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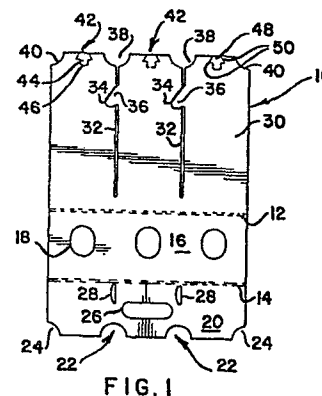
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⑤④ **Dividers for cartons.**

⑤⑦ A set of dividers for insertion into a carton to separate from one another the bottles in the carton is disclosed. The individual dividers (10) of the set are each slotted (32) so that they interlock. At least one of the dividers of the set is printed, punched and creased so that, after separation from one another, it can be re-assembled to form a carry pack. Alternatively, at least one of the dividers of the set can be perforated so that part of the divider can be detached from the remainder to form an advertising flash. In another form, at least one of the dividers of the set of dividers is printed and creased so that it can be folded into a tray or carton. In yet another form, at least one of the dividers of the set is printed and perforated so that part thereof can be removed to form a board for a board game, an index for a filing system, or the like.



"DIVIDERS FOR CARTONS"

THIS INVENTION relates to dividers for cartons.

It is conventional practice when shipping bottles to place them in a carton of corrugated board and to separate the individual bottles from one another by means of a set of  
5 dividers. If the carton is to contain twelve bottles then the set of dividers comprises two longitudinal dividers and three transverse dividers, the dividers being at right angles to one another and providing twelve vertically elongate compartments.

Generally, the dividers are simply discarded after  
.0 the bottles have been removed from the carton. In United States Specification No. 2 840 293, Paige suggested that the dividers should be printed and formed with score lines so that  
15 they could serve a secondary purpose, namely, that of a display stand for the bottles previously in the carton. Applicant is not aware of the proposals made in United States Specification No. 2 840 293 ever having been used commercially, and in those  
20 sections of the packaging industry with which he is familiar, the dividers are still discarded.

Very substantial amounts of cardboard and other materials are used to form dividers. Likewise, substantial amounts of cardboard and similar material are used in other facets of the packaging, advertising and retail industries.

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The object of the present invention is to provide dividers with a secondary function which will result in material that would otherwise be discarded, being used a second time with the result that fresh material is not required for such secondary purposes.

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According to one aspect of the present invention, there is provided a set of dividers for a carton, at least one of the dividers of the set being printed and perforated so that a printed area of the divider can be detached from the remainder of the divider.

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Said one divider can be scored so that it can be folded along the score.

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According to a further aspect of the present invention there is provided a set of dividers for a carton, at least some of the dividers of the set being scored so that they can be folded and being formed with means so that they can be connected to one another to form a carry pack.

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The set of dividers can comprise a first divider which is scored to sub-divide it into a middle panel and two end panels, the middle panel constituting a base for the carry

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pack and the end panels constituting walls of the carry pack, a  
second divider which is formed with a hole for receiving the  
fingers of a person lifting the eventually formed carry pack,  
and a third divider which includes apertures for passage of the  
5 necks of bottles and a hole for receiving the fingers of a  
person lifting the carry pack, the third divider being scored  
so that it can be folded along the scores to enable said holes  
of the second and third dividers to be brought into register  
with one another, and the dividers being formed with tabs and  
10 apertures whereby said second and third dividers can be  
connected to said first divider.

Preferably, said end panels of the first divider each  
have apertures punched therein and said second and third  
15 dividers are punched to form locking tabs which are receivable  
in said apertures of the first divider to secure the second and  
third dividers to the end panels of the first divider.  
Furthermore, said second divider can be transversely scored so  
as to form two panels each having a finger-hole therein, the  
20 finger-holes in said two panels being arranged to register with  
one another when said second divider is folded over on itself  
along the score of the second divider.

It is desirable for the third divider to include two  
25 transverse scores to form a middle panel and two end panels,  
said apertures being in said middle panel of the third divider  
and said finger-holes of the third divider being in one of the  
end panels.

According to another aspect of the present invention there is provided a divider comprising a first and a second part separable from one another along a dividing line, said divider including three scores, each score being transverse to said dividing line and sub-dividing each of said parts into two end panels and two intermediate panels, means for joining one end panel of one part to one end panel of the other part in overlapping relationship after separation of the parts from one another along said dividing line, at least one finger-hole in the other end panel of each part, said finger-holes being positioned so that they register when said other end panels are brought into face-to-face contact, and apertures in the intermediate panels that are adjacent said other end panels for receiving bottle necks, the other intermediate panels serving as wall panels.

Said dividing line can be constituted at least partly by a perforated line and said means can comprise apertures and locking tabs punched in said one end panels, the locking tabs being receivable in said apertures.

For a better understanding of the present invention, and to show how the same may be carried into effect, reference will now be made, by way of example, to the accompanying drawings in which,

Figures 1, 2 and 3 illustrate three cardboard blanks each of which constitutes one of the dividers of a set of dividers,

Figure 4 illustrates the blanks of Figures 1, 2 and 3 interlocked to form a box divider,

Figure 5 illustrates the blanks of Figures 1, 2 and 3 associated with one another in such manner as to form a composite blank from which a carry pack can be erected,

5 Figure 6 shows the composite blank of Figure 5 folded to form a carry pack,

Figure 7 illustrates another cardboard blank which forms a box divider,

Figure 8 illustrates a carry pack erected from the blank of Figure 7, and

10 Figures 9 and 10 illustrate further blanks each of which forms a box divider.

Referring firstly to Figure 1, the blank 10 illustrated is of cardboard or similar material and is sub-divided by two transverse crease lines 12 and 14. A panel 16 which is 15 bounded by the crease lines 12 and 14 has three approximately circular, equally spaced apertures 18 therein. Between the crease line 14 and the adjacent transverse end of the blank 10 there is a further panel 20. Two semi-circular cut-outs 22 20 and two quarter circular cut-outs 24 are provided along the free edge of the panel 20. At the centre of the panel 20 there is a hole 26 which is elongate in the direction of the width of the blank 10 and two slots 28 which are one on each side of the hole 26 and adjacent the crease line 14. It will be noted 25 that the slots 28 are elongate in the direction of the length of the blank 10.

Between the crease line 12 and the other transverse edge of the blank there is a panel 30 which is formed with two

elongate slits 32, the slits 32 extending from said other transverse end of the blank 10 to adjacent the crease line 12. Cuts 34 extending from the slits 32 give rise to two tongues 36.

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Two semi-circular cut-outs 38 and two quarter circular cut-outs 40 are provided along said other transverse edge, the cut-outs 38 being positioned so that they are bisected by the slits 32. Midway between adjacent cut-outs 38, 40 there are three tabs 42. Each tab 42 comprises a stem 44 which is joined along a crease line 46 to the remainder of the panel 30. Each stem 44 connects with an enlarged head 48 and each enlarged head 48 gives rise to a pair of locking portions 50 which lie on opposite sides of the head 48.

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Turning now to Figure 2, the blank 52 illustrated is sub-divided transversely into three panels 54, 56 and 58 by two transverse crease lines 60 and 62.

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Two slits 64 extend from one transverse edge of the blank 52 across the crease line 60 and into the panel 56, the slits 64 sub-dividing the panel 54 into three sections. The panel 54 is cut, in the same way as the panel 30, to provide tongues 66. Three substantially square apertures 68 are punched one in each of the three sections of the panel 54.

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The crease line 62 is not continuous but is divided into four short lengths by three arcuate cuts 70. The panel 58 has three substantially rectangular apertures 72 punched

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therein, the apertures 72 being equally spaced. Two slots  
74, similar in shape to the slots 28, are punched in the panel  
58 between the apertures 72 and the other transverse edge of  
the blank. It will be noted that, as with the slots 28 and  
5 slits 32, the slots 74 and slits 64 are aligned. Finally, in  
both transverse edges of the blank 52, there are two semi-  
circular cut-outs 76 and two quarter-circular cut-outs 78.

10 The blank 80 of Figure 3 has much in common with the  
blank of Figure 1 and, where applicable, like reference  
numerals with the addition of the suffix .1 have been used.  
The blanks differ in that the blank 80 does not include the  
second crease line 12 nor does it include the three apertures  
18. Instead, there is a second hole, designated 26.2, which  
15 is between the crease line 14.1 and the slits 32.1. The two  
panels into which the crease line divides the blank 80 are  
designated 16.1 and 20.1.

20 To form a carton or box divider the three blanks  
illustrated are interlocked (see Figure 4) by means of the  
slits 32, 64 and 32.1. For simplicity, only the slits 32, 32.1  
and 64 and not the other details of the blanks have been shown  
in Figure 4. Thus the blanks 10 and 80 can be interlocked by  
inter-engaging one of the slits 32 of the blank 10 with one of  
25 the slits 32.1 of the blank 80. The blanks are slid together  
until the inner ends of the slits 32, 32.1 contact and limit  
motion. The blank 80 now passes through the slit 32 and the  
blank 10 passes through the slit 32.1. By bringing the two  
blanks to a position in which they are at right angles to one



another it is possible to insert one of the tongues 36 of the blank 10, into one of the slots 28.1 of the blank 80, and one of the tongues 36.1 in one of the slots 28. Once the blanks have been interlocked in this way they remain at right angles to one another. Subsequently, the blank 52 can be associated with the interlocked blanks 10 and 80 in the same manner thereby to provide a divider as shown in Figure 4. It will be understood that a further blank is required, this being associated with the slots 32 and 64 thereby to provide a divider which, when inserted into a carton, provides nine vertical compartments each adapted to receive a bottle.

Once the bottles have been removed from the carton, the blank 10, the blank 52 and the blank 80 can be interlocked as shown in Figure 5 eventually to produce a carry pack as shown in Figure 6. The procedure is as follows. The tongues 36, 66 and 36.1 are withdrawn from the slots 28, 28.1 and 74 in which they are entered and the blanks slid apart. The panel 58 of the blank 52 is then overlapped with the panel 30 in such manner that the tabs 42 register with the apertures 72. The tabs 42 are then pushed through the apertures 72. It is necessary to bend over the locking portions 50 to permit the tabs 42 to pass through the apertures 72 and bending about the crease lines 46 is also necessary to permit the tabs to pass through the apertures 72. Once the tabs 42 are through the apertures 72 then the locking portions 50 spring back to their original positions and, as they now extend beyond the boundaries of the apertures 72, they cannot pass through the apertures again unless the locking portions 50 are deliberately bent over.

The panel 54 is then overlapped with that end of the blank 80 at which the tabs 42.1 are formed. The tabs 42.1 are interlocked with the apertures 68 in the same way as described above in relation to the tabs 42 and the apertures 72. The three blanks are thus interlocked with one another.

The composite blank is then folded about the crease lines 60 and 62 so that the panel 56 remains horizontal and forms a base panel and the panels 54 and 58 stand up to form wall panels. It will be understood that as the panels 54 and 58 are stood up, the blanks 10 and 80 stand up with them.

Three bottles (one of which is shown at B in Figure 6) are placed on the panel 56 at this stage. The blank 10 is then folded along the line 12 and again along the line 14 so that the panel 16 lies in a sloping plane above the base panel 56 and the panel 20 extends vertically upward from the panel 16. The necks of the bottles are passed upwardly through the apertures 18. The panel 20 is now juxtaposed to the upper part of the panel 16.1 and thereafter the blank 80 is folded on itself along the crease line 14.1 so that the panel 20 is sandwiched between the panels 20.1 and 16.1. The crease line 14.1 now forms the upper edge of the blank 80 and the panel 20.1 extends downwardly from this upper edge. The holes 26, 26.1 and 26.2 are in register. The three juxtaposed panels can be stapled and/or glued and/or otherwise secured to one another. The carry pack is then as illustrated in Figure 6.

Turning now to Figure 7, the blank illustrated is generally designated 82 and is divisible into two parts 84 and 86 by tearing along a perforated line 88.

Transverse crease lines 90, 92 and 94 divide the blank part 84 into four panels 96, 98, 100 and 102. Similarly, the crease lines 90, 92 and 94 divide the blank part 86 into four panels 104, 106, 108 and 110.

The panel 96 is punched to form two circular apertures 112 and a central slot 114. The panel 98 is punched to form two generally circular apertures 116.

A slit 118 extends across the panel 102 from one of the transverse edges of the blank and terminates adjacent the crease line 92. A cut 120 is provided which extends away from the slit 118 and gives rise to a tongue 122 which is equivalent to the tongues 36 shown in Figure 1.

The panel 102 is punched to form tabs 124 each of which tabs has a stem 126 and a head 128. Each stem 126 is joined to the remainder of the blank part 84 along a crease line 130 and the configuration of each tab is such as to provide locking portions 132.

The crease line 94 is not continuous across the portion 84 but is divided into short lengths by the above described slit 118 and by two arcuate cuts 134.

The blank part 86 is punched in much the same manner as the blank part 84 and, where applicable, the same reference numerals with the addition of the suffix .1 have been used. The only difference between the two blank parts is that the panel 110 is not punched to form tabs 124 but is provided with two rectangular apertures 136.

Finally, aligned with perforated line 88 is a further slot 114.2 and a further slit 118.2.

The blank 82 illustrated is used, in conjunction with four other blanks, to form a divider structure for a carton which is intended to hold twelve bottles. Three of the additional blanks, inverted with respect to the blank illustrated, are interlocked therewith by means of the slits 118, 118.1 and 118.2 in the same manner as described above with reference to Figures 1 to 6. The fourth blank extends parallel to the blank 82 and is interlocked with the three blanks which extend at right angles to the illustrated blank 82.

Once the bottles have been taken out of the carton and the divider structure is thus no longer required, the blanks can be separated from one another. Subsequently, each blank is split into its component parts 84 and 86 by tearing it along the perforated line 88. The panel 110 is then overlapped with the panel 102 and tabs 124 pushed through the apertures 136. The tabs thus connect the blank parts 84, 86 together end-to-end and in slightly overlapped relationship.

The blank part 86 is then folded about the crease line 94 so that the panel 108 extends upwardly from the panel 110. Likewise, the blank part 84 is folded about the crease line 94 so that the panel 100 extends upwardly from the panel 102. Two bottles are then placed on the composite base constituted by the panels 102 and 110. The blank parts are then folded again along the crease lines 90 and 92 until the panels 96 and 104 are face-to-face and the panels 98 and 106 are horizontal or substantially horizontal. As the blank is folded in this way, the necks of the bottles are passed through the apertures 116 and 116.1 from below. The face-to-face panels 96 and 104 are then stapled and/or glued to one another with the holes 112 in register with the holes 112.1. The carry pack now has the configuration shown in Figure 8. With the relative dimensions illustrated, the panels 100 and 108 tend to lean outwardly somewhat from the composite base panel although in Figure 8 they are shown as being vertical.

One face of each of the blanks illustrated can be printed with material pertaining to the products in the bottles. For example, there can be advertising material, material indicating the manufacturers of the product etc.

Turning now to Figure 9, this shows a blank which is perforated along the line 140 so that an advertising 'flash' 142 can be detached from the remainder of the blank. Such flashes are used in a retail store for advertising the product. The material printed on the flash can include, for example, some reference to the nature and quality of the goods and/or an indication as to price.

In Figure 10 the blank is perforated so that an arrow-shaped advertising 'flash' 144 can be detached from the remainder of the blank. One part of one edge of the flash is constituted by a crease line 146 so that a tab 148 can be  
5 folded over to form a stand for the flash.

The material printed on the blank can be of any desired nature and in a further embodiment a board for a board game is printed on the blank. If the board does not incor-  
0 porate the entire area of the blank, then the blank can be perforated so that the board for the board game can be detached from the remainder of the blank. In yet another construction, the blank can be creased, perforated and printed so as to  
enable it to be erected into a tray or box and in yet another  
.5 construction the blank is printed to enable a part detached therefrom to form an index for a filing system.

## CLAIMS:

1. A set of dividers for a carton, at least one of the dividers of the set being printed and perforated so that a printed area of the divider can be detached from the remainder of the divider.
2. A set of dividers according to Claim 1, in which said one divider is scored so that it can be folded long the score.
3. A set of dividers for a carton, at least some of the dividers of the set being scored so that they can be folded and being formed with means so that they can be connected to one another to form a carry pack.
4. A set of dividers according to Claim 3, and comprising a first divider which is scored to sub-divide it into a middle panel and two end panels, the middle panel constituting a base for the carry pack and the end panels constituting walls of the carry pack, a second divider which is formed with a hole for receiving the fingers of a person lifting the eventually formed carry pack, and a third divider which includes apertures for passage of the necks of bottles and a hole for receiving the fingers of a person lifting the carry pack, the third divider being scored so that it can be folded along the scores to enable said holes of the second and third dividers to be brought into register with one another, and the dividers being formed with tabs and apertures whereby said second and third dividers can be connected to said first divider.

5. A set of dividers according to Claim 4, in which said end panels of the first divider each have apertures punched therein and said second and third dividers are punched to form locking tabs which are receivable in said apertures of the first divider to secure the second and third dividers to the end panels of the first divider.

6. A set of dividers according to Claim 4 or 5, in which said second divider is transversely scored so as to form two panels each having a finger-hole therein, the finger-holes in said two panels being arranged to register with one another when said second divider is folded over on itself along the score of the second divider.

7. A set of dividers according to Claim 4 or 5, in which the third divider includes two transverse scores to form a middle panel and two end panels, said apertures being in said middle panel of the third divider and said finger-holes of the third divider being in one of the end panels.

8. A divider comprising a first part and a second part separable from one another along a dividing line, said divider including three scores, each score being transverse to said dividing line and sub-dividing each of said parts into two end panels and two intermediate panels, means for joining one end panel of one part to one end panel of the other part in overlapping relationship after separation of the parts from one another along said dividing line, at least one finger-hole in the other end panel of each part, said finger-holes being



positioned so that they register when said other end panels are brought into face-to-face contact, and apertures in the intermediate panels that are adjacent said other end panels for receiving bottle necks, the other intermediate panels serving as wall panels.

9. A divider according to Claim 8, in which said dividing line is at least partly constituted by a perforated line thereby to facilitate separation of said parts.

10. A divider according to Claim 8 or 9, in which said means comprises apertures and locking tabs punched in said one end panels, the locking tabs being receivable in said apertures.

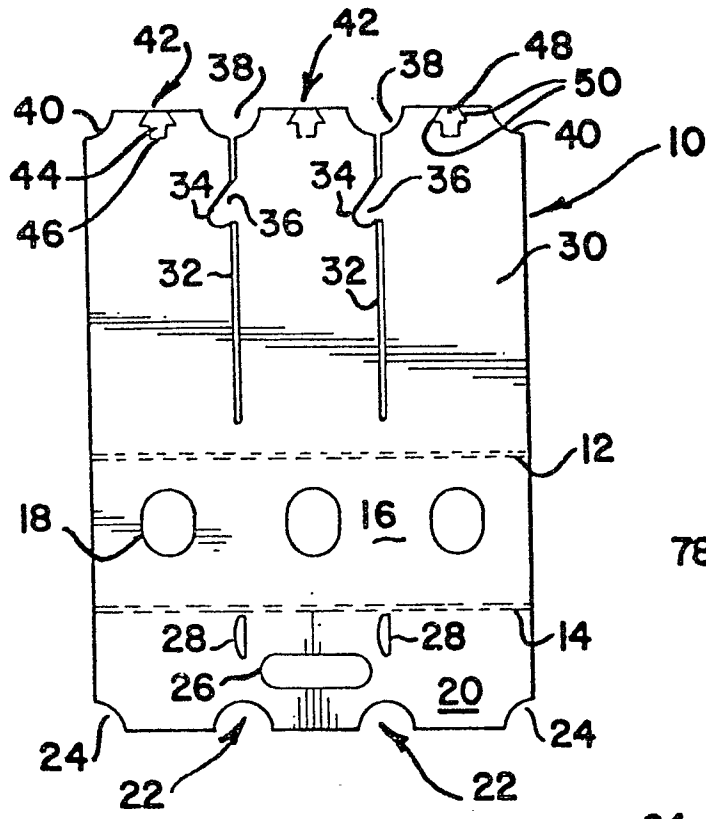


FIG. 1

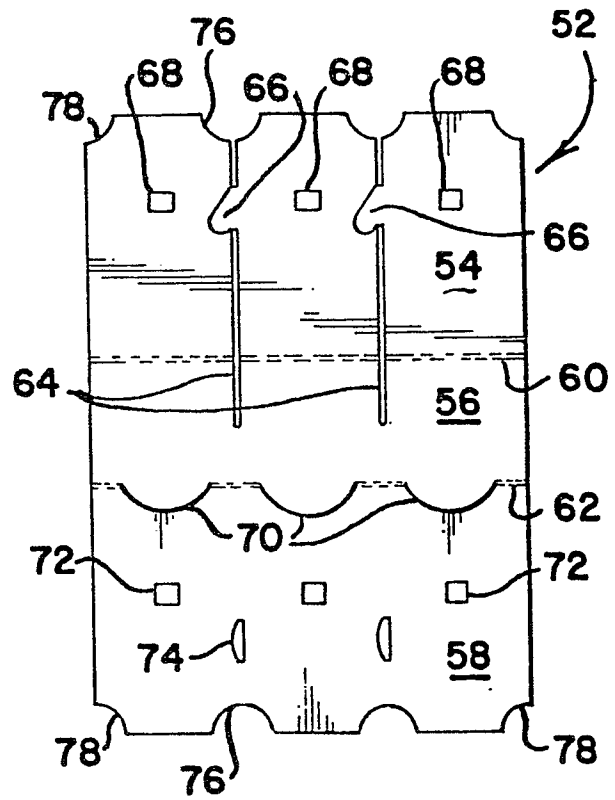


FIG. 2

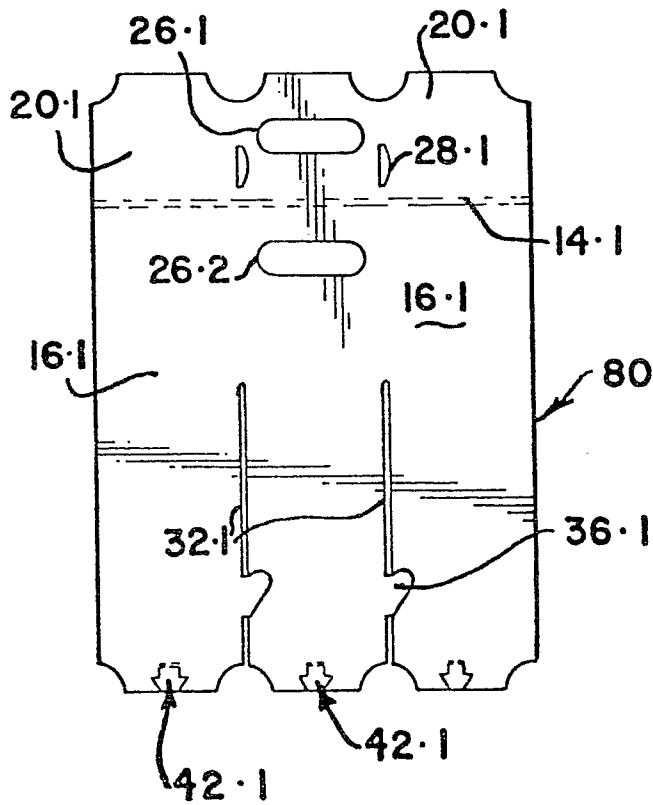


FIG. 3

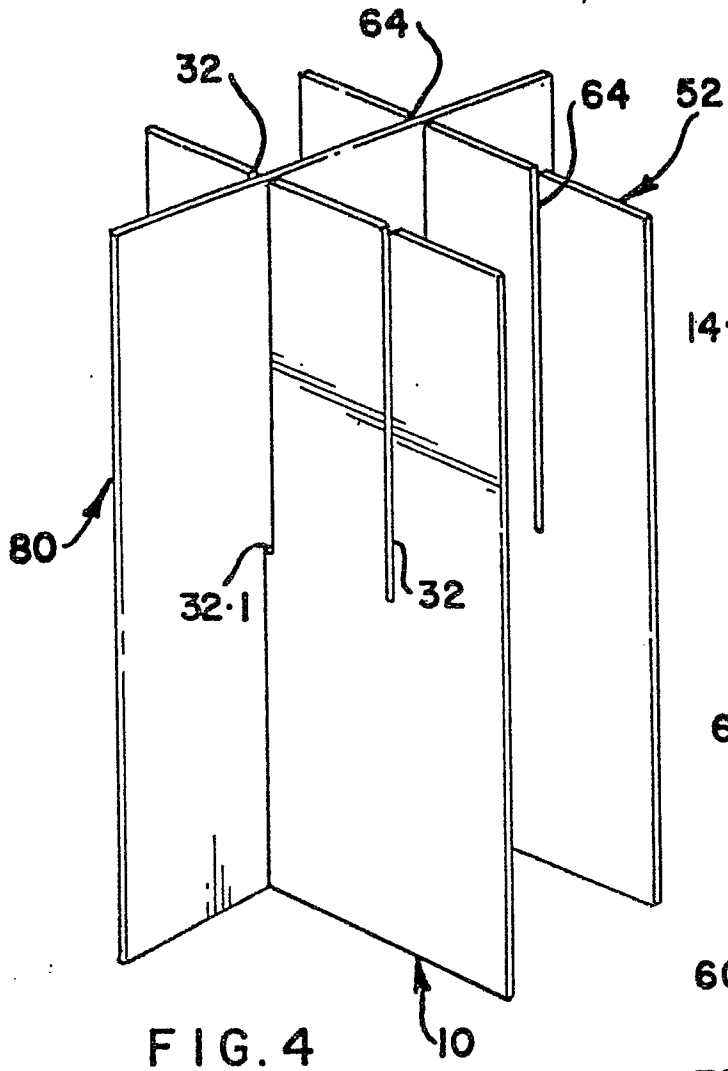


FIG. 4

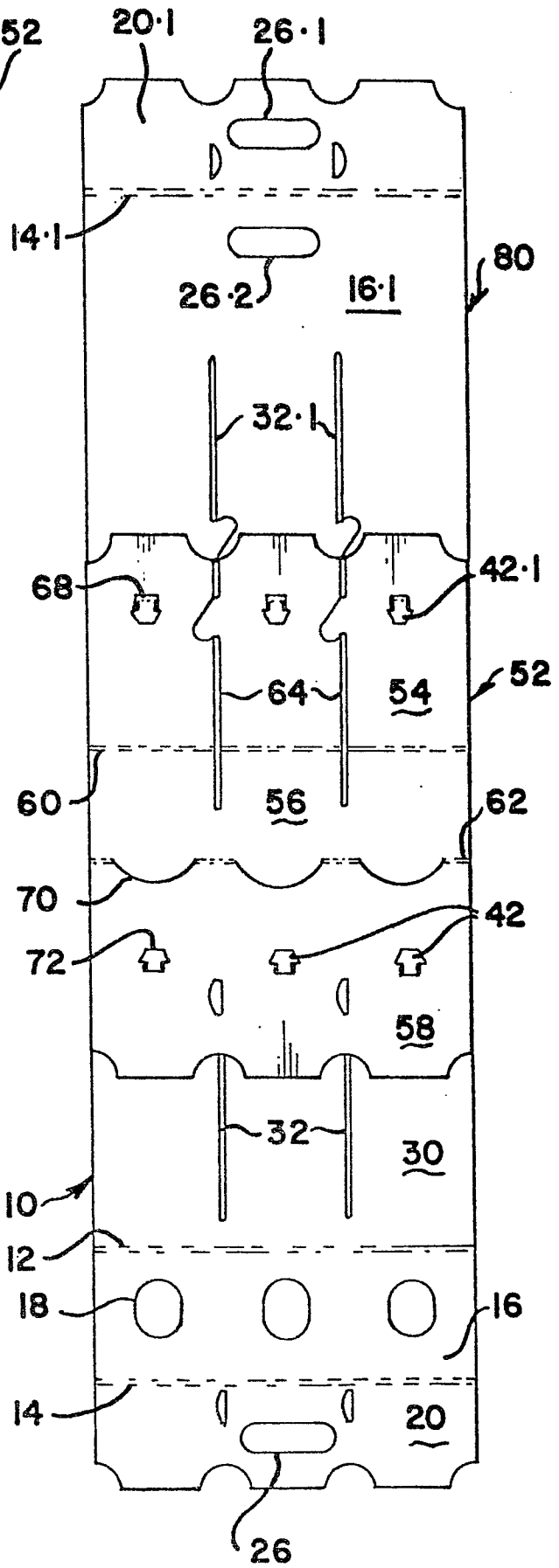


FIG. 5

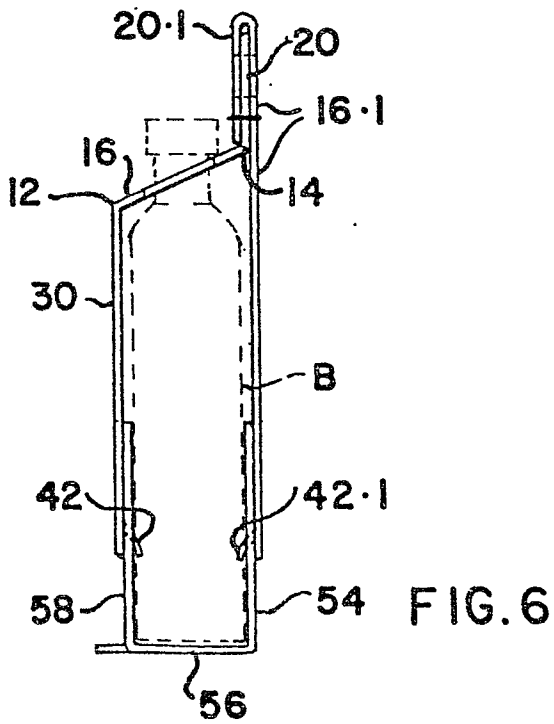


FIG. 6

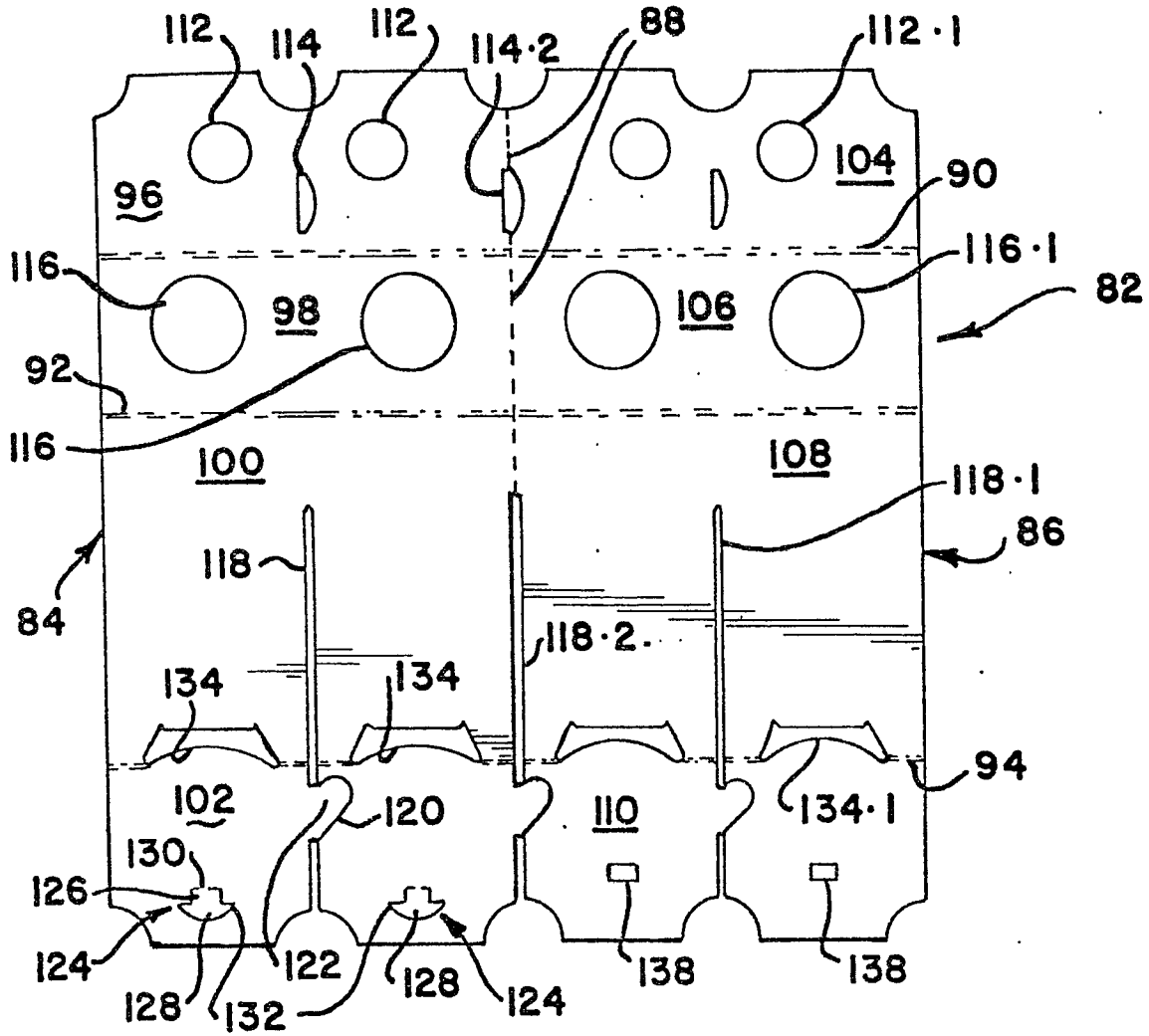


FIG. 7

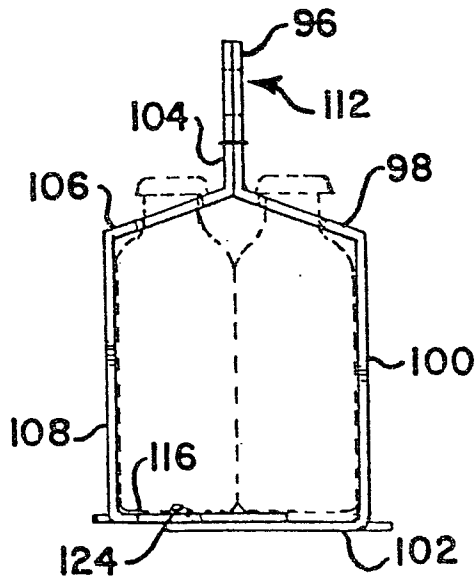


FIG. 8

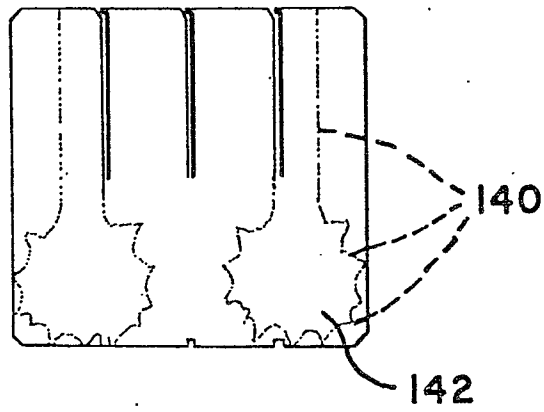


FIG. 9

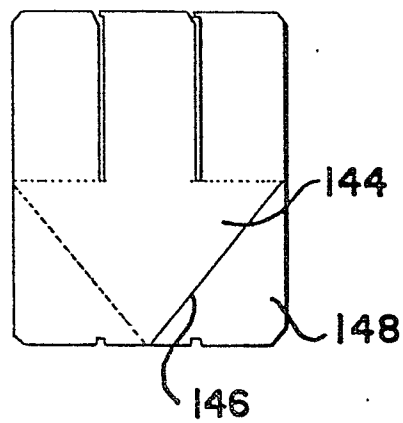


FIG. 10



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	<p><u>DE - A - 1 486 638</u> (SCHENLEY IND.) + Page 10, line 16ff; fig. 15 + --</p>	1,2	B 65 D 5/50
A	<p><u>US - A - 2 993 618</u> (FEDERAL PAPER BOARD C.) --</p>	3	
D,A	<p><u>US - A - 2 840 293</u> (PAIGE) -----</p>		
			TECHNICAL FIELDS SEARCHED (Int.Cl. 3)
			<p>B 65 D 5/00 B 65 D 25/00 B 65 D 71/00 B 31 B 11/00</p>
			CATEGORY OF CITED DOCUMENTS
			<p>X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons</p>
			&: member of the same patent family, corresponding document
X	The present search report has been drawn up for all claims		
Place of search	Date of completion of the search	Examiner	
VIENNA	30-01-1981	JANC	