An expandable display system that has an expanded position for displaying products and a compact position for efficient shipment. The expandable display system includes a product tray and a graphic panel, with the graphic panel being configured to rotate around the product tray so that the expandable display system can move from the compact position to the expanded position and vice versa. In certain embodiments, the expandable display system includes a locking mechanism that prevents the graphic panel from separating from the product tray when the graphic panel rotates around the product tray as the expandable display system moves from the compact position to the expanded position.
EXPANDABLE DISPLAY SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to and is a continuation-in-part of U.S. application Ser. No. 12/014,873 filed Jan. 16, 2008, the entirety of which is hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] Embodiments of this invention relate to expandable display systems having a compact position and an expanded position.

BACKGROUND

[0003] Retail product sales are driven by many factors. Product demand, quality, and pricing are some factors that contribute to retail product sales. Other factors may include product advertising and product location in the retail environment. Many product display devices are designed to take advantage of valuable retail space and their location. Display devices may also be designed to utilize advertising space creatively to include product graphics, indicia, and trademarks.

[0004] Display devices and product ideally should be easy to set up, requiring minimal time and effort from retail employees. Some retail establishments require that displays meet particular size specifications to maximize the advertising and display space for the product. However, display size specifications are often greater than the merchandise space requirements, which leads to waste in materials and space during shipping and storage.

[0005] It is thus desirable to provide a display unit that is easy to ship, easy to set up, and provides efficient delivery of product to the end-consumer. It is further desirable to provide display units that feature graphics, while also providing the additional display space on the unit, if needed. It is further desirable to provide a display unit that uses a minimal amount of material and requires a minimal amount of space during shipping.

BRIEF SUMMARY OF THE INVENTION

[0006] Embodiments of this invention include an expandable display system including a product tray and an associated graphic panel. According to one embodiment of this invention, the graphic panel is connected to the product tray, allowing the graphic panel to rotate around the product tray to expand and contract the overall size of the expandable display system. In this manner, the expandable display system has a compact position and an expanded position. In certain embodiments, the expandable display system includes a locking mechanism that prevents the graphic panel from separating from the product tray when the graphic panel rotates around the product tray as the expandable display system moves from the compact position to the expanded position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a perspective view of the expandable display system according to one embodiment of the invention, shown in the compact position.

[0008] FIG. 2 is an alternate perspective view of the expandable display system of FIG. 1, shown in the compact position.

[0009] FIG. 3 is top plan view of the expandable display system of FIG. 1, shown in the compact position.

[0010] FIG. 4 is front plan view of the expandable display system of FIG. 1, shown in the compact position.

[0011] FIG. 5 is a left side plan view of the expandable display system of FIG. 1, shown in the compact position.

[0012] FIG. 6 is a right side plan view of the expandable display system of FIG. 1, shown in the compact position.

[0013] FIG. 7 is a perspective view of the expandable display system of FIG. 1, shown in the expanded position.

[0014] FIG. 8 is an alternate perspective view of the expandable display system of FIG. 1, shown in the expanded position.

[0015] FIG. 9 is a top plan view of the expandable display system of FIG. 1, shown in the expanded position.

[0016] FIG. 10 is a front plan view of the expandable display system of FIG. 1, shown in the expanded position.

[0017] FIG. 11 is a left side plan view of the expandable display system of FIG. 1, shown in the expanded position.

[0018] FIG. 12 is a right side plan view of the expandable display system of FIG. 1, shown in the expanded position.

[0019] FIG. 13 is a back perspective view of the expandable display system of FIG. 1, as the system is moved from the expanded position to the compact position.

[0020] FIG. 14 is an exploded front perspective view of the display tray and graphic panel of the expandable display system of FIG. 1.

[0021] FIG. 15 is a top plan view of the blank from which the graphic panel of the expandable display system of FIG. 1 is formed.

[0022] FIG. 16 is a top plan view of the blank from which the display tray of the expandable display system of FIG. 1 is formed.

DETAILED DESCRIPTION

[0023] Embodiments of the invention now will be described more fully with reference to the drawings.

[0024] FIGS. 1-16 show various views of an expandable display system of this invention. As shown in the non-limiting embodiment of FIGS. 1-14, the expandable display system 10 comprises: a product tray 12 and a graphic panel 14. The product tray 12 holds and dispenses the retail product while the graphic panel 14 provides additional space for advertising and graphics promoting the retail product. The graphic panel 14 is rotatably associated with the product tray 12, the benefits of which will be discussed below.

[0025] In one embodiment, the assembled product tray 12 includes a bottom panel 18, a back panel 20, a front panel 22, a side panel 24, and an opposite side panel 26. The bottom panel 18 connects the front panel 22 to the back panel 20. The side panels 24 and 26 extend from the back panel 20. The side panels 24 and 26 form a housing for the product. The front panel 22 extends vertically from the bottom panel 18 to retain retail product within the product tray 12, while allowing the retail product to be visible to a consumer.

[0026] The blanks illustrated herein are formed from paper, paperboard and/or corrugated paperboard material, although other materials may be used if desired. Unless otherwise stated, within the borders of an illustration of a blank, broken
or dotted lines indicate fold lines, score lines or other lines of weakness, while solid lines indicate cuts or apertures.

[0027] The assembled product tray 12 may be formed from a blank 50 shown in FIG. 16. The blank 50 includes an inner front panel 54, an outer front panel 56, two flap 64, two outer side panels 66 and 67, two inner side panels 68 and 69, two back side panels 72, a bottom panel 74, an outer back panel 78, an inner back panel 76, slots 62, 80, 84, 90, and tabs 60, 82, 86, and 90.

[0028] The front panel 22 of the assembled product tray 12 is formed by folding the inner front panel 54 along fold lines 58 onto the outer front panel 56 and capturing the tabs 60 into the slots 62. Front flaps 64 may be folded along score lines 96 between inner front panel 54 and outer front panel 56 to provide additional structural support for assembled front panel 22. The side panel 24 of the assembled product tray 12 may be formed by folding the inside panel 68 along fold lines 92 onto the outer side panel 66 and capturing the tabs 86 within the slots 84. The side panel 26 of the assembled product tray 12 may be formed by folding the inner side panel 69 along fold lines 104 onto the outer side panel 67 and capturing the tabs 88 within the slots 90. Optionally, the back side panels 72 may be folded along fold lines 100 and used to provide additional structural support for the assembled side panels 24 and 26. The assembled back panel 20 may be formed by folding the inner back panel 76 along fold lines 102 onto the outer back panel 78, and capturing the tabs 82 within the slots 80.

[0029] As shown in the figures, the assembled graphic panel 14 includes a top panel 28, a front panel 30, a side panel 32, and locking tabs 34 and 36 (FIG. 14) that are configured to cooperate with the product tray 12. In some embodiments, as shown in FIGS. 7 and 14, the length A of the front panel 30 of the graphic panel 14 is substantially the same as the length B of the side panel 26 of the product tray 12 so that the front panel 30 is capable of resting against the side panel 26 when the expandable display system is in the compact position.

[0030] The assembled graphic panel 14 may be formed from a blank 250, shown in FIG. 9. In one embodiment, the blank 250 includes the top panel 28, the front panel 30, the side panel 32, and locking tabs 34 and 36. Although both locking tabs 34 and 36 are illustrated, use of both locking tabs is not necessary. Optionally, blank 250 can include bottom panel 252, two bottom flaps 254, support 266, flap 268, tab 270, and various fold lines 256, 258, 260, 262, 264, and 272. To assemble graphic panel 14, a side panel 32 folds along fold line 264 so that the side panel is perpendicular to the front panel 30. Similarly, top panel 28 folds along fold line 262 so that the top panel is perpendicular to front panel 30. If the optional bottom panel 252 is present, bottom panel 252 folds along fold line 258 so that the bottom panel is perpendicular to front panel 30. Optionally, bottom flaps 254 can be folded along fold lines 256. Locking tabs 34 and 36 fold along fold line 260. Support 266 folds along fold line 272 and cooperates with flap 268 and tab 270 to secure side panel 32 and top panel 28 together.

[0031] The assembled graphic panel 14 is adapted to be used with the product tray 12. Specifically, locking tabs 34 and 36 of the graphic panel are sized and shaped to correspond with openings in the assembled product tray 12 to prevent disengagement of the graphic panel 14 from the product tray 12 as the expandable display system moves from the compact position to the expanded position, and vice versa. In some embodiments, locking tab 34 is shaped and sized to be retained between the inner front panel 54 and the outer front panel 56 (as described above, inner front panel 54 and outer front panel 56 together form front panel 22 of the assembled display tray 12). Similarly, in some embodiments, locking tab 36 is shaped and sized to be retained between the outer side panel 67 and the inner side panel 69 (as described above, outer side panel 67 and inner side panel 69 together form side panel 26 of the assembled display tray 12). Because locking tabs 34 and 36 are retained within the folds of the assembled product tray 12, the graphic panel 14 is capable of rotating about locking tabs 34 and 36 without disengaging from the product tray 12.

[0032] Specifically, the graphic panel 14 can rotate around the product tray 12 so that the expandable display system 10 has an expanded position and a compact position. In the compact position, the front panel 30 of the graphic panel 14 rests against the side wall 26 of the product tray 12. To move from the compact position into the expanded position, the graphic panel 14 rotates around locking tabs 34 and 36 so that the graphic panel 14 swings out from the side panel 26 of the product tray 12 until it is in the same plane as the front panel 22 of the product tray 12.

[0033] The top panel 28, the front panel 30, and side panel 32 of the graphic panel 14 may optionally include graphics, trademarks, and/or other promotional materials to advertise the retail product stored in the product tray 12.

[0034] The rotating graphic panel 14 and the product tray 12 eliminates production materials and reduces transportation costs. The product tray 12 and the graphic panel 14 are sized to meet the dimensions required by the retail stores, reducing the space needed to ship and store a single expandable display system 10. Additionally, less material is needed for the shippers and fillers used to store and contain the expandable displays 10 during shipping. Because less material is used to make the expandable display systems, more display systems can be shipped per shipping pallet. Therefore, less shipping pallets are required per trailer, which reduces the number of trailers needed to ship the expandable displays. This results in transportation cost savings.

[0035] To display retail products contained within the expandable display system 10, the graphic panel 14 rotates along locking tabs 34 and 36 to move to the expanded position. Because the expandable display system 10 has a compact position and an expanded position, the material costs are lowered because the display systems 10 ship in the compact position, but can expand to the expanded position to fill space as might be required by retail stores. This leads to more efficient shipping and storage of the expandable display system 10. The expandable display system also achieves cost savings in labor and assembly costs. Because the expandable display system 10 is expandable, the smaller shipping size does not affect the ability of the expandable display system 10 to expand to larger retail store requirements once it is on the shelf.

[0036] Changes and modifications, additions and deletions may be made to the structures and methods recited above and shown in the drawings without departing from the scope or spirit of the invention and the following claims.

1. A display system comprising:
   (a) a product tray for housing a plurality of product;
   (b) a graphic panel rotatably engaged with the product tray and capable of rotating between a compact position and an expanded position; and
(c) a locking mechanism that prevents the graphic panel from separating from the product tray as the graphic panel moves from the compact position to the expanded position.

2. The display system of claim 1, wherein the locking mechanism is at least one tab associated with the graphic panel.

3. The display system of claim 1, wherein the product tray further comprises a front panel.

4. The display system of claim 3, wherein the product tray further comprises at least one side panel, the at least one side panel comprising an inner side panel and an outer side panel.

5. The display system of claim 4, wherein the locking mechanism is a tab retained between the inner side panel and the outer side panel.

6. The display system of claim 4, wherein the locking mechanism associated with the graphic panel allows the graphic panel to rotate around the product tray.

7. A method of forming a display system comprising:
   (a) providing a product tray for housing a plurality of product;
   (b) providing a graphic panel rotatably engaged with the product tray and capable of rotating between a compact position and an expanded position; and
   (c) engaging a locking mechanism to prevent the graphic panel from separating from the product tray as the graphic panel moves from the compact position to the expanded position.

8. The method of forming a display system of claim 7, further comprising providing a locking mechanism that is at least one tab associated with the graphic panel.

9. The method of forming a display system of claim 7, further comprising providing a product tray having a front panel.

10. The method of forming a display system of claim 9, further comprising providing a product tray having at least one side panel, the at least one side panel comprising an inner side panel and an outer side panel.

11. The method of forming a display system of claim 10, further comprising retaining the locking mechanism within the inner side panel and the outer side panel.

12. The method of forming a display system of claim 7, further comprising rotating the graphic panel around the product tray to move the display system between the compact position and the expanded position.

13. A display system comprising:
   (a) a product tray for housing a plurality of product, the product tray having a front panel and a side panel, the side panel comprising an inner side panel and an outer side panel;
   (b) a graphic panel rotatably engaged with the product tray and capable of rotating between a compact position and an expanded position; and
   (c) a locking mechanism comprising a tab retained between the inner side panel and the outer side panel that prevents the graphic panel from separating from the product tray as the graphic panel moves from the compact position to the expanded position.

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