and the peak 90 engage beneath the rim of the associated bottle cap. The cover panel is sized so that the main panel 74 may adopt an outward bow whereby the straight locking edges are held engaged against the rims of the bottle caps.

Figure 6 shows cover panel 72 secured in a crate 92 in which the marginal strips 76, 78 are folded downwardly along fold lines 80 and 82, respectively so that they are engaged against side walls 92a and 92b respectively of the crate. The caps of the bottles e.g. cap 'c' are locked into respective ones of the apertures 'A' to secure the cover panel in position.

Claims

1. A cover panel formed from paperboard or similar

5 foldable material for substantially closing the open top of a crate having opposing side and end walls and containing a plurality of bottles having caps with outwardly projecting portions, said bottles being arranged in rows with an outer row positioned along each of said opposing side walls, said panel having a main central panel and a marginal strip hinged to said main central panel along a hinge line which extends adjacent the tops of the bottles in said outer rows when the cover is in position, and a plurality of bottle cap engaging formations provided along said hinge line, and wherein displacement of said marginal strip out of the plane of said main central panel causes each of the engaging formations to take a form in which it can receive a bottle cap so as to secure said panel on or within the open top of said crate.

20 2. A panel formed from paperboard or similar foldable sheet material for substantially closing the open top of a bottle crate, the panel having a main central panel and a marginal strip which is hinged to said main panel along a fold line wherein a plurality of bottle cap engaging formations are formed adjacent said marginal strip and wherein said fold line comprises a plurality of hinges displaced along said fold line between said bottle cap engaging formations adjacent to said hinges.

30 3. A panel as claimed in Claim 2 wherein said fold line lies in superposed position with and within the diametric extent of the tops of an adjacent row of bottles to which the panel is to be attached in the crate.

40 4. A bottle crate cover panel as claimed in Claim 2 or 3 wherein said fold line is aligned to pass above the adjacent outer row of the bottles to which the panel is to be attached in the crate and substantially and diametrically over the bottle tops.

45 5. A bottle crate covering panel as claimed in Claim 2 or 3 wherein said fold line is disposed to pass over a region between the centre and the outer diametric extent of said adjacent outer row of bottle tops to which the panel is to be attached to the crate.

50 6. A panel as claimed in Claim 1 further characterised in that said bottle cap engaging formation comprises a tab which remains substantially coplanar with said main central panel when said marginal strip is displaced in order to engage said bottle cap engaging formation with the bottles.

55 7. A panel as claimed in Claim 6 further characterised in that said bottle cap engaging formation

comprises a second tab which is foldably attached to said marginal strip and which second tab engages the bottle cap when said marginal strip is displaced so as to engage said bottle cap engaging formation and said second tab is displaced from coplanar alignment with said marginal strip. 5

8. A panel as claimed in Claim 1 where said bottle cap engaging formation comprises an aperture defined by a rim in said panel and where part of said aperture rim comprises said fold line, and displacement of said marginal strip causes said part of said aperture rim which is formed by said fold line to engage the bottle cap adjacent to it. 10 15

9. A panel as claimed in any of the preceding claims wherein said bottle top engaging formations are arcuate apertures, the radii of which are slightly greater than the radius of the bottle tops to which they will engage in the crate. 20

10. A panel as claimed in any of the preceding claims which is substantially a regular polygon and said marginal strips can be formed on one or more of the panel's margins. 25

11. A panel as claimed in Claim 10 which is substantially rectangular and two opposed marginal strips are formed along the longer sides to the rectangle. 30

12. A panel substantially as described herein with reference to the diagrams. 35

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FIG. 1.

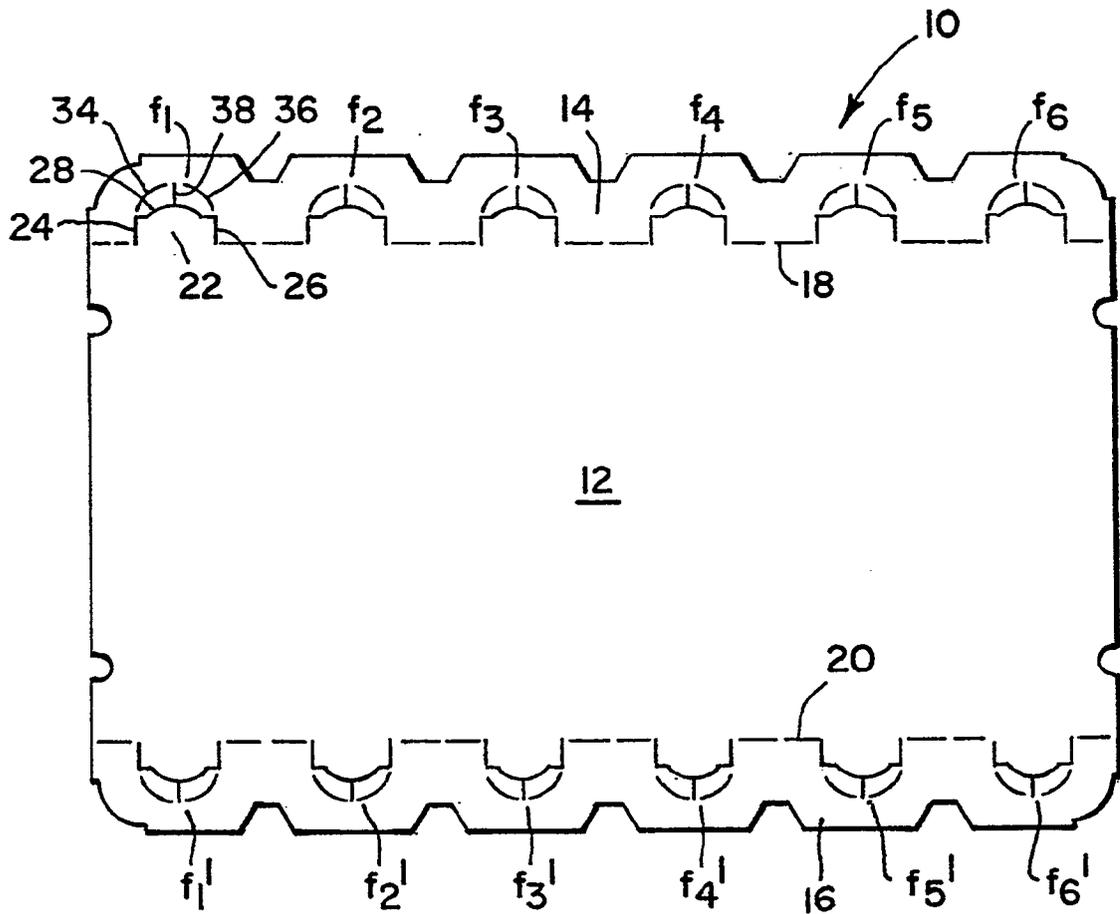


FIG.2.

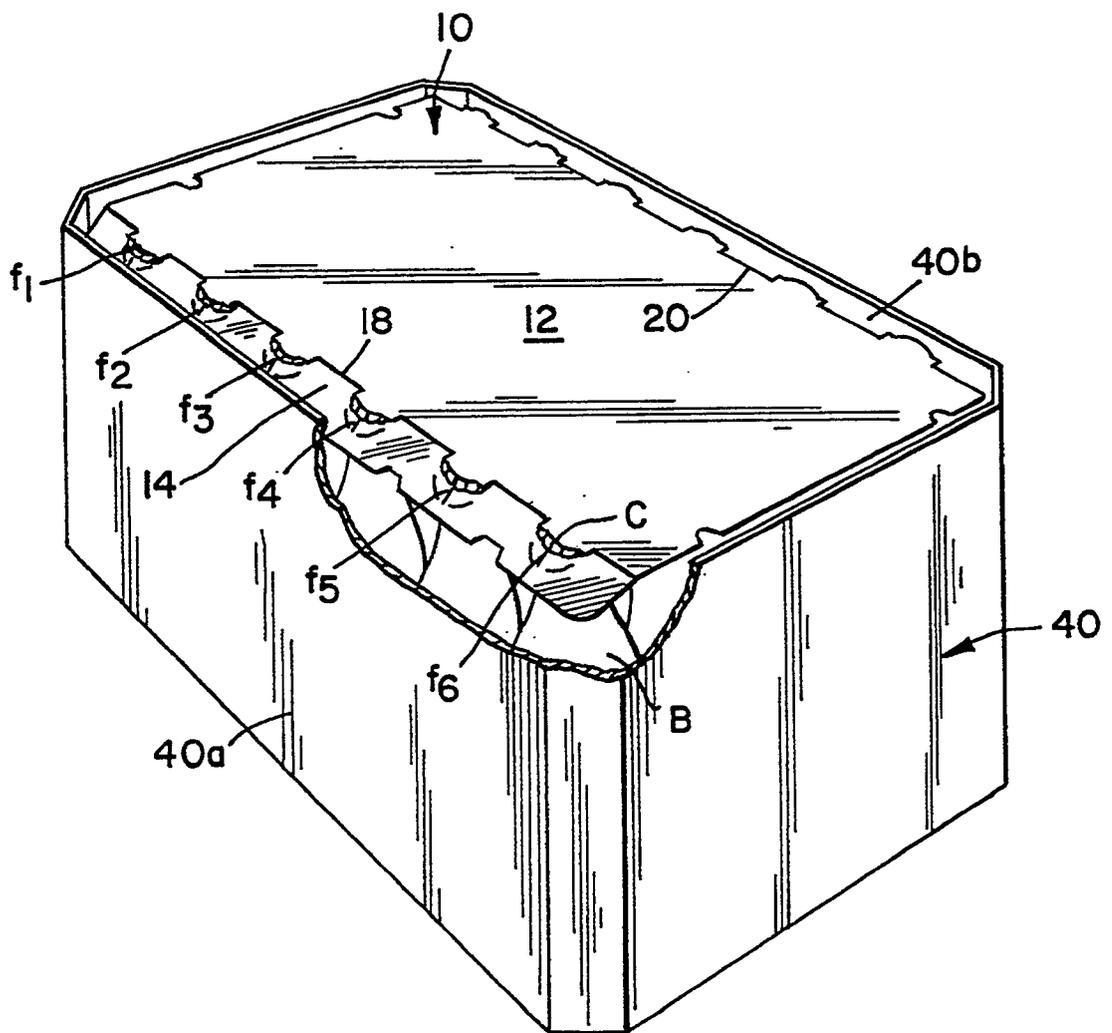


FIG. 3.

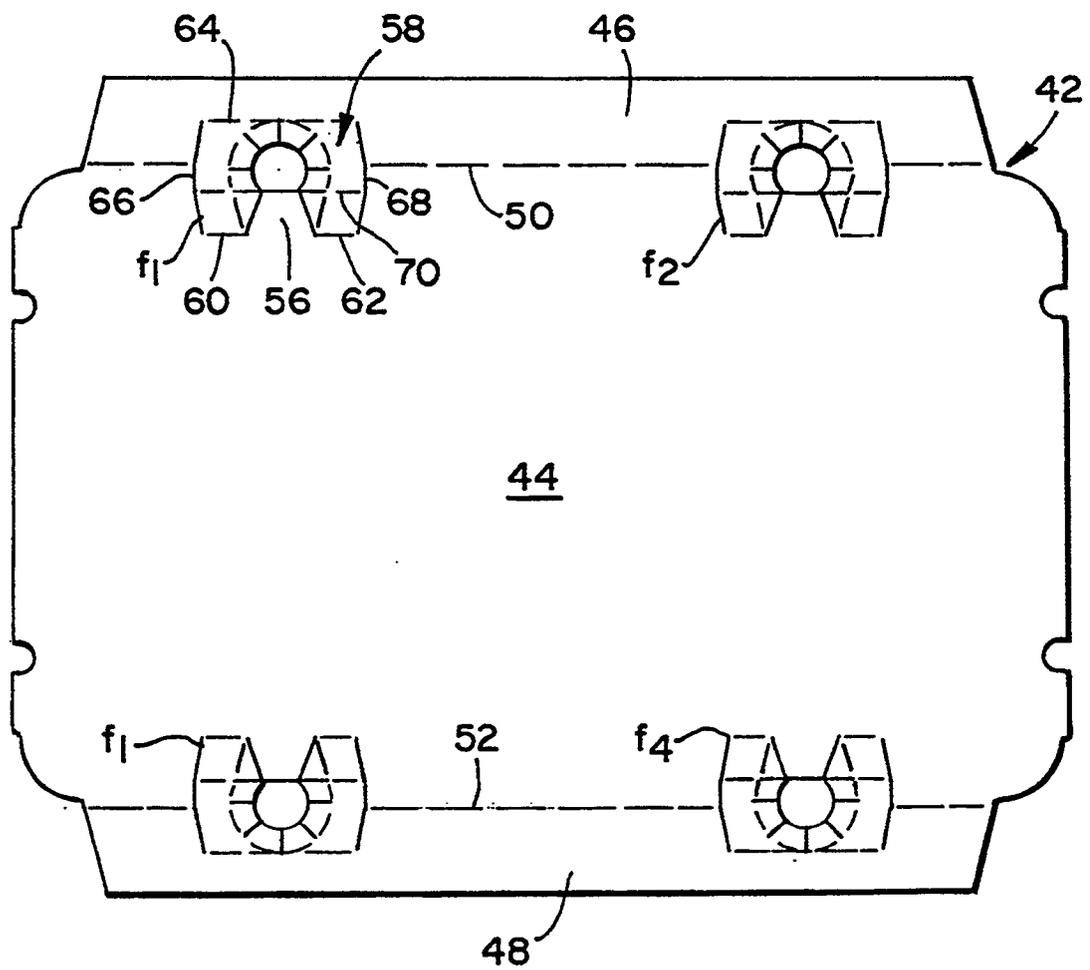


FIG. 4.

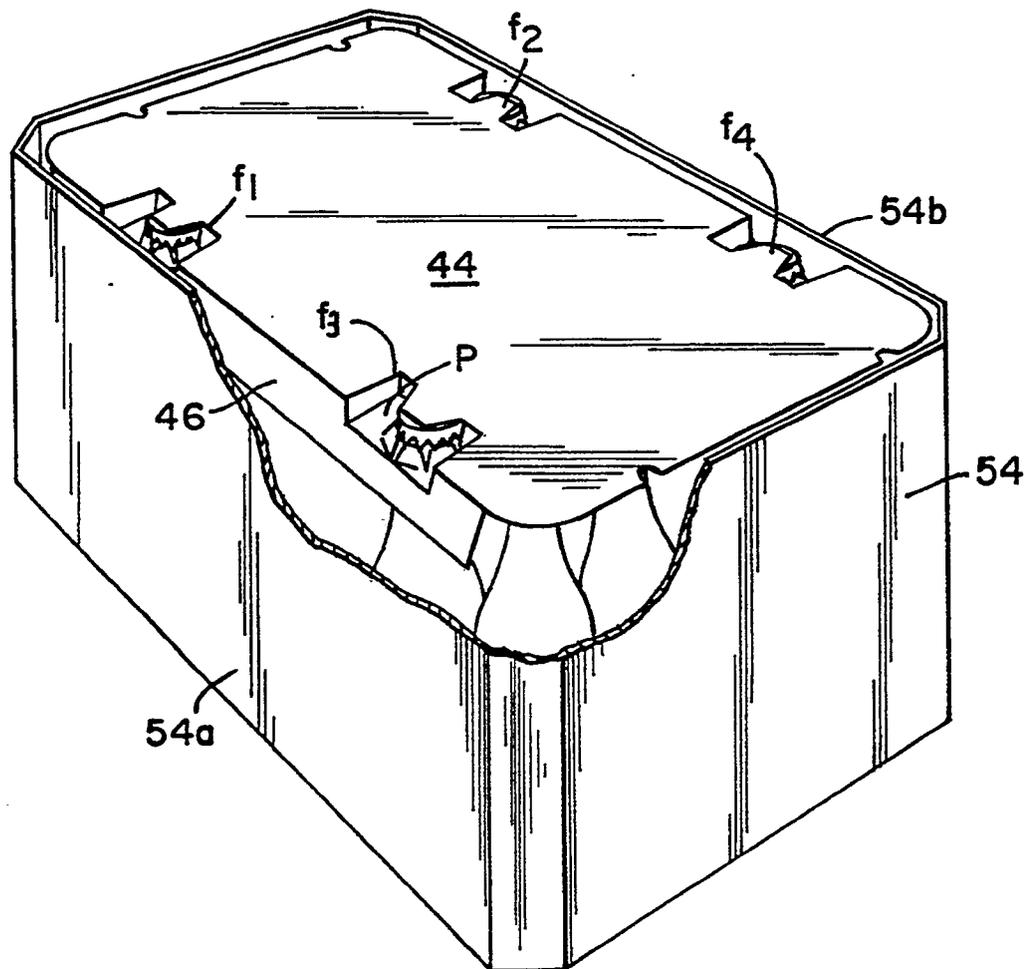


FIG. 5.

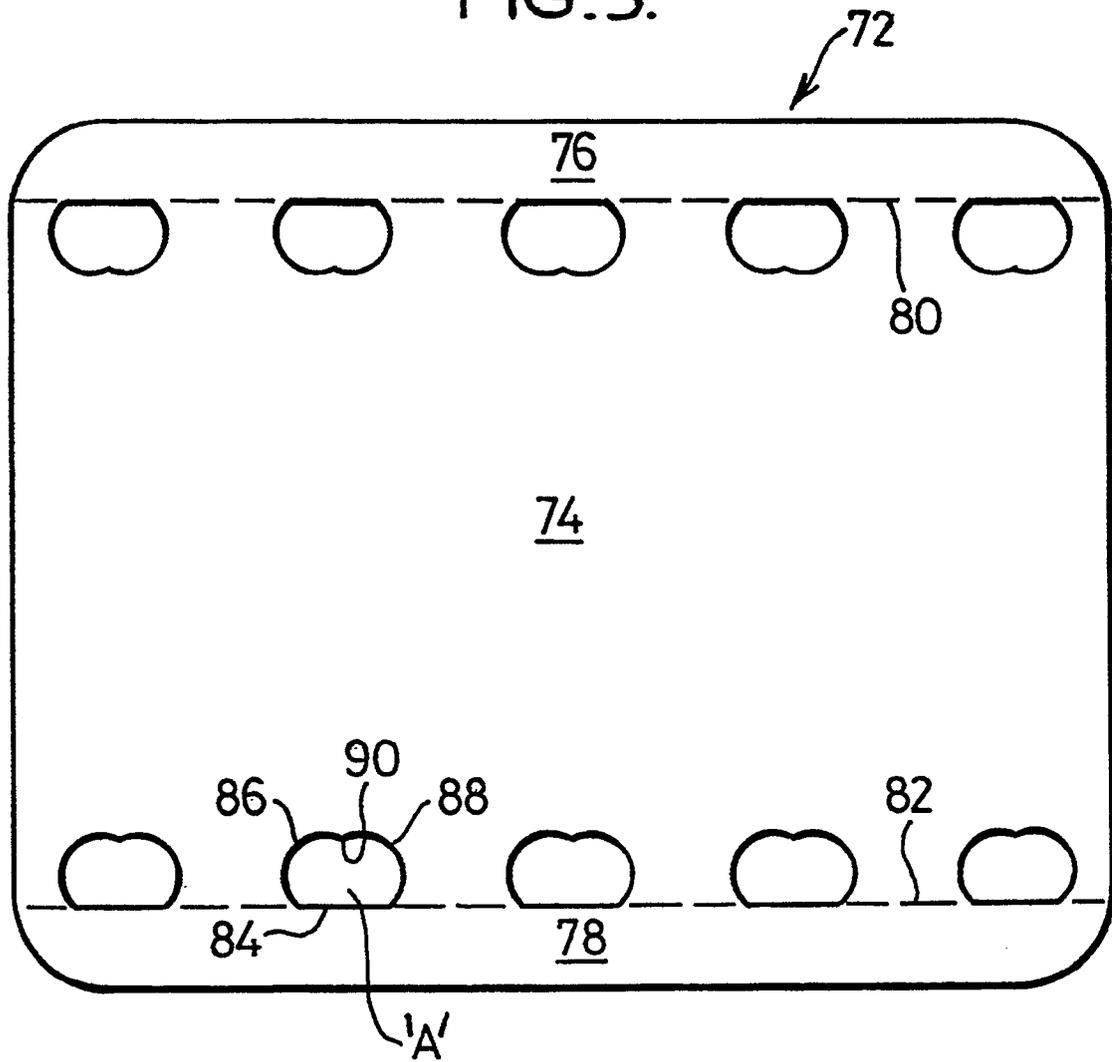
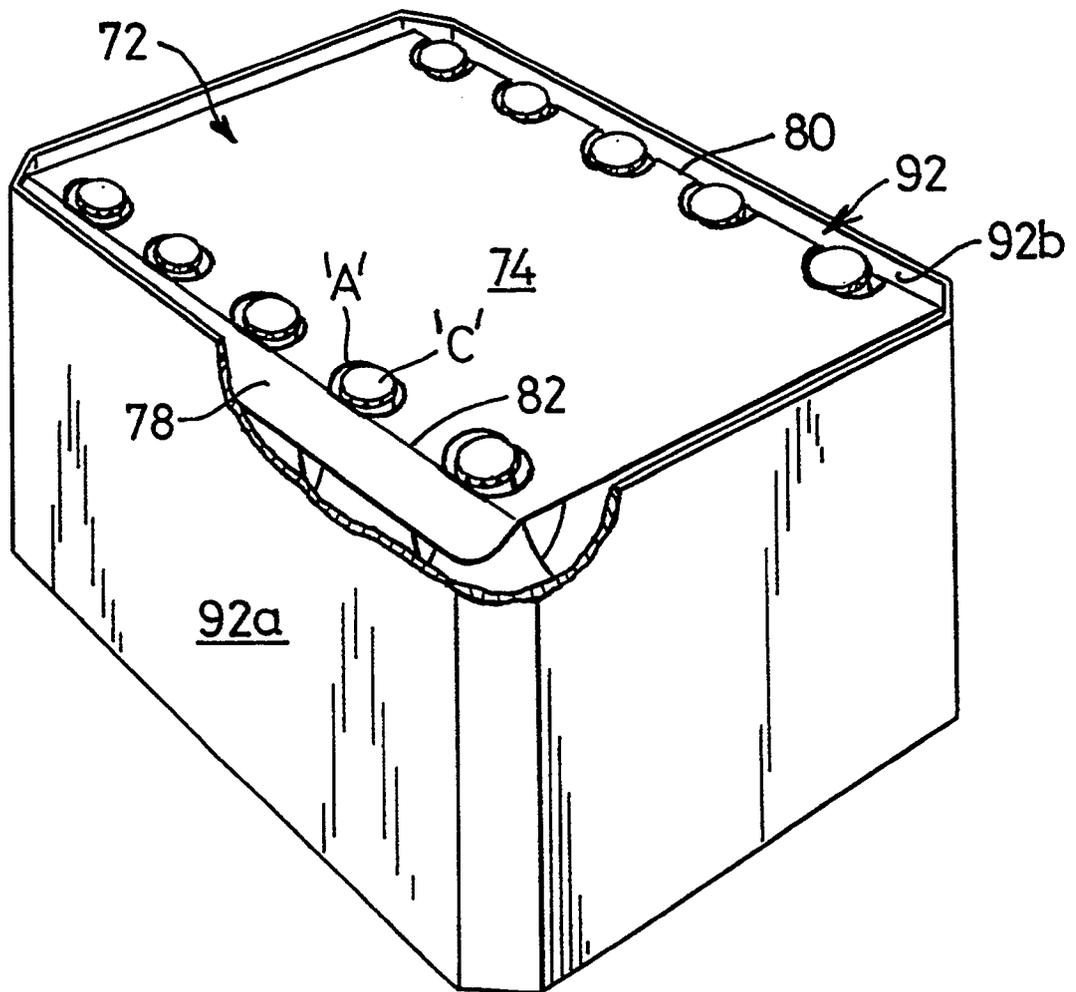


FIG. 6.





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EUROPEAN SEARCH REPORT

Application Number

EP 91 30 3385

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.5)
D,Y	EP-A-0051835 (RESAS) * figure 1 * ---	1-11	B65D1/38
Y	US-A-3674136 (FORRER) * figures 4, 7 * ---	1-4, 6, 9-11	
Y	US-A-3424368 (FORRER) * figure 1 * ---	1-3, 5, 6, 9-11	
Y	US-A-3462011 (FARQUHAR) * figures 1-3 * ---	1-3, 6-11	
D,A	EP-A-0217148 (REHBOCK) ---		
D,A	GB-A-406511 (MARDON) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B65D
Place of search	Date of completion of the search	Examiner	
BERLIN	09 JULY 1991	SPETTEL, J.D.M.L.	
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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