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(54) **Display container**

(57) A display container 10 comprises four trays 12, 14, 16, 18 which are stacked one on top of the other. The trays are coupled together by means of a coupling arrangement which allows them to move from a transit position where the trays are stacked directly on top of

each other and the base of one tray closes off the tray below it to a display position where the trays are offset from one another. The coupling arrangement includes a non-return mechanism which prevents relative movement of the trays back from the display position to the transit position.

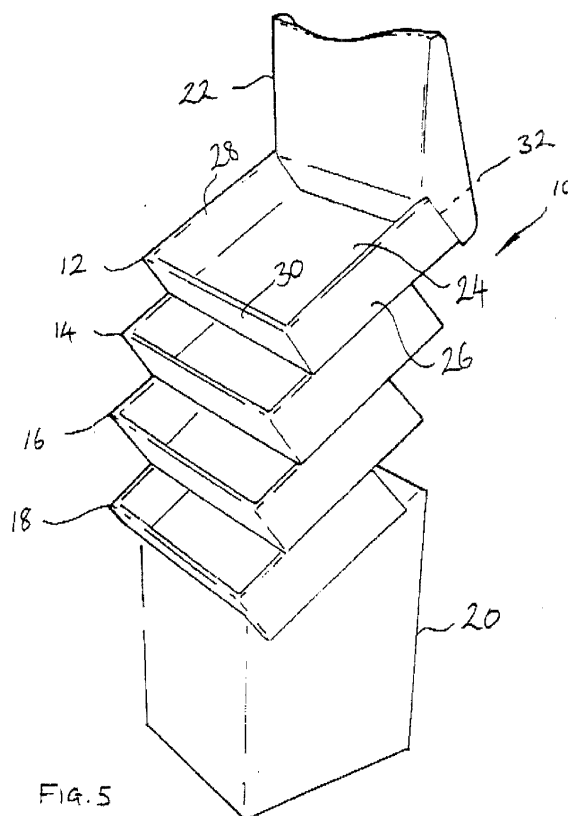


FIG. 5

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Description

[0001] The invention relates to a display container and particularly to but not exclusively limited to a point of sale display container made from folded sheet material, such as corrugated cardboard.

[0002] Point of sale display containers generally comprise a stand supporting a rack or tray which holds the goods to be displayed. Some point of sale display containers are made from folded sheets of corrugated card or plastic which must be assembled by the retailer on site. In such a case the products held by the point of sale display containers must be loaded onto the container at the retail site. It is known to provide point of sale display containers with the produce required to be displayed in the container ready loaded by the supplier so that the retailer is spared that task. Such arrangements generally comprise separate boxes containing the produce which are then assembled together on site so as to produce a completed point of sale display container. The suppliers of the produce are keen to make assembly and/or loading of the container as straight forward as possible for the retailer to make the retailer more willing to display their point of sale display containers to best advantage.

[0003] It is an object of the invention to provide an improved display container.

[0004] According to a first aspect of the invention there is provided a display container comprising first and second trays coupled together so as to allow relative movement between the trays from a transit position to a display position and no return means to prevent relative movement of the trays from the display position to the transit position.

[0005] In that way, the first and second trays can be loaded with produce by the supplier and the produce and display container can be shipped to the retailer fully loaded. The retailer can then move the first and second trays relative to each other so that the first and second trays are arranged in a display position where the produce in the trays is accessible by customers and the provision of the non-return means locks the display container in the display position.

[0006] The first and second trays are preferably coupled together by coupling means comprising a projection protruding from the first tray received in a guideway formed in the second tray so that the trays are moveable relative to each other while coupled together from the transit position to the displayed position.

[0007] According to a second aspect of the invention there is provided a display container comprising first and second trays coupled together by coupling means, the coupling means comprising a projection protruding from the first tray received in a guideway formed in a second tray, the trays being moveable relative to each other while coupled together from a transit position to a display position.

[0008] In a preferred embodiment of the second as-

pect of the invention non-return means may be provided to prevent movement of the trays from the display position to the transit position.

[0009] According to a preferred embodiment of either aspect the projection comprises a tab having first and second tongues extending from opposite sides of the tab. The guideway preferably comprises a channel. The channel preferably includes an opening arranged to receive a tab.

[0010] The non-return means preferably comprises a non-return member arranged in the guideway in such a way that the projection can move past the member when the trays are moved towards the display position but once in the display position the projection abuts the non-return member to prevent return movement of the trays into the transit position. Where the guideway comprises a channel the non-return member may be arranged within the channel.

[0011] Where the guideway comprises a channel having an opening to receive the tab, the tab having first and second tongues projecting therefrom, the channel preferably extends beyond the opening so that part of the channel is covered by a covering wall. In such a case, the first tongue of the tab may be arranged, in a transit position of the container, beneath the covering wall so as to retain the first and second trays together. In a preferred embodiment the channel extends beyond the other edge of the opening and the second tongue of the tab is arranged, in a display position of the container, beneath a covering wall on the otherside of the opening so as to retain the first and second trays together in the display position of the container.

[0012] Preferably, each tray comprises a base and an upstanding wall made from sheet material. The upstanding wall preferably comprises a piece of sheet material folded in two.

[0013] A channel is thereby provided by the two plies of the sheet material forming the wall. The opening is preferably formed by cutting away part of the folded edge of the wall. In that way, the tab is received between the two plies and where the tongues are provided on the tab the folded edge of the wall acts in co-operation with one or other of the tongues to retain the first and second trays together in either the transit or display positions. In such a case, the non-return member preferably comprises a further piece of sheet material arranged between the two plies of the wall member. In that way, the tab is received through the opening into the space between the non-return member and one of the plies of the wall of the tray and in moving to the display position the tab moves past the non-return member and is pushed into the space beyond the non-return member by the inherent resilience of the folded wall. The end of the tab is then abutted by the non-return member which will prevent return movement of the tab along the channel and thus prevent movement of the trays from the display position to the transit position.

[0014] In a preferred embodiment each tray is made

from a sheet of foldable material folded into the form of a tray. Preferably the tray comprises a substantially rectangular base with a front wall, side walls and a rear wall. The rear wall is preferably openable to allow filling of the tray with stock from the rear. Preferably the rear wall is hinged to the base and has tabs at each end thereof which are received in respective apertures formed in the side walls to retain the rear wall in the closed position in normal use.

[0015] The trays of the container are preferably arranged such that in the transit position the base of one container acts as a lid for a container arranged below it. A lid member may be provided for the uppermost tray. The lid member may include printed matter thereon attaining to the product stored in the container. The upper tray may include means to receive the lid member in the display position of the container so that the lid member can form part of the display.

[0016] A box may be provided to receive the trays in the transit position for transit. The box preferably includes means to support the trays in the display condition. In that way, the retailer receives a closed box having trays full of produce stacked in the transit position whereby the base of an upper tray acts as a lid for a lower tray. On unpacking the container the trays can be slid relative to each other until the non-return means engages to prevent return movement of the trays out of the display position. The trays in the display position can then be mounted on the support means on the box which then acts as a stand for the display container and the lid member can be arranged on the upper tray to form part of the display.

[0017] A display container in accordance with the invention will now be described in detail by way of example and with reference to the accompanying drawings, in which:

Fig. 1A is a side elevation of part of two trays of a display container in accordance with the invention showing the coupling arrangement;

Fig. 1B is a plan view of the part of the lower tray shown in Fig. 1A;

Fig. 1C is a section through the parts of the tray shown in Fig. 1A taken on line I-I in Fig. 1A;

Fig. 2A is a similar view to Fig. 1A with the two trays coupled together;

Fig. 2B is a plan view of the lower tray showing the tab of the upper tray with the non-return means shown shaded for clarity;

Fig. 2C is a section taken on lines II-II in Fig. 2A;

Fig. 3A is a view similar to Figs. 1A and 2A showing the coupling arrangement in the transit position of the trays;

Fig. 3B is a view similar to Figs. 1B and 2B showing the trays in the transit position;

Fig. 3C is a section taken on line III-III in Fig. 3A;

Fig. 4A is a view similar to Figs. 1A, 2A and 3A showing the trays in the display position;

Fig. 4B is a plan view similar to Figs. 1B, 2B and 3B showing the trays in the display position;

Fig. 4C is a section taken on line IV-IV in Fig. 4A;

Fig. 5 is a perspective view of the display container in accordance with the invention; and,

Fig. 6 is a side elevation of the container of Fig. 5.

[0018] A display container 10, shown in Figs. 5 and 6, comprises four trays 12,14,16, 18 which are stacked one on top of each other and the stack of trays is arranged on a support 20. The trays are marginally offset from one another so as to give a staggered appearance and the top tray 12 has a display board 22 arranged as a rear part thereof.

[0019] Each tray 12,14,16,18 comprises a rectangular base 24 with upstanding side walls 26,28 and an upstanding front wall 30 and rear wall 32 (not shown). Each tray 12,14,16,18 is made from a flat sheet of foldable material, such as corrugated card or corrugated plastics. Each wall 26,28,30,32 comprises two plies of material and the upper edge of each wall comprises the folded edge in between the two plies.

[0020] The trays 12,14,16,18 are coupled together by means of a coupling arrangement described in more detail below. In Fig. 5 the trays are arranged in the display position. The coupling arrangement so as to lock the trays in the display position. When the container 10 is arranged in the display position as shown in Figs. 5 and 6 it is located at an appropriate site in a retail store, for example adjacent the point of sale where the produce located in the trays 12,14,16,18 can best be displayed. The rear walls 32 of each trays 12,14,16,18 may be opened as shown in fig. 6 to allow restocking of trays from the rear from the point of sale display container 10. The arrangement of trays shown in Figs. 5 and 6 is advantageous since loading from the rear will cause the product to slide towards the front of the tray and therefore be exposed to customers. Tilting of the trays so that the rear edge is higher than the front edge provides a straightforward "self-feeding" system so that the front of the trays always appear well stocked with produce.

[0021] In the transit position the trays 12,14,16,18 remain coupled together but the front walls 30 thereof lie flush with each other, as do the rear walls 32. In that way the base 24 of tray 12 acts as a lid for tray 14 and so on. The display board 22 can be removed from tray 12 and the display board 22 is preferably dimensioned so as to enable it to act as a lid for the tray 12. With the lid in place on tray 12 and the trays 12,14,16,18 in the transit position, produce cannot escape from the trays. The tray assembly is then loaded into a transit container which on arrival at the retailers forms the support 20. Thus when a retailer receives the display container the entire package is contained within support 20. The trays 12,14,16,18 can be removed from the support 20 en bloc and slid relative to one another until each tray reaches the display position. The non-return means (to be described later) prevents the trays returning to the

transit position inadvertently. Once all the trays are arranged in the display position the assembly of trays can be arranged on the support 20 and the lid can be removed from the upper tray 12 and installed at the rear of the tray 12 to act as a display board 22.

[0022] The coupling arrangement mentioned above will now be described in detail.

[0023] Fig. 1A shows part of the trays 12,14. In particular, part of the side wall 26 is shown. It will be appreciated that a similar arrangement of features is provided on opposition side wall 28.

[0024] A tab 34 projects from the lower edge of side wall 26 of the tray 12. The tab 34 carries a first tongue 36 extending in the direction of a front wall of the tray 12 and a second tongue 38 extending in the direction of the rear wall 32 of the tray 12. The rearwardly extending tongue 38 is longer than forwardly extending tongue 36.

[0025] As stated above, the side wall 26 along with the other walls of each tray 12,14,16,18 comprises two plies of sheet material 40,42 which are folded over to form a folded edge 44. The folded edge 44 forms the upper edge of wall 26 as shown in Fig. 1A. An opening 46 is cut from the folded edge 44. The opening 46 is slightly longer than the length of the two tongues 36,38 of the tab 34 so as to enable the tab 34 to be inserted through the opening 46 into the space between the plies 40,42 of the wall 26 of the tray 14. To allow more straightforward insertion of tab 34 into the opening 46, the opening 46 is cut down slightly further into the outer ply 40 of each wall than the inner ply 42 (see Figs, 1c, 2c, 3c, 4c).

[0026] A non-return member 48 comprising a piece of sheet material from which the tray 14 is formed is arranged in the space between the two plies 40,42 of the wall 26 of the tray 14. The non-return member 48 is located such that the distance between the end of the non-return member 48 and the rearmost edge of the opening 46 is only slightly greater than the distance from the edge of the forwardly extending tongue 36 to the rear edge of the tab 34.

[0027] Figs. 1a to 1c show the trays 12,14 spaced slightly apart prior to coupling of the trays. The trays are aligned so that the tab 34 with the tongues 36, 38 is arranged above the opening 46 formed in the upper folded edge 44 of the wall 26 of the tray 14. In that position, the geometry of the trays is such that the front of lower tray 14 protrudes slightly from upper tray 12 but not sufficiently to allow produce in the lower tray to escape.

[0028] Figs. 2a to 2c show the trays 12, 14 in the coupled position. The tab 34 is pushed through the opening 46 in the upper edge 44 of the wall 26 until the tongues 36,38 are received in the space between the plies 40, 42 of the wall 26. The forwardly extending tongue 36 lies alongside the non-return member 48. The plies 40, 42 of the wall 26 are caused to bulge slightly by the insertion of the tongue 36 between the non-return member 48 and the ply 40 of the wall 26.

[0029] Figs. 3a to 3c show the trays 12, 14 in the tran-

sit position. The tab 34 slides along in the space between the plies 40, 42 until the forward edge of the tab 34 abuts the foremost edge of the opening 46. The forwardly extending tongue 36 extends beneath the folded edge 44 of the wall 26 so as to prevent the trays 12, 14 from being pulled apart.

[0030] Figs. 4a to 4c show the trays in the display position. the tab 34 is slid rearwardly of the tray 14 until the rearward edge of the tab 34 abuts the rearmost edge of the opening 46. The tongue 38 extends beneath the folded edge 44 of the wall 26 to prevent the trays 12, 14 from being pulled apart. The tongue 36 moves beyond the non-return member 48 and is pushed into the gap between the plies 40, 42. The natural resilience of the corrugated card or plastic wall 26 urges the tab 34 substantially into alignment with the non-return member. The front edge of the tongue 34 abuts the rear edge of the non-return member 34 thereby preventing return movement of the tab 34. Thus the trays are "locked" in the display position in that they will not inadvertently return to the transit position. It is possible, though, by careful, deliberate manipulation to return the trays to the transit position shown in figs. 3a to 3c or the coupling position shown in figs. 2a to 2c whereby the trays can be separated.

[0031] In use, the supplier loads the trays 12, 14, 16, 18 with produce and stacks the trays in the coupling position. The trays are moved to the transit position and loaded into boxes which may later form the support 20 as shown in figs. 5 and 6. On arrival at the retailers premises the trays are unloaded and the retailer arranges the stack on the support 20 before sliding the trays into the display position

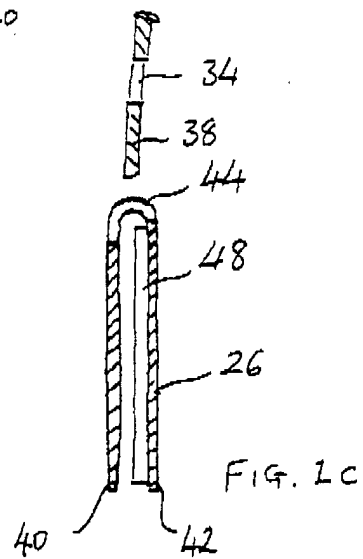
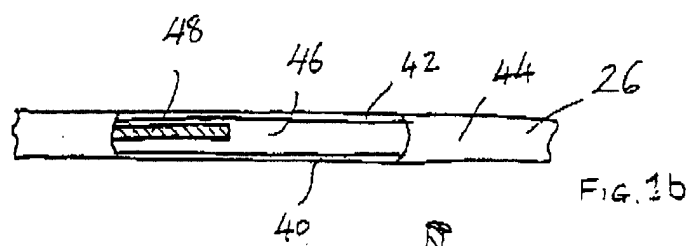
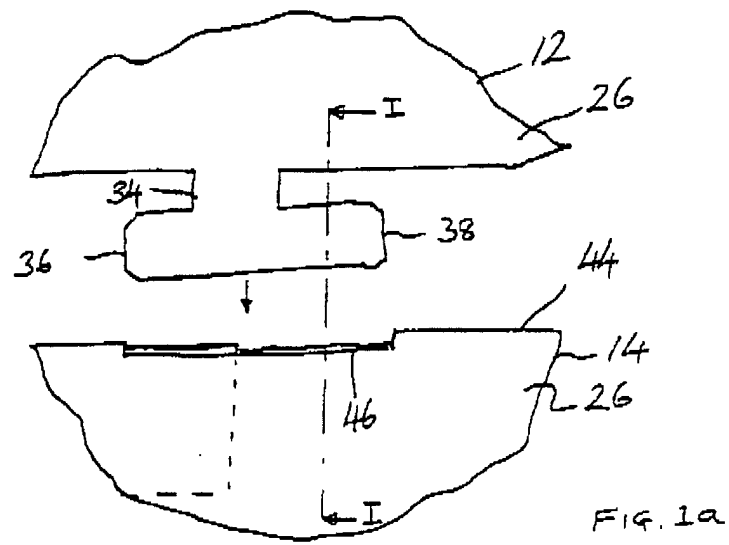
[0032] It will be appreciated that each tray 12, 14, 16, 18 is provided with a tab 34 extending from the lower edge of each side wall 26, 28 thereof and that each side wall 26,28 thereof also includes an opening cut in its upper edge and non-return means as described above. Alternatively, one tray could be provided with tabs on upper and lower edges and the trays above and below may include openings arranged to receive the tabs, i.e. the upper tray has an opening in the lower edge of its sidewall and vice versa.

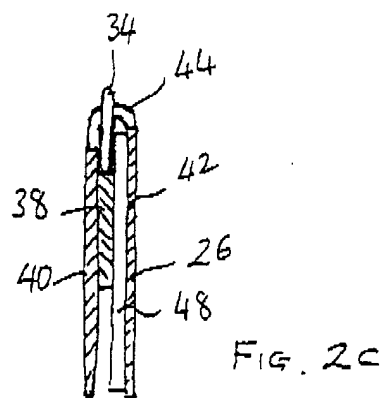
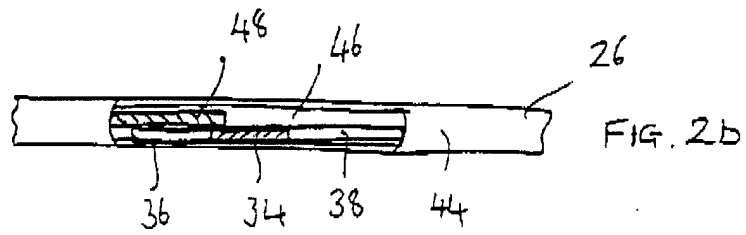
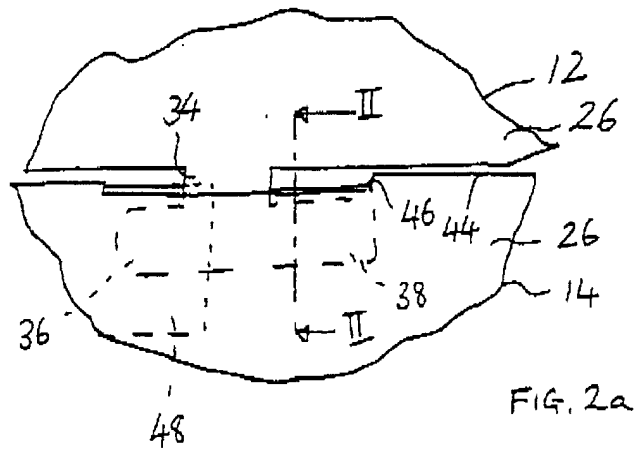
[0033] Each tray may include one or more divider walls (not shown) running from the rear wall to the front wall thereof to allow segregation of products within each tray.

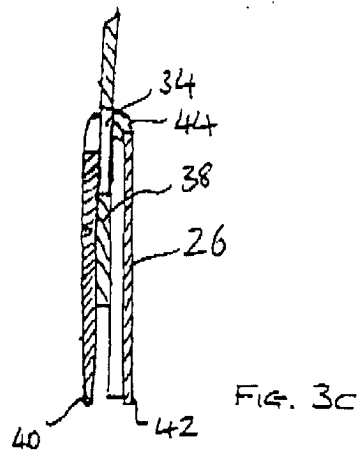
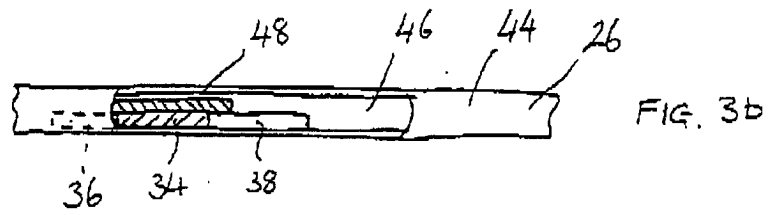
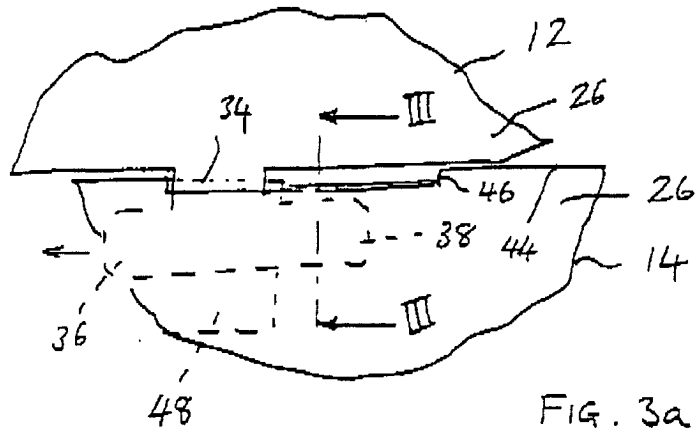
Claims

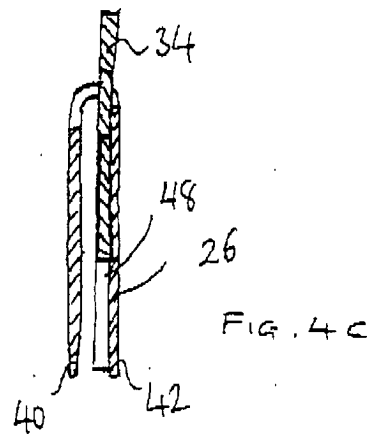
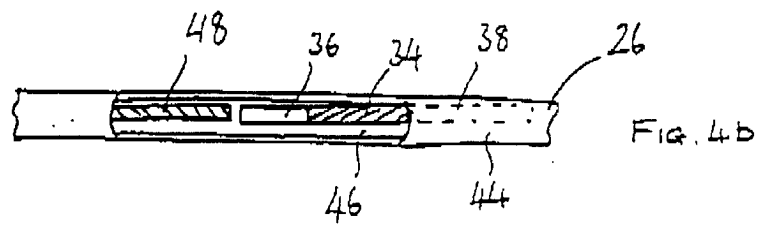
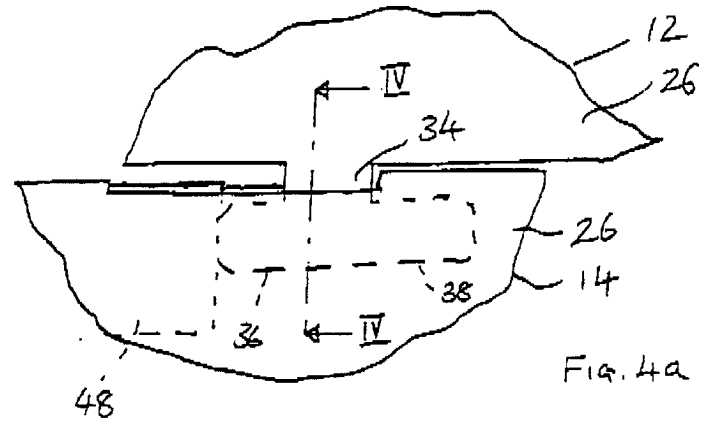
1. A display container comprising first and second trays coupled together so as to allow relative movement between the trays from a transit position to a display position and non-return means to prevent relative movement of the trays from the display position to the transit position.

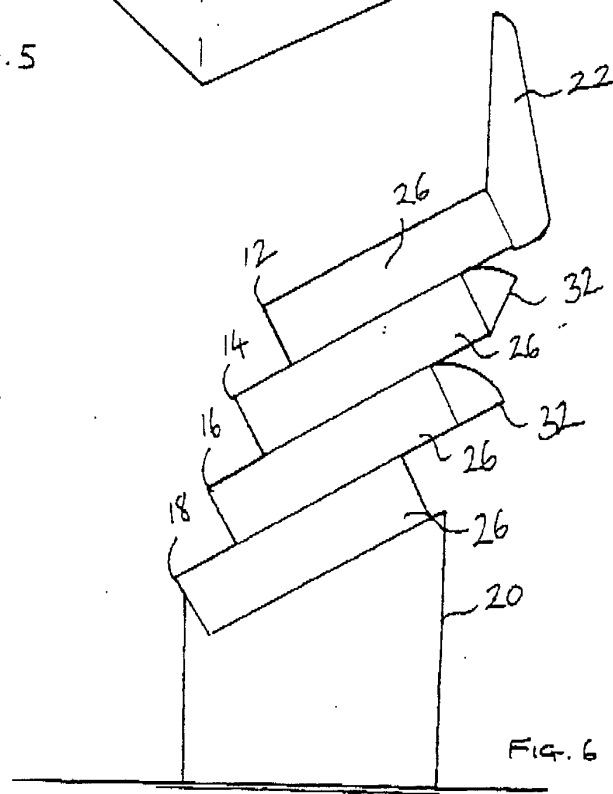
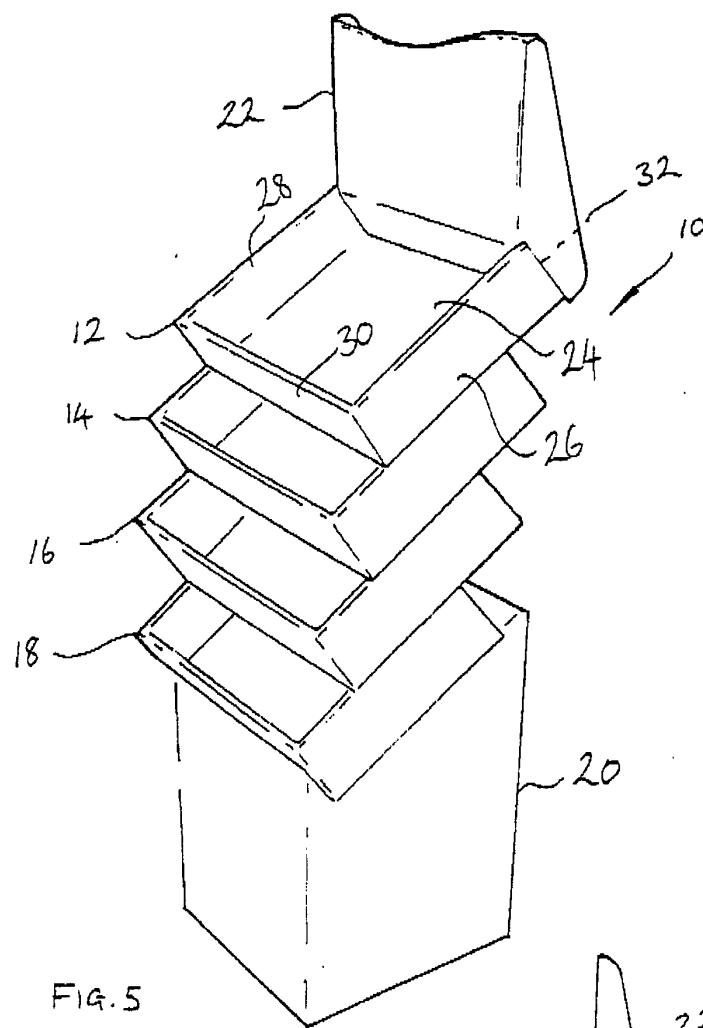
2. A display container according to claim 1 in which the first and second trays are coupled together by coupling means comprising a projection protruding from the first tray received in guideway formed in the second tray so that the trays are moveable relative to each other while coupled together from the transit position to the displayed position. 5
3. A display container comprising first and second trays coupled together by coupling means, the coupling means comprising a projection protruding from the first tray received in a guideway formed in a second tray, the trays being moveable relative to each other while coupled together from a transit position to a display position. 10 15
4. A display container according to claim 3 in which non-return means is provided to prevent movement of the trays from the display position to the transit position. 20
5. A display container according to claim 2, 3 or 4 in which the projection comprises a tab having first and second tongues extending from opposite sides of the tab. 25
6. A display container according to any of claims 2 to 5 in which the guideway comprises a channel.
7. A display container according to claim 6 in which the channel includes an opening arranged to receive a tab. 30
8. A display container according to claim 1, 2 or 4 in which the non-return means comprises a non-return member arranged in the guideway in such a way that the projection can move past the member when the trays are moved towards the display position but once in the display position the projection abuts the non-return member to prevent return movement of the trays into the transit position. 35 40
9. A display container according to claim 6 or 7 in which the non-return member is arranged within the channel. 45
10. A display container according to any preceding claim in which the guideway comprises a channel having an opening to receive the tab, the tab having first and second tongues projecting therefrom, the channel extending beyond the opening so that part of the channel is covered by a covering wall. 50
11. A display container according to claim 10 in which the first tongue of the tab is arranged, in a transit position of the container beneath the covering wall so as to retain the first and second trays together. 55
12. A display container according to claim 10 in which the channel extends beyond the other edge of the opening and the second tongue of the tab is arranged, in a display position of the container, beneath a covering wall on the other side of the opening so as to retain the first and second trays together in the display position of the container.
13. A display container according to any preceding claim in which each tray comprises a base and an upstanding wall made from sheet material.
14. A display container according to claim 13 in which the upstanding wall comprises a piece of sheet material folded in two.
15. A display container according to claim 14 in which the opening is formed by cutting away part of the folded edge of the wall.
16. A display container according to claim 15 in which the tab is received between the two plies and where the tongues are provided on the tab the folded edge of the wall acts in co-operation with one or other of the tongues to retain the first and second trays together in either the transit or display positions.
17. A display container according to claim 16 in which the non-return member comprises a further piece of sheet material arranged between the two plies of the wall member.
18. A display container according to any preceding claim in which each tray is made from a sheet of foldable material folded into the form of a tray.
19. A display container according to any preceding claim in which the tray comprises a substantially rectangular base with a front wall, side walls and a rear wall.
20. A display container according to claim 19 in which the rear wall is openable to allow filling of the tray with stock from the rear.
21. A display container according to any preceding claim in which the trays of the container are arranged such that in the transit position the base of one container acts as a lid for a container arranged below it.
22. A display container according to any preceding claim in which a box is provided to receive the trays in the transit position for transit and the box includes means to support the trays in the display condition.













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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 0542

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.7)
X	DE 19 18 304 B (BANNER METALS INC) 18 February 1971 (1971-02-18)	1-4, 13, 19, 21	A47F5/11 A47B87/02
Y	* the whole document *	5, 14, 18, 22	
A	---	6-12, 15-18, 20	
Y	US 5 894 933 A (LLOYD MICHAEL M ET AL) 20 April 1999 (1999-04-20) * abstract; figure 4 *	5, 14, 18, 22	
X	US 4 550 837 A (SIMMONS RICHARD J) 5 November 1985 (1985-11-05) * abstract; figure 2 *	1-4	
X	DE 91 08 966 U (WERBEFORM GMBH) 2 October 1991 (1991-10-02) * figures *	1-4	
A	DE 90 12 231 U (EXPEDIT A/S, HADSTEN, DK) 24 January 1991 (1991-01-24) * figure 3 *	5	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A47F A47B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 10 April 2001	Examiner Gavaza, B
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document 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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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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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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10-04-2001

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