US 20090178988A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2009/0178988 A1**

(43) **Pub. Date: Jul. 16, 2009**

Lang

(54) **EXPANDABLE DISPLAY SYSTEM**

(76) Inventor: **Thomas F. Lang**, New Milford, CT (US)

Correspondence Address:
JOHN S. PRATT - 38949
KILPATRICK STOCKTON LLP
1100 PEACHTREE STREET, SUITE 2800
ATLANTA, GA 30309 (US)

(21) Appl. No.: **12/136,294**

(22) Filed: **Jun. 10, 2008**

Related U.S. Application Data

(63) Continuation-in-part of application No. 12/014,873, filed on Jan. 16, 2008.

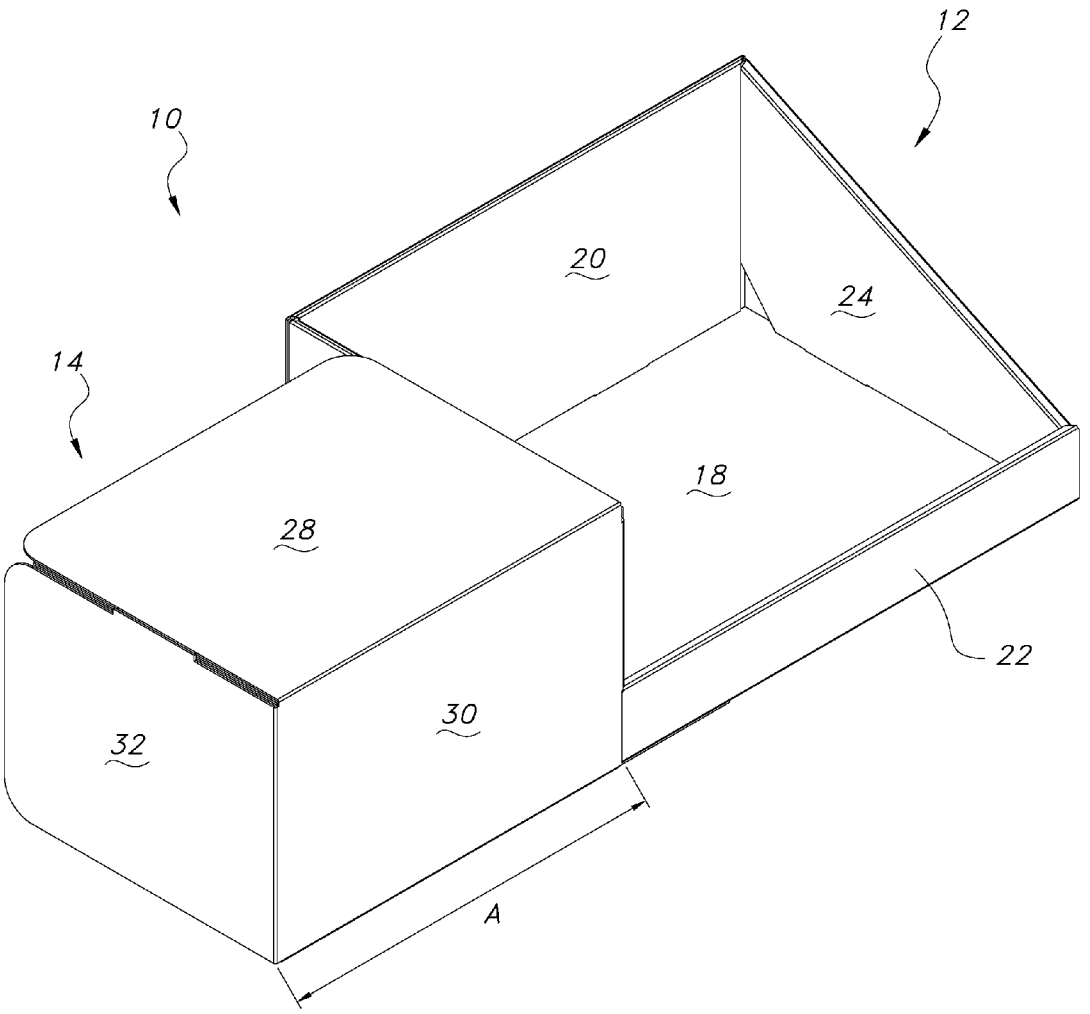
Publication Classification

(51) **Int. Cl.**
A47F 5/08 (2006.01)
A47F 1/04 (2006.01)

(52) **U.S. Cl.** **211/88.01**; 211/59.3

(57) **ABSTRACT**

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.



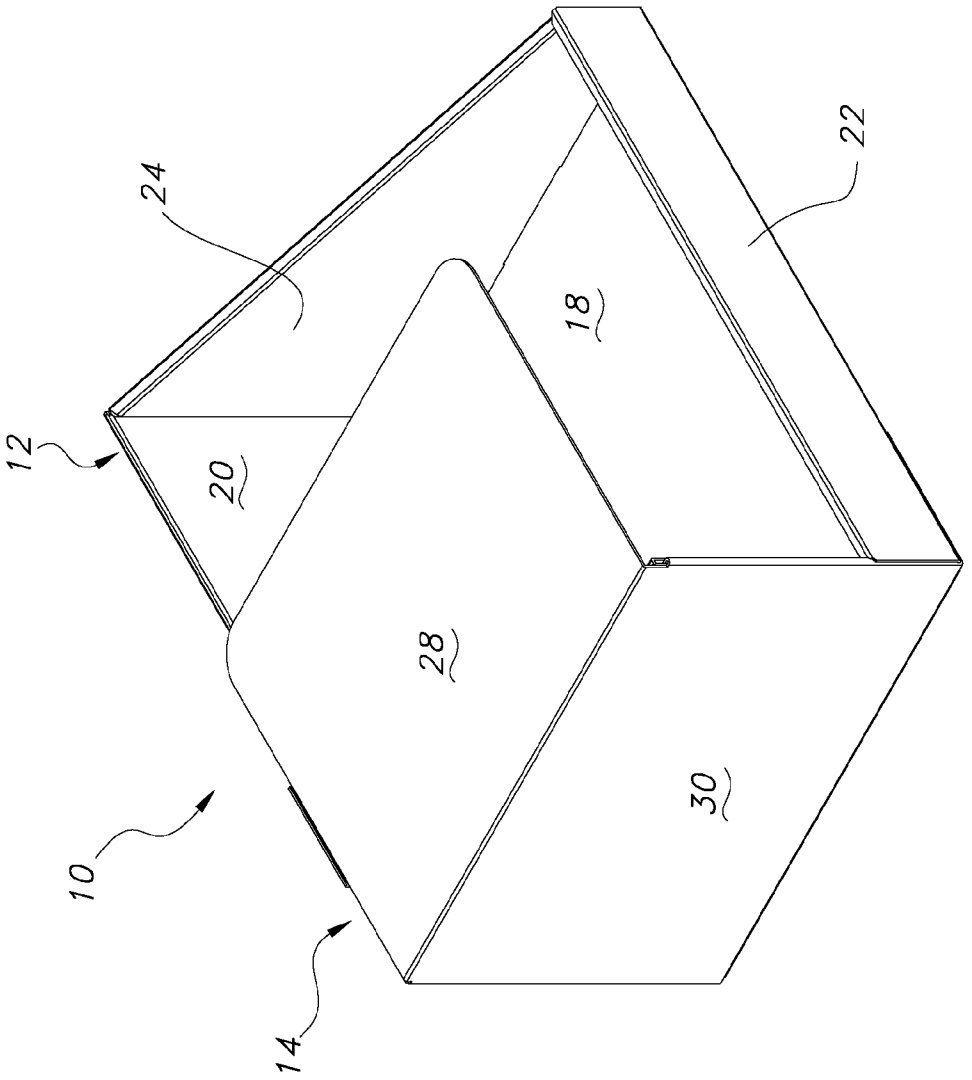


FIG. 1

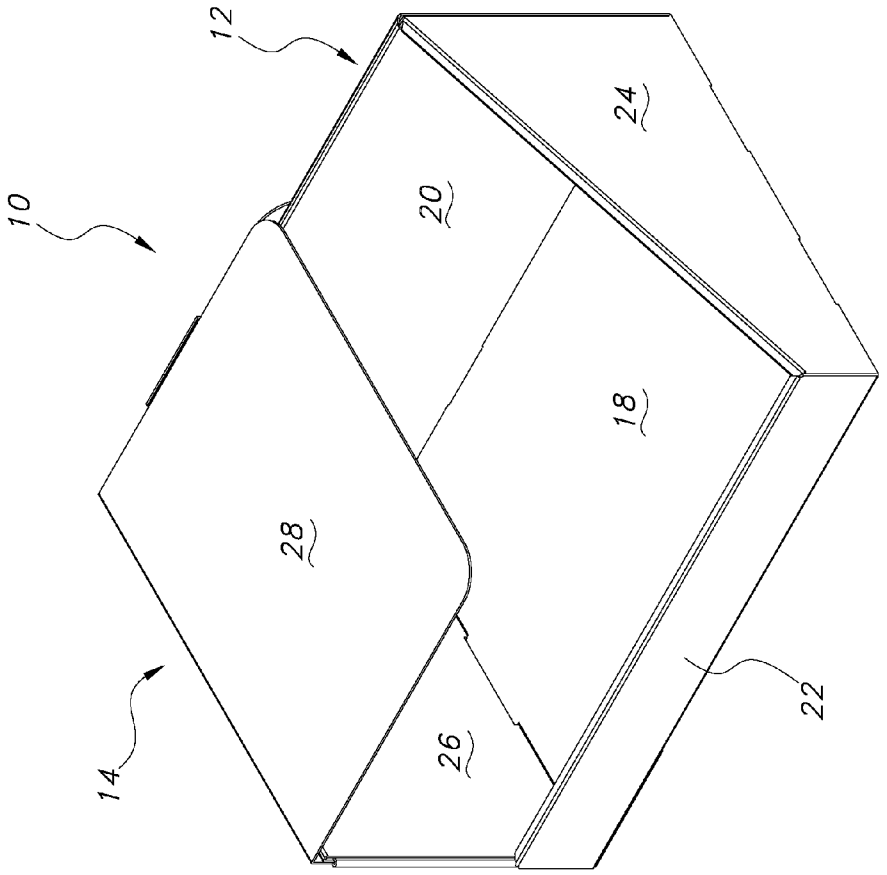


FIG. 2

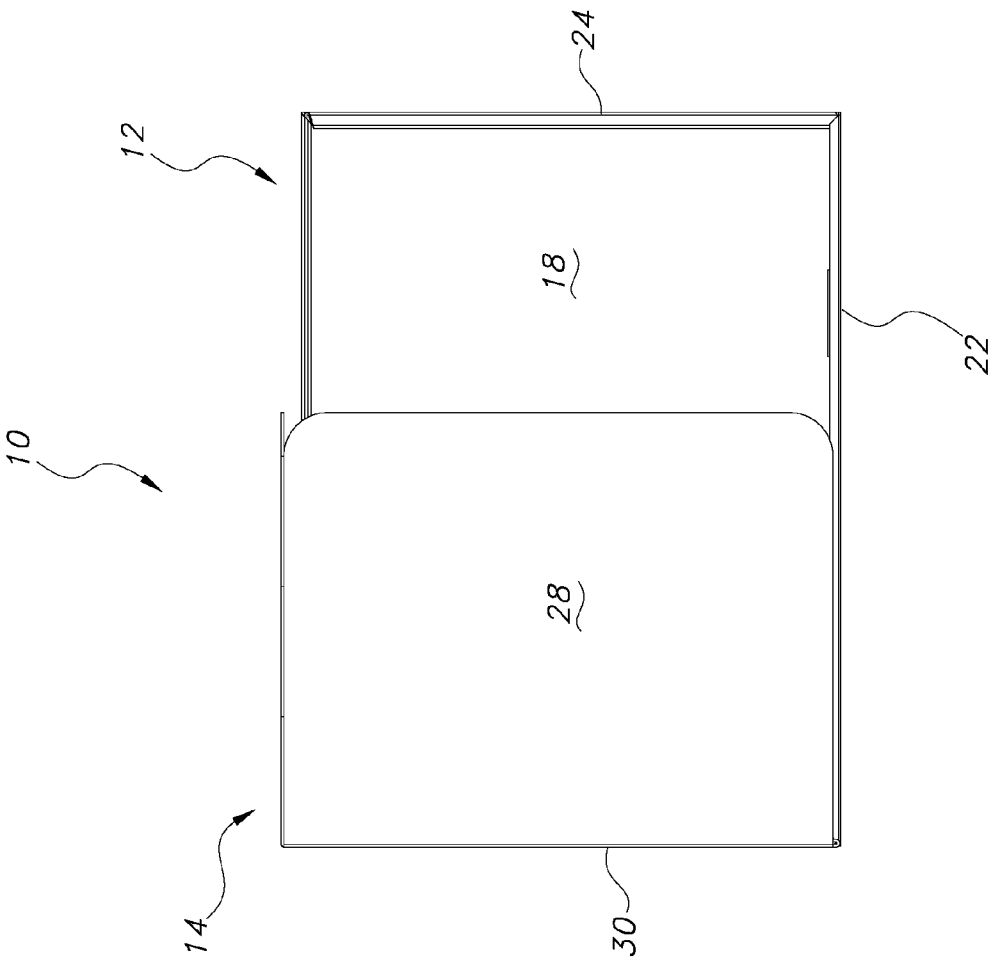


FIG. 3

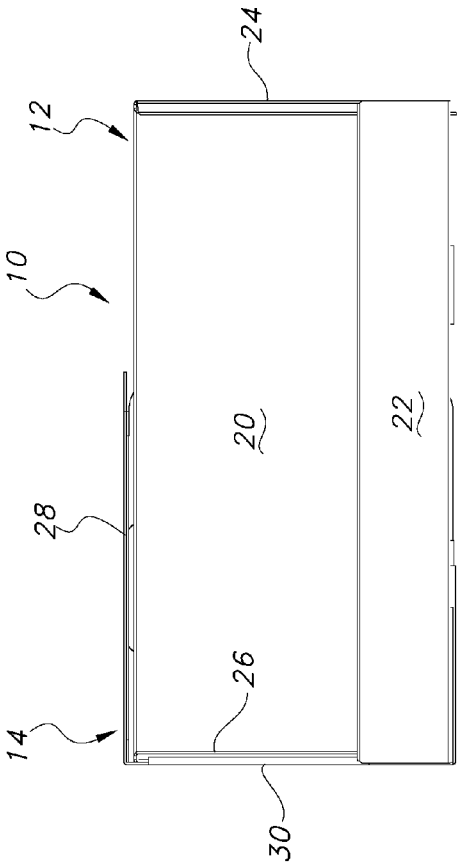


FIG. 4

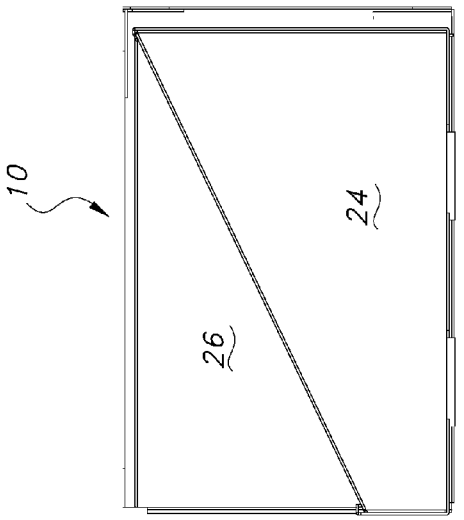


FIG. 6

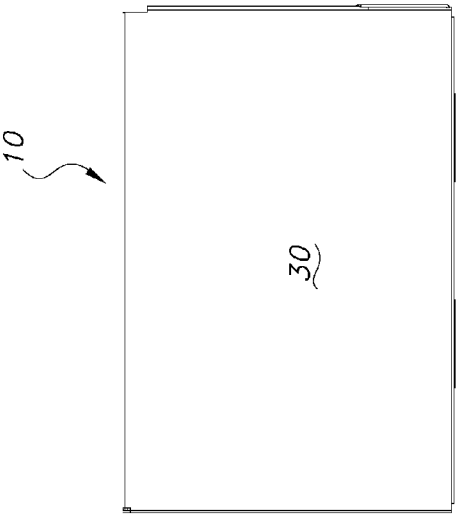


FIG. 5

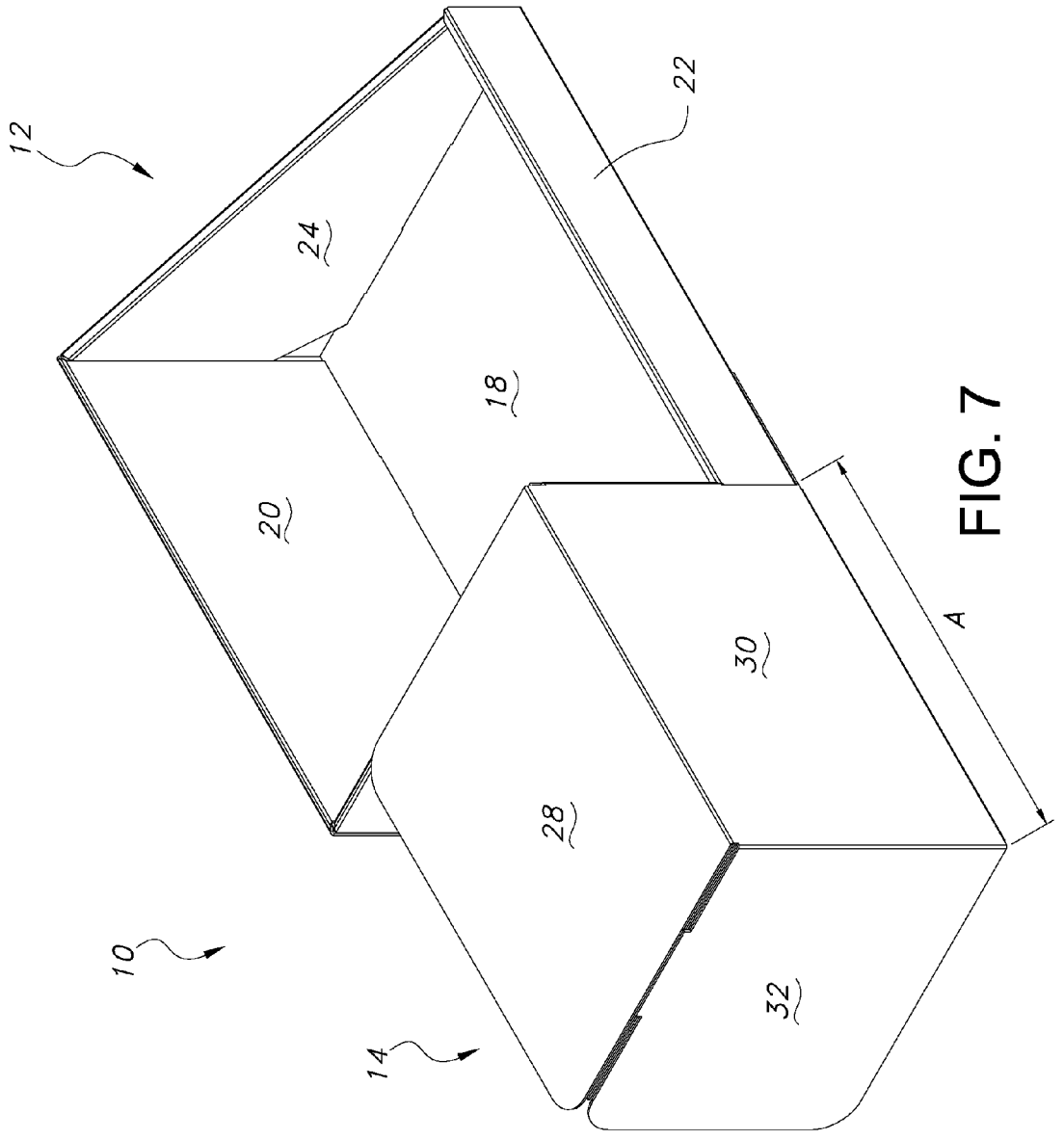


FIG. 7

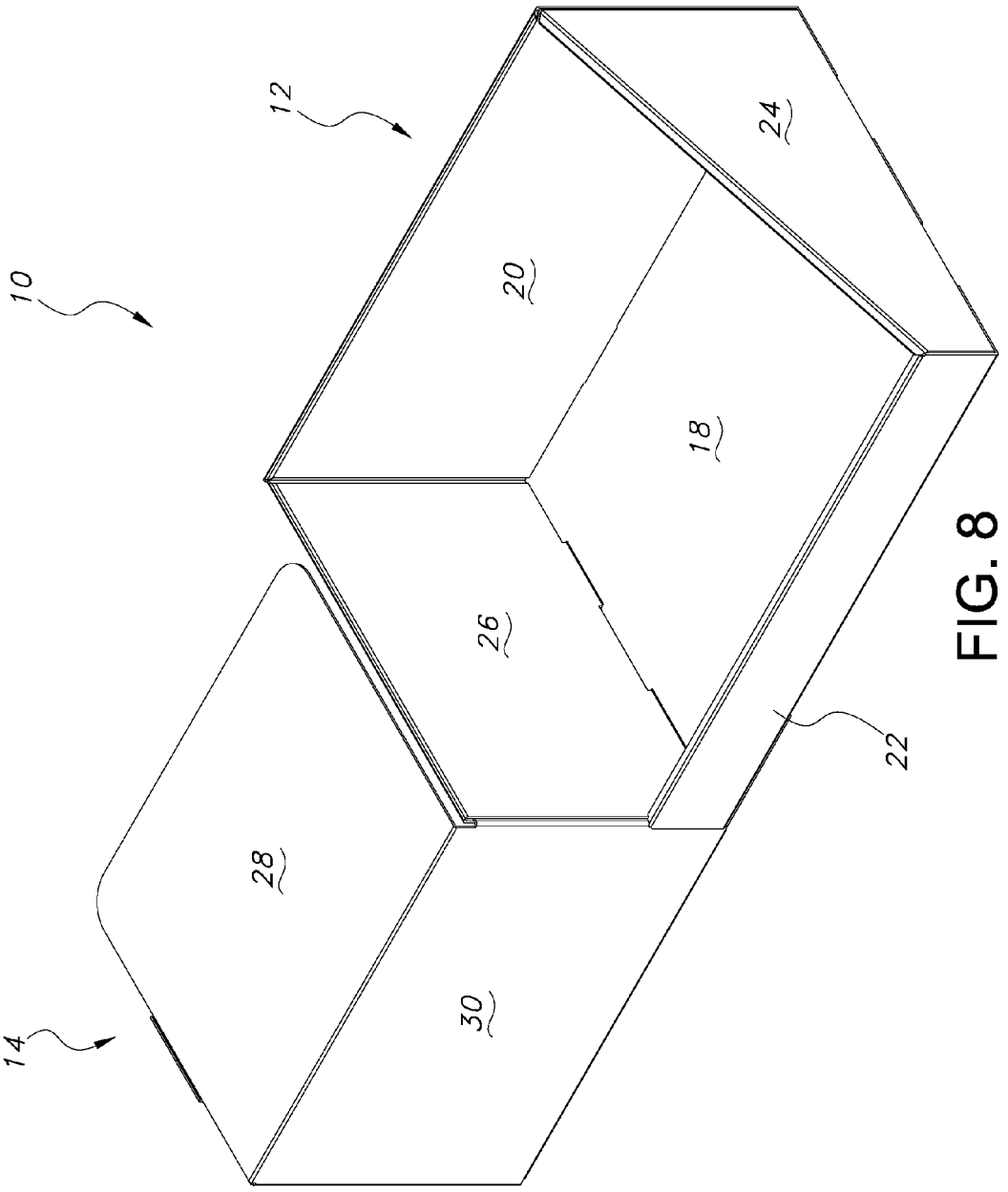


FIG. 8

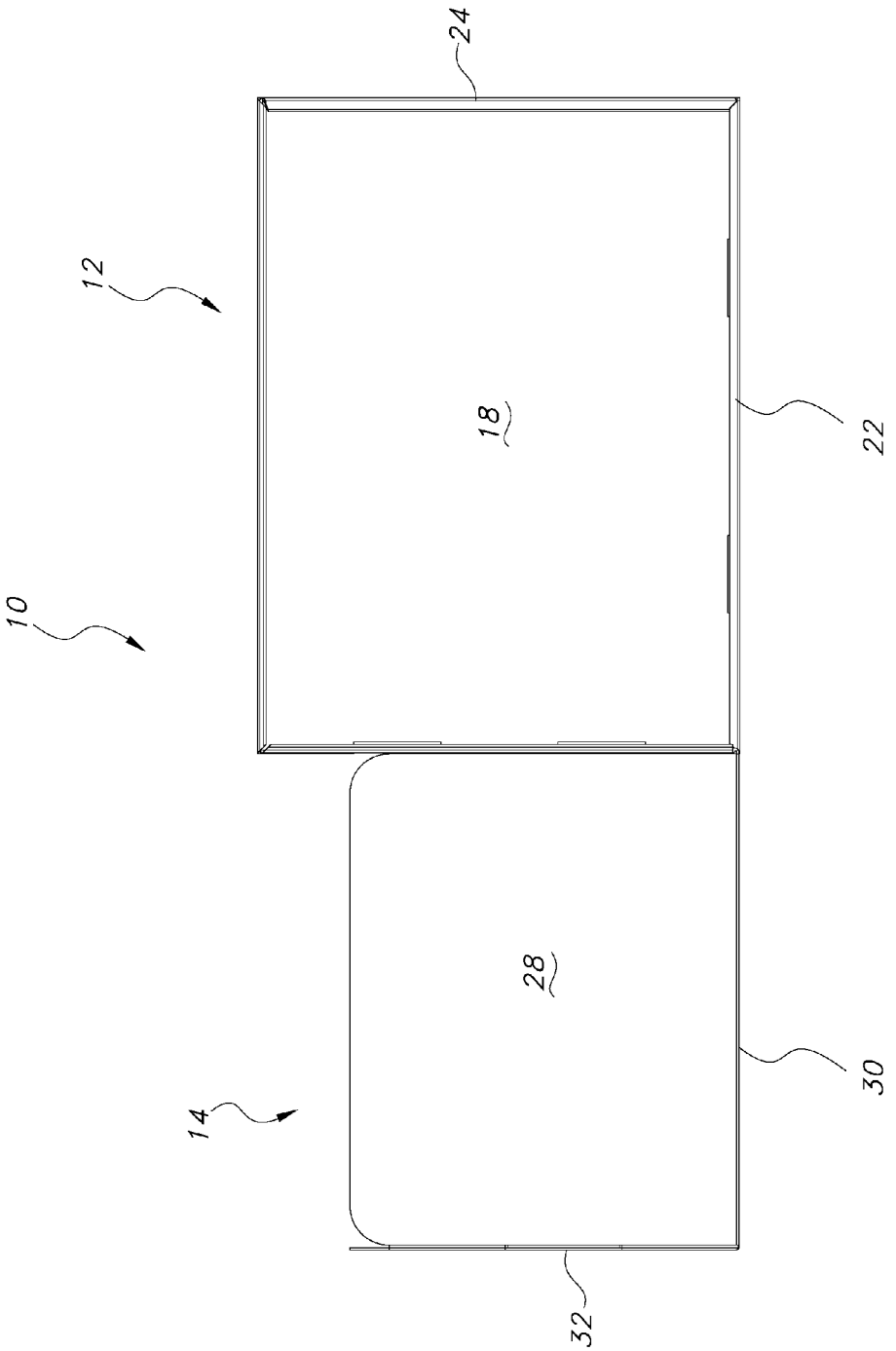


FIG. 9

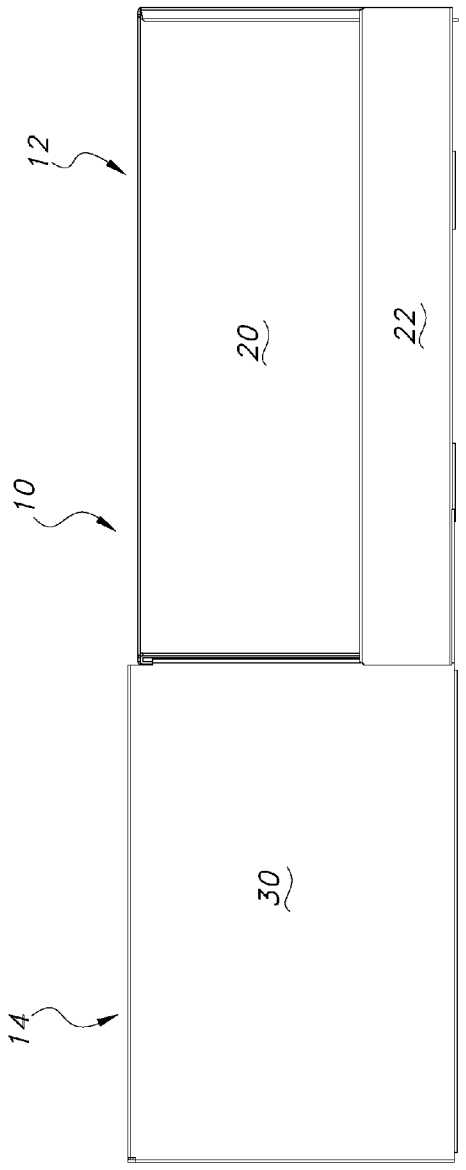


FIG. 10

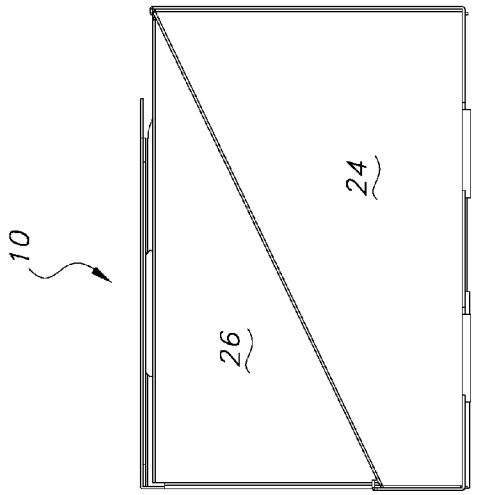


FIG. 12

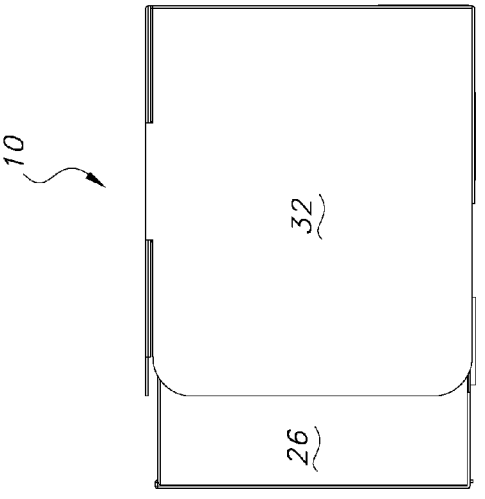


FIG. 11

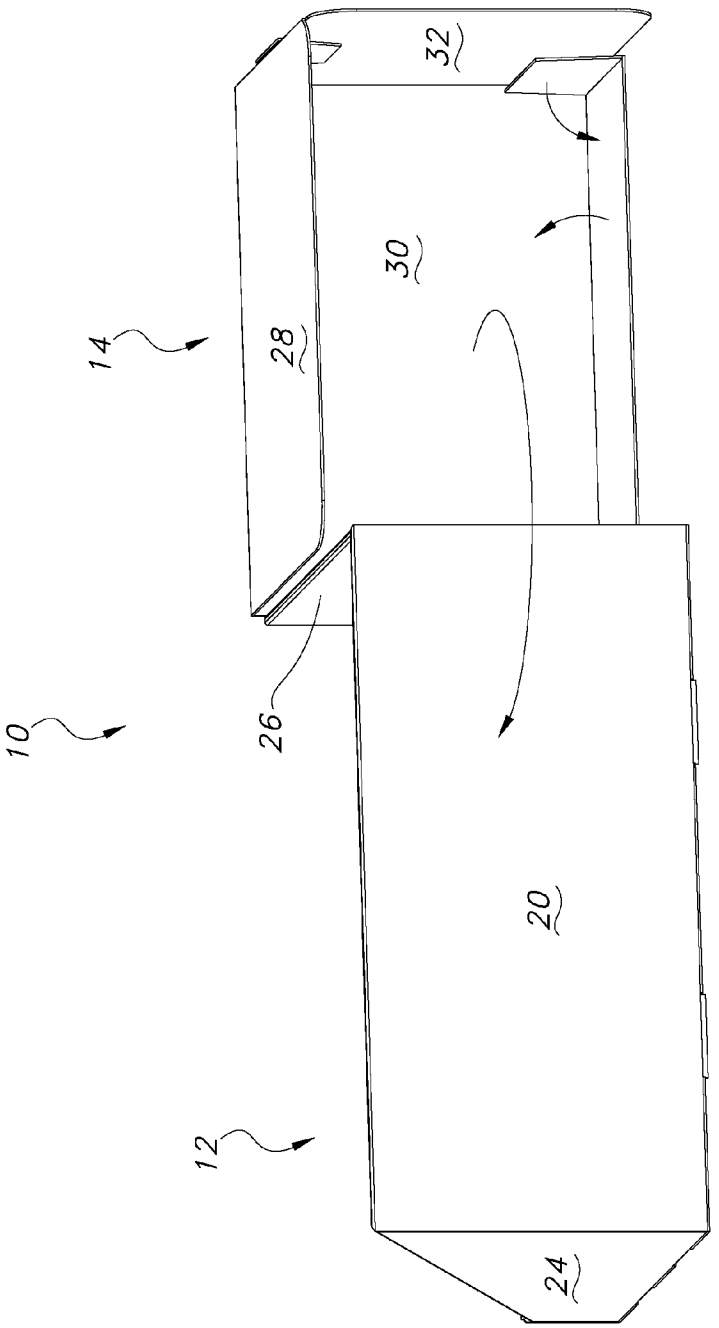


FIG. 13

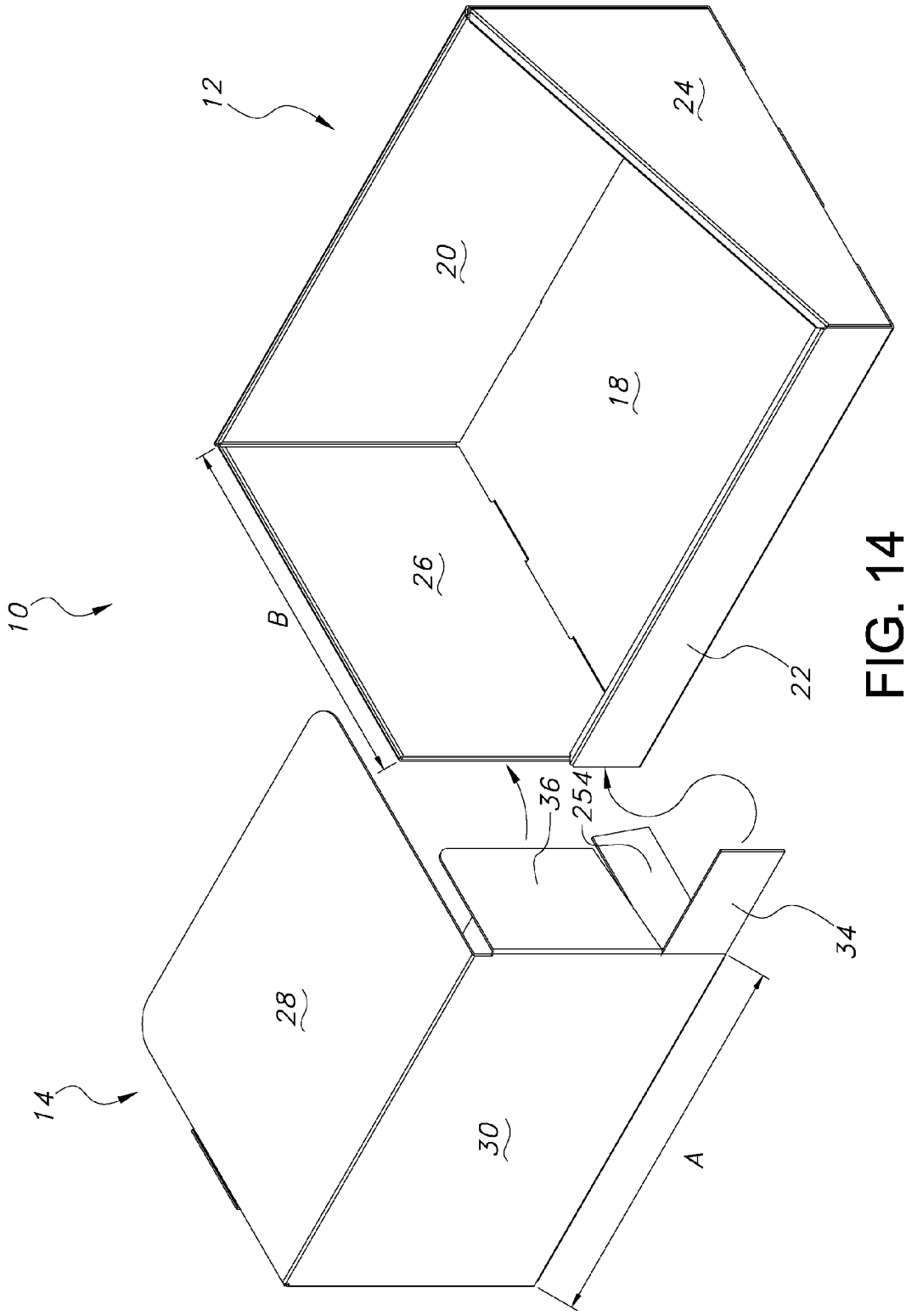


FIG. 14

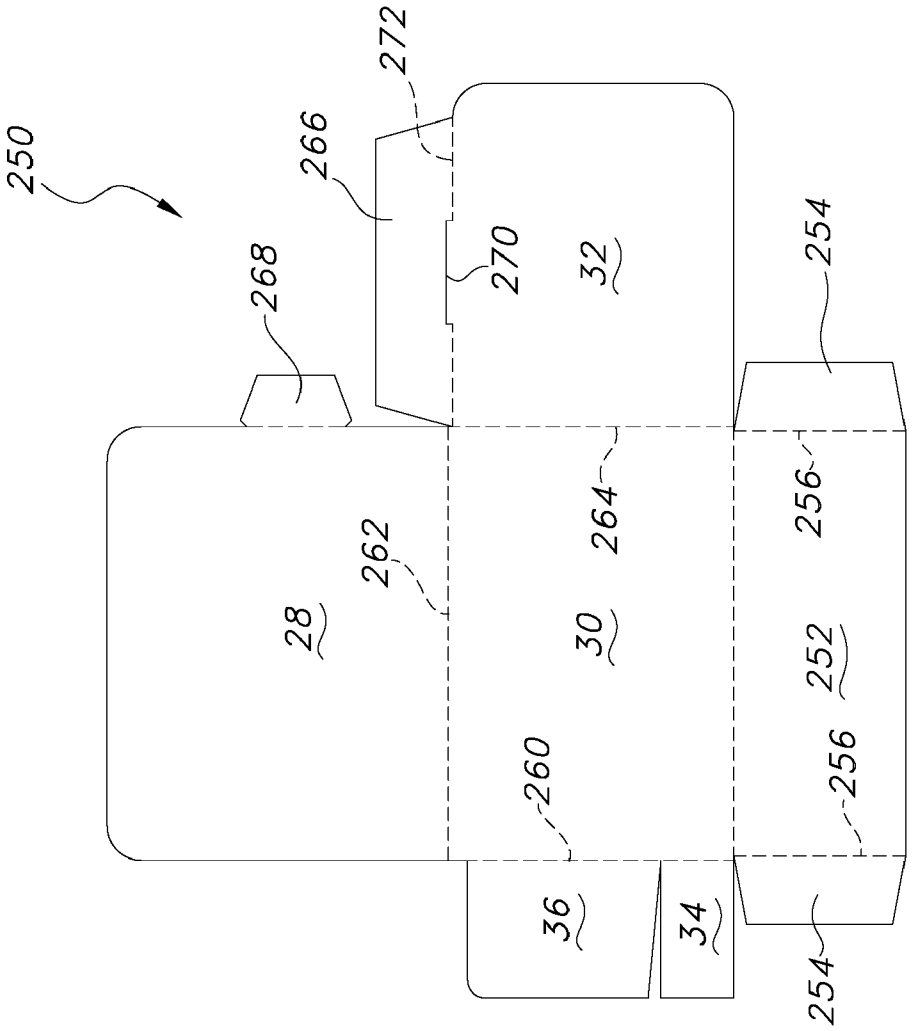


FIG. 15

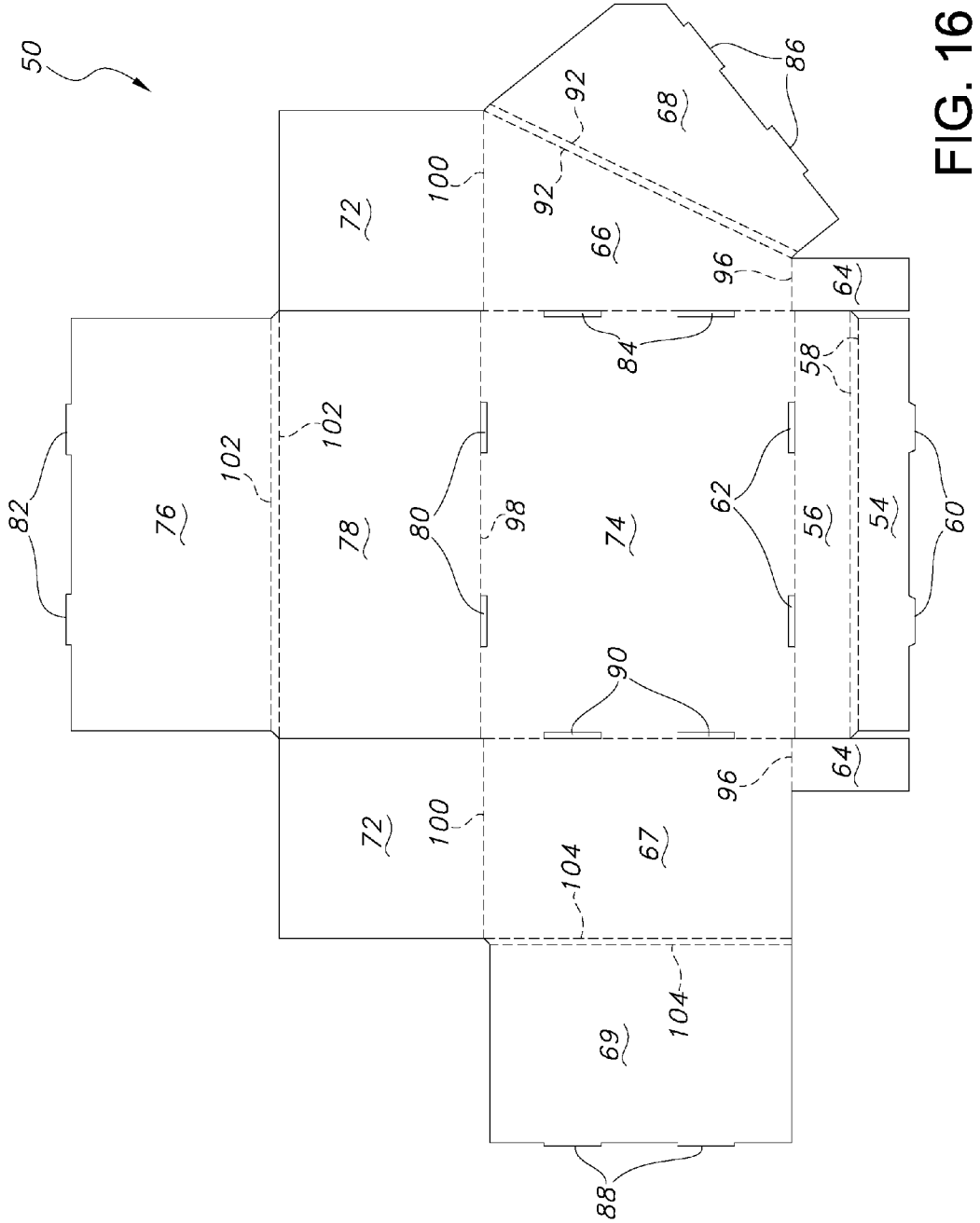

50
86
92
68
92
100
72
66
96
64
84
58
102
102
82
76
78
80
98
74
62
56
54
60
90
96
64
72
100
104
67
104
69
88

FIG. 16

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**, the front panel **22**, the bottom panel **18**, and the back panel **20** form a cavity capable of holding retail 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 front flaps **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 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 inner side 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 structure 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**, 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 the 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.

* * * * *