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(54) **MERCHANDISING SYSTEM**

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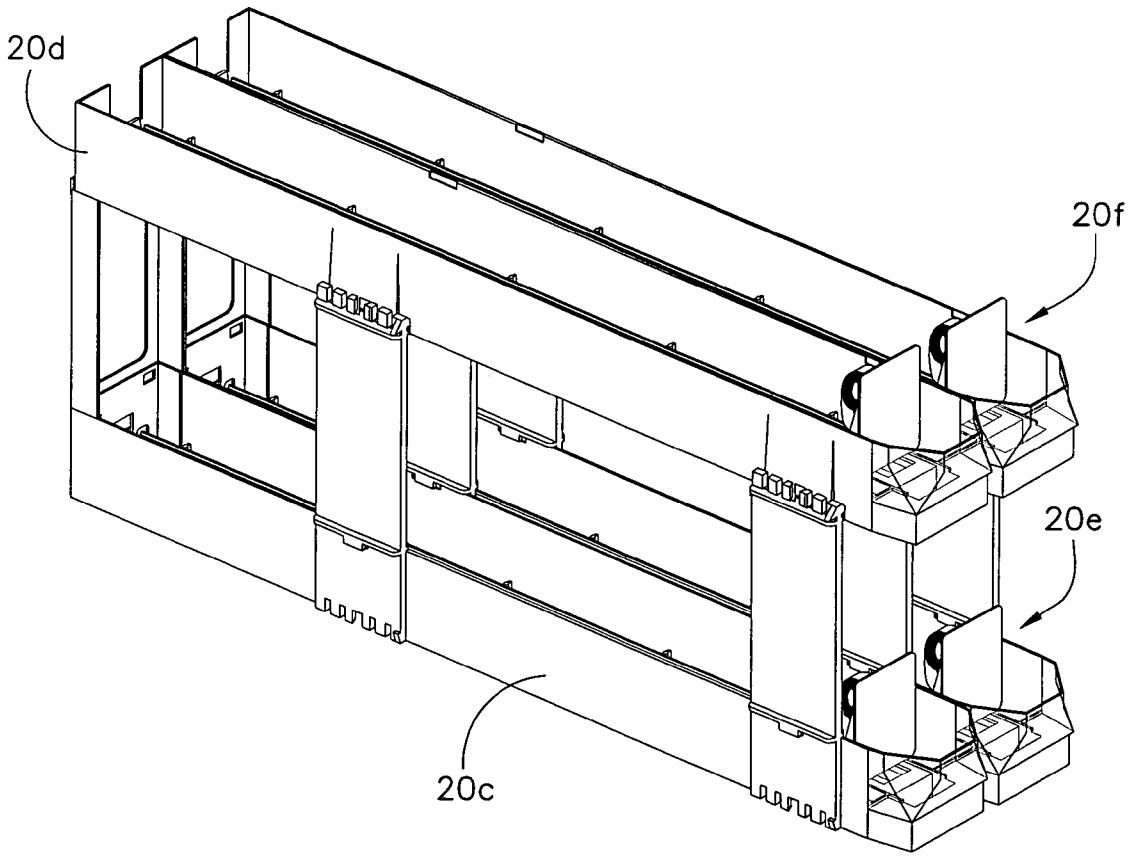
(52) **U.S. Cl.** **211/59.3**; 211/194; 211/126.12

(57) **ABSTRACT**

A merchandising system for presenting and storing articles. The merchandising system comprises a plurality of bases including a first base and a second base for supporting the articles and a plurality of connectors configured to removably couple the first base to the second base. The plurality of bases comprise apertures for coupling with the plurality of connectors and the plurality of connectors comprise portions configured to engage the apertures of the plurality of bases. The plurality of connectors are adapted to support the first base in an upper position relative to the second base and the second base in a lower position relative to the first base when the portions of the plurality of connectors configured to engage the apertures of the plurality of bases are coupled to the apertures of the plurality of bases.



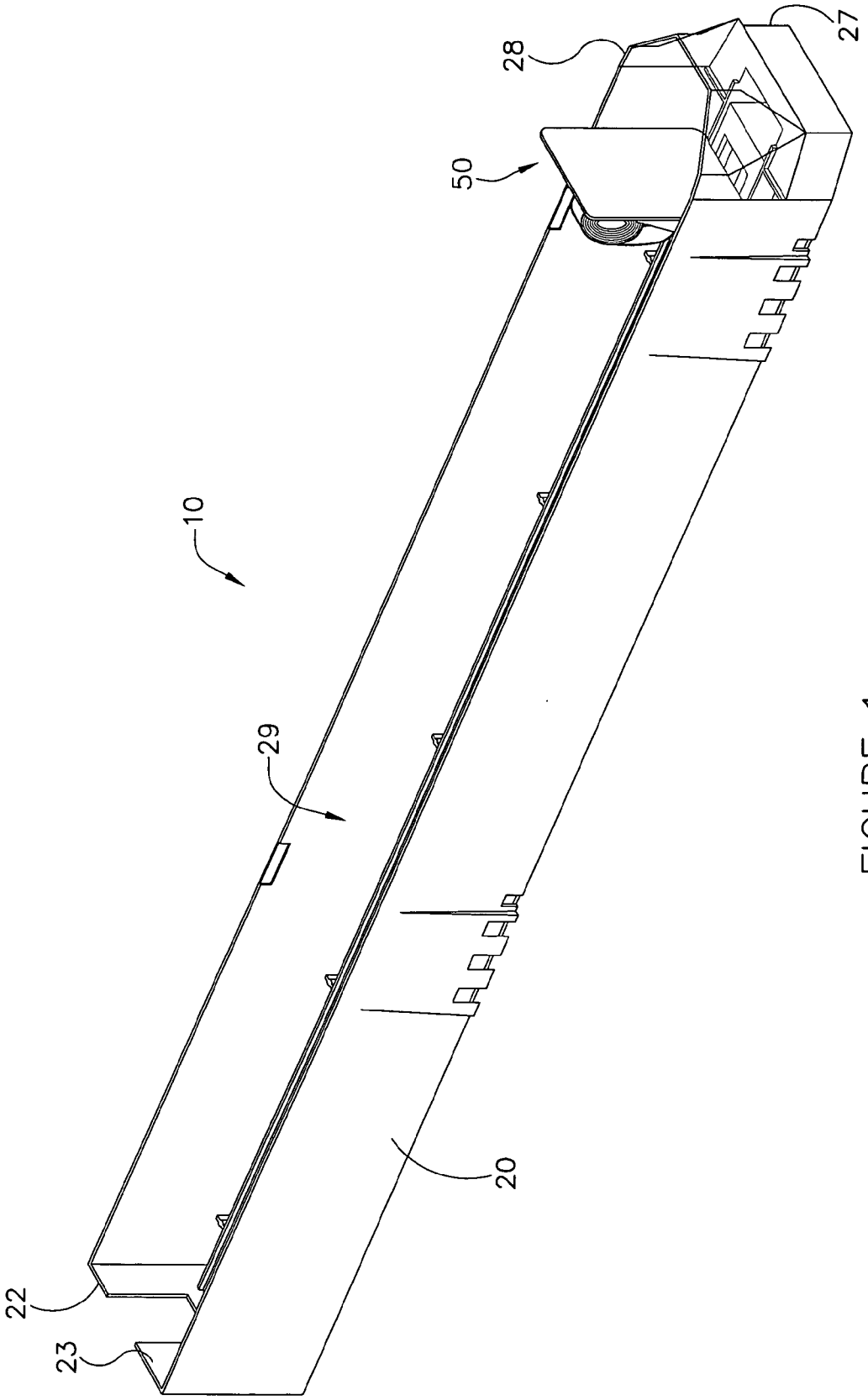


FIGURE 1

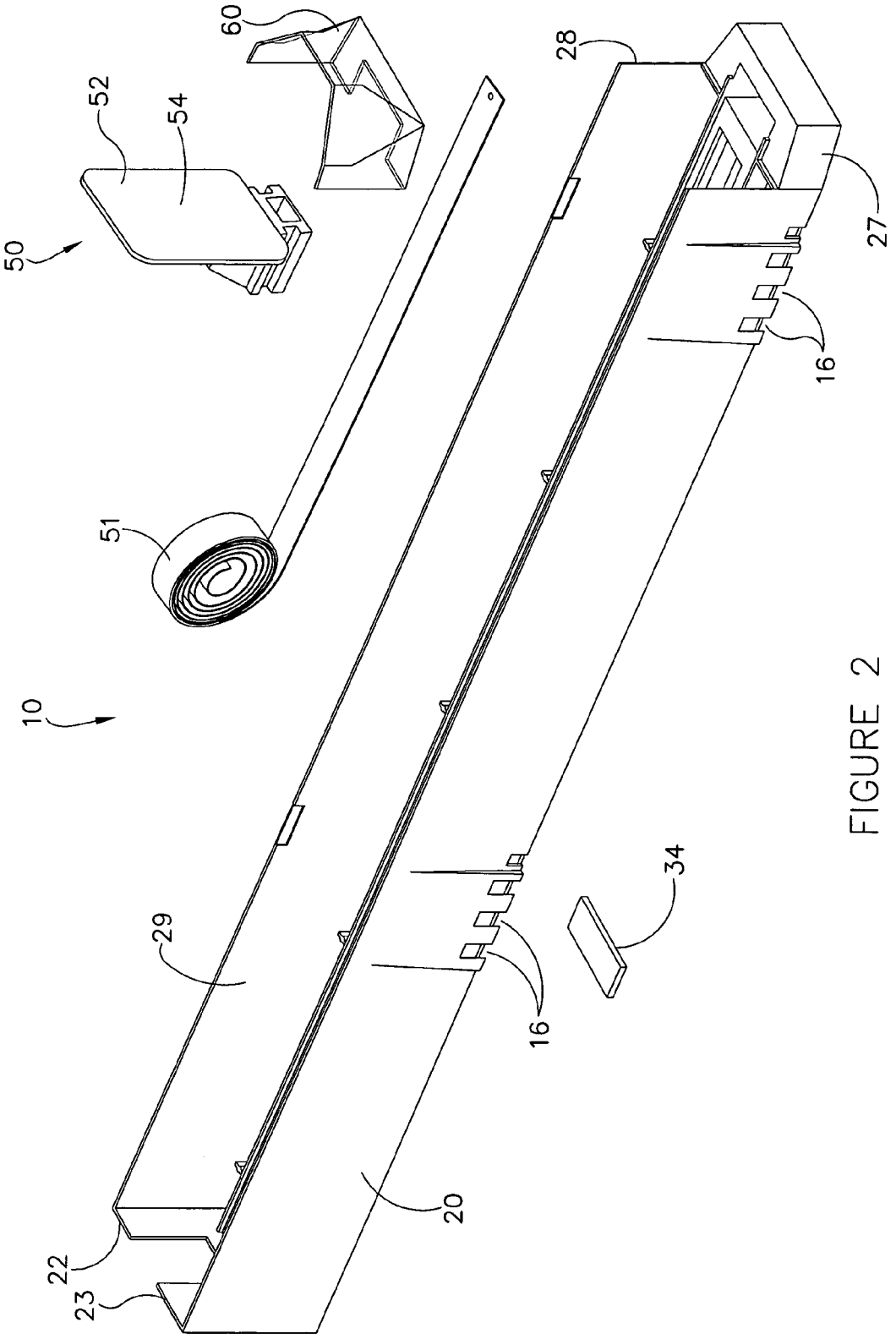


FIGURE 2

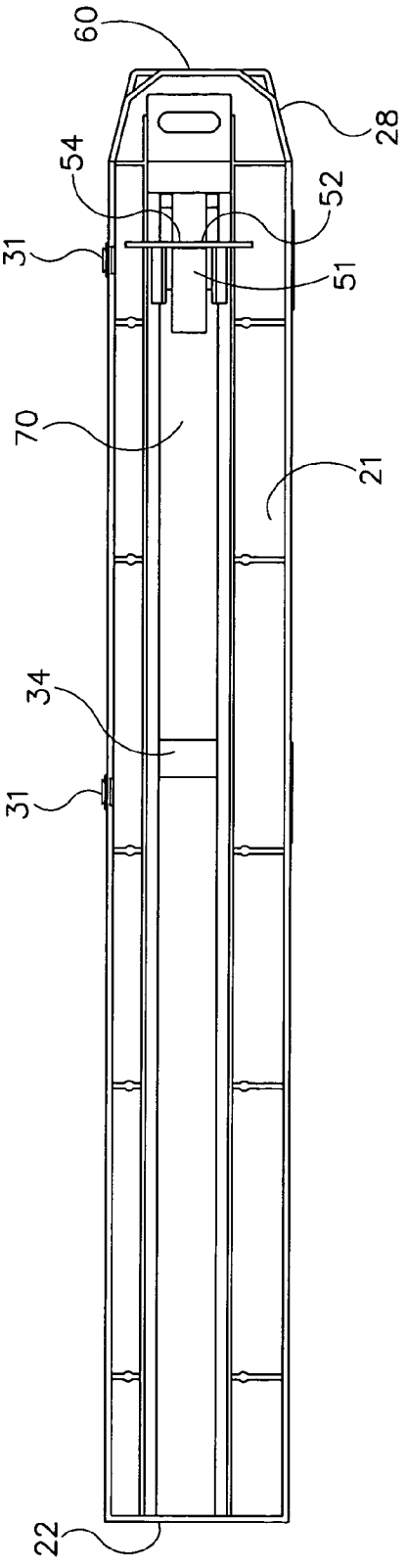


FIGURE 3

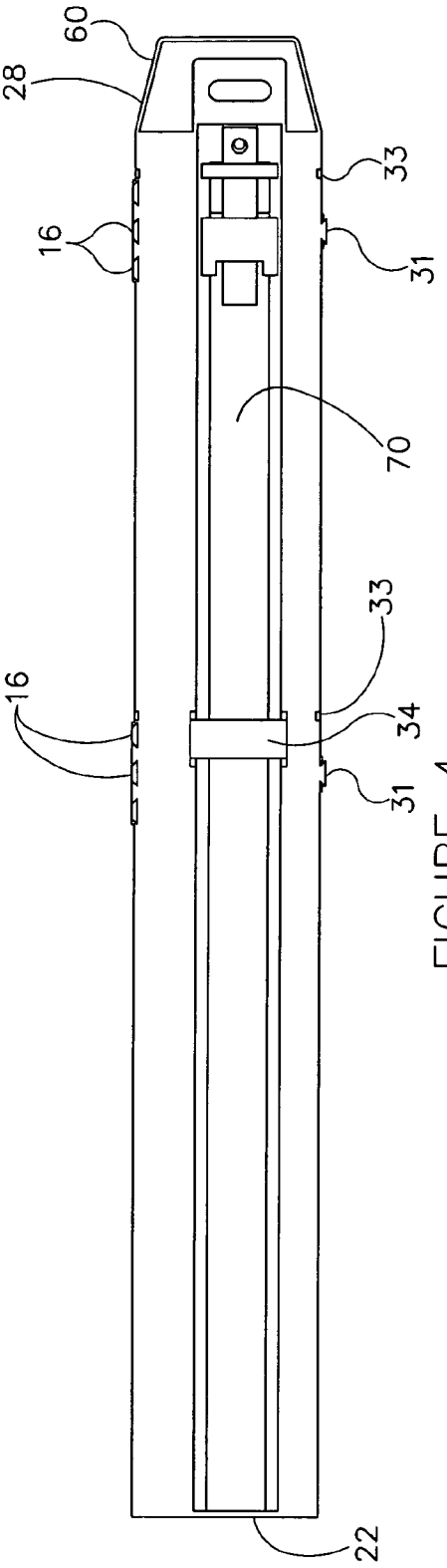


FIGURE 4

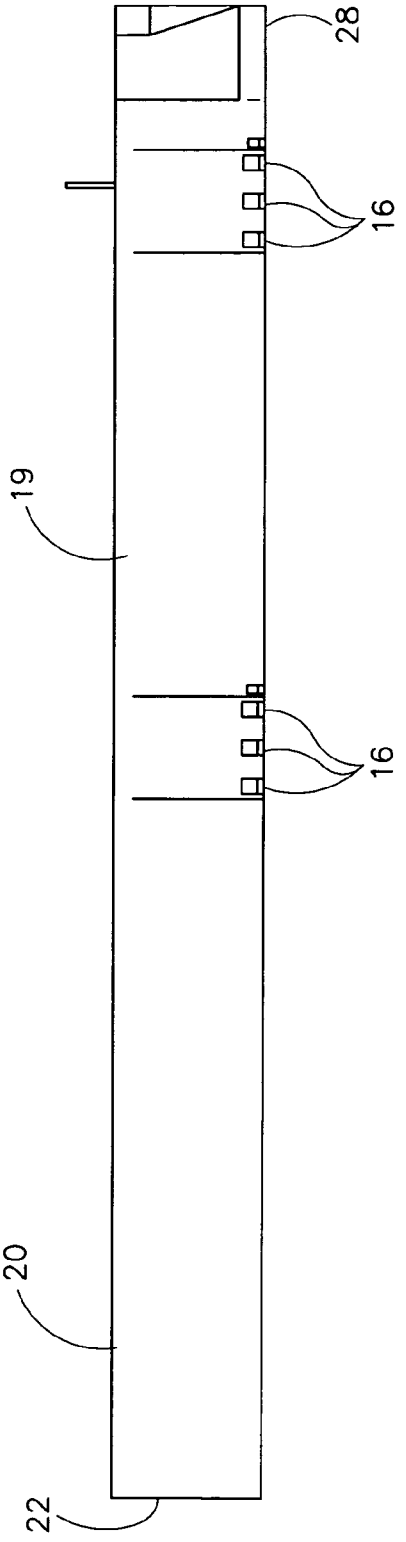


FIGURE 5A

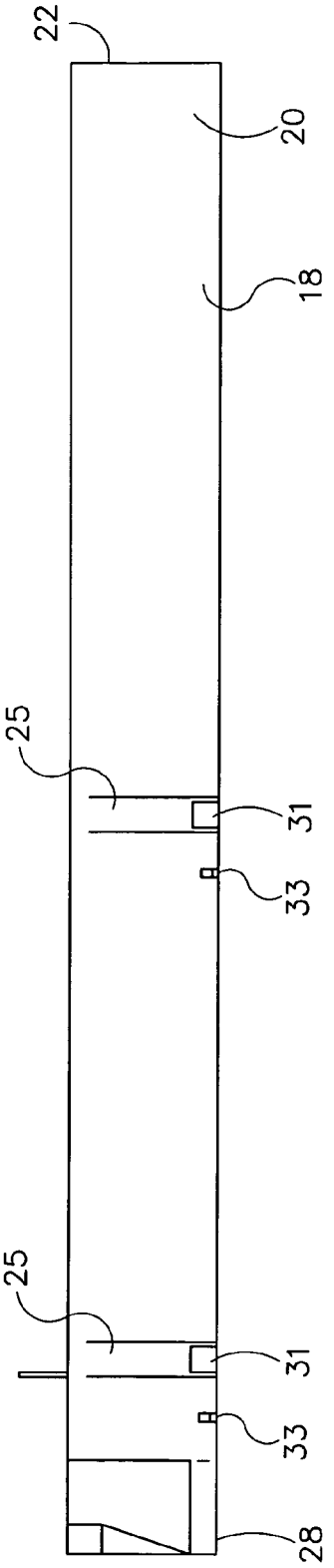


FIGURE 5B

FIGURE 6

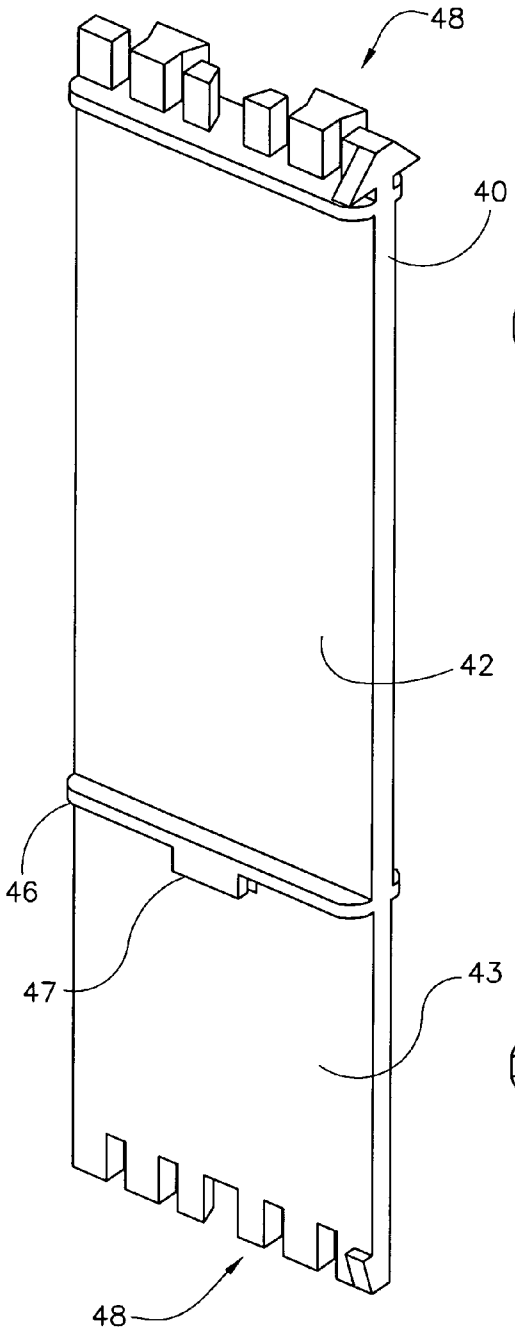
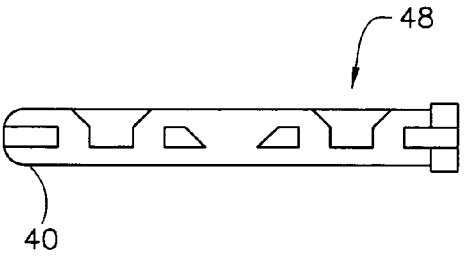


FIGURE 7



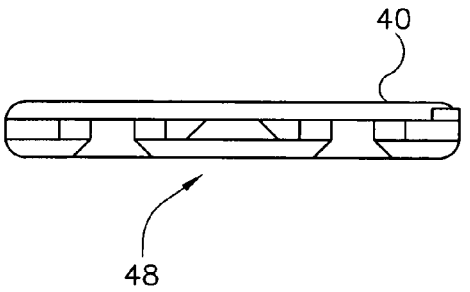


FIGURE 8

FIGURE 9

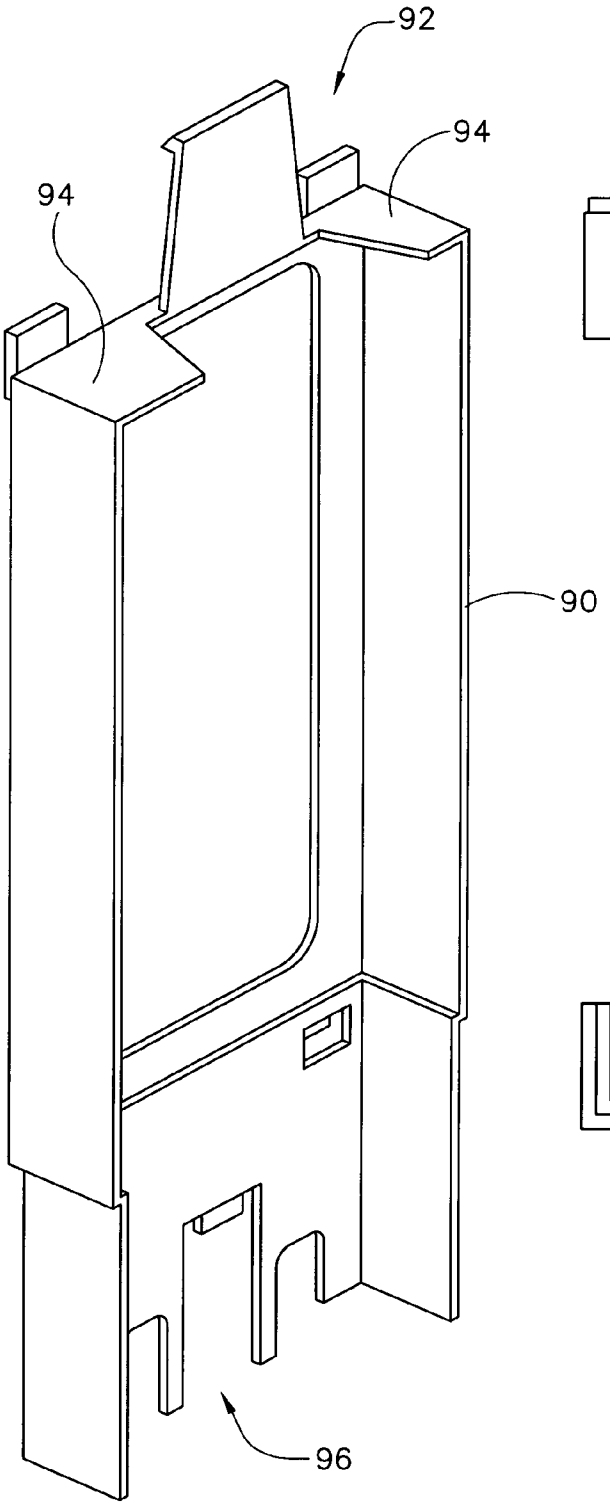
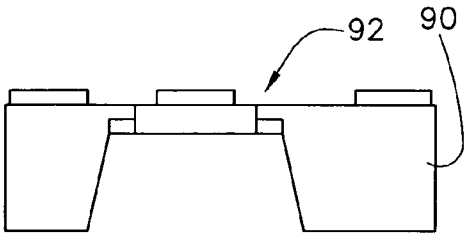


FIGURE 10



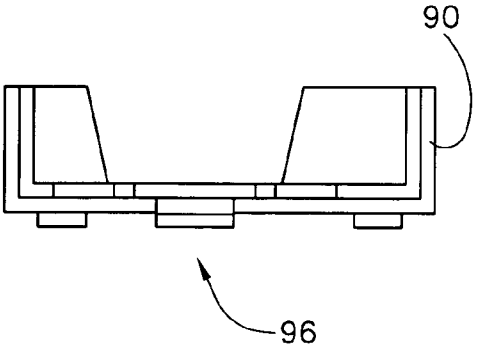
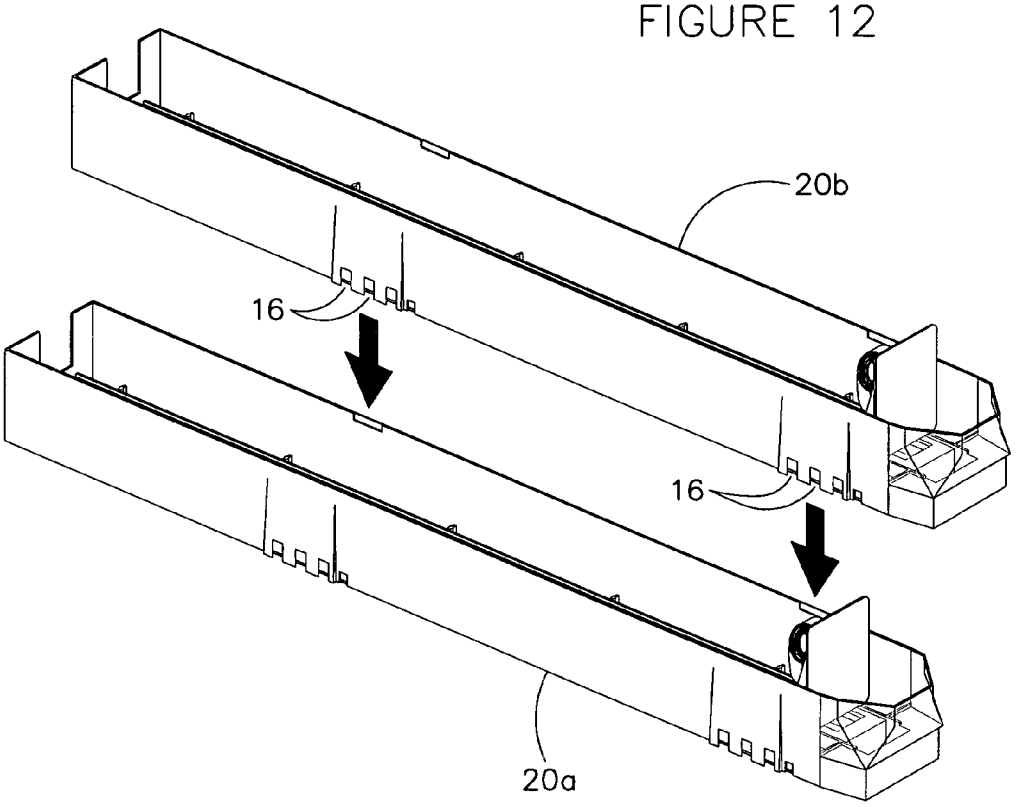


FIGURE 11

FIGURE 12



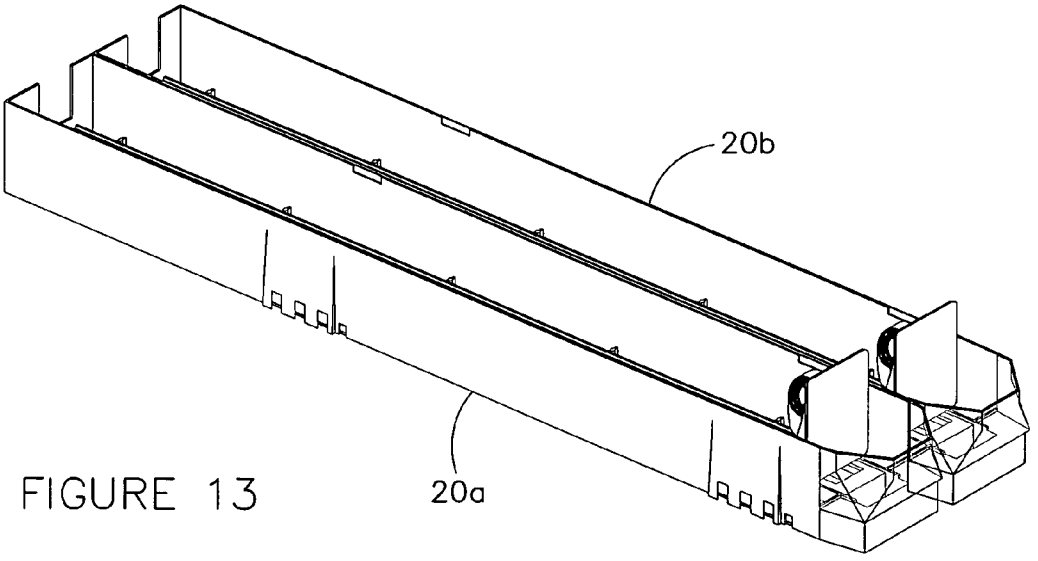


FIGURE 13

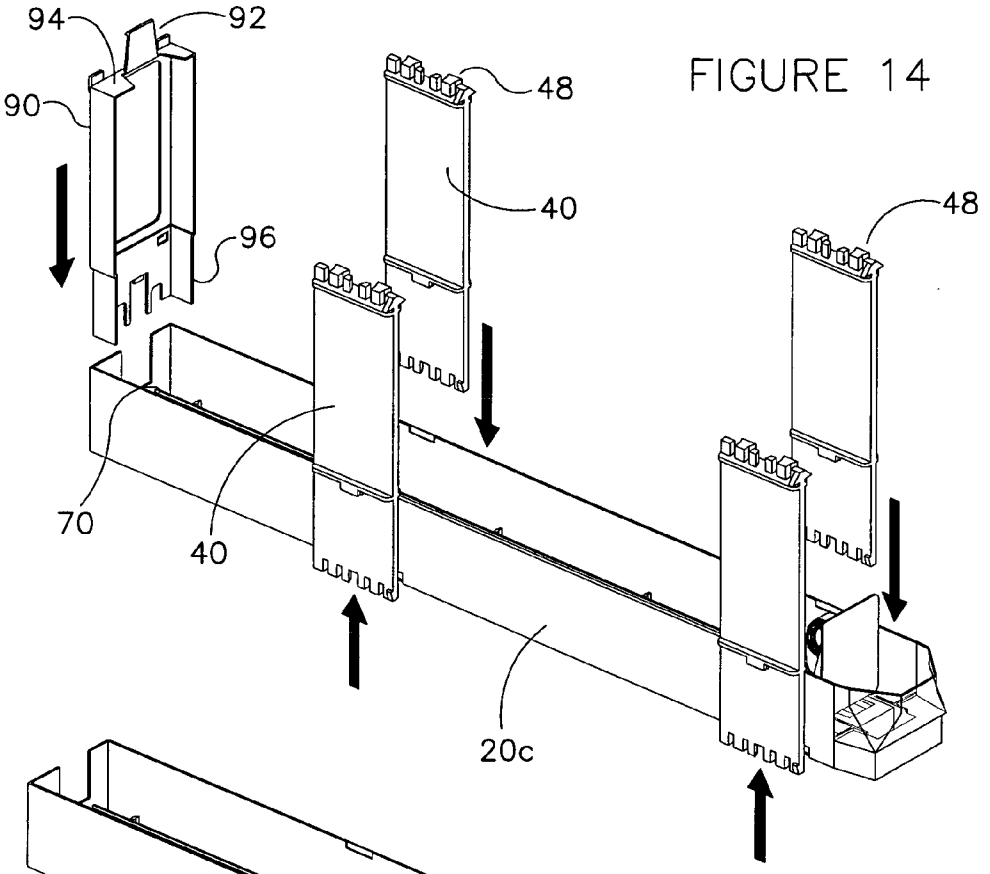


FIGURE 14

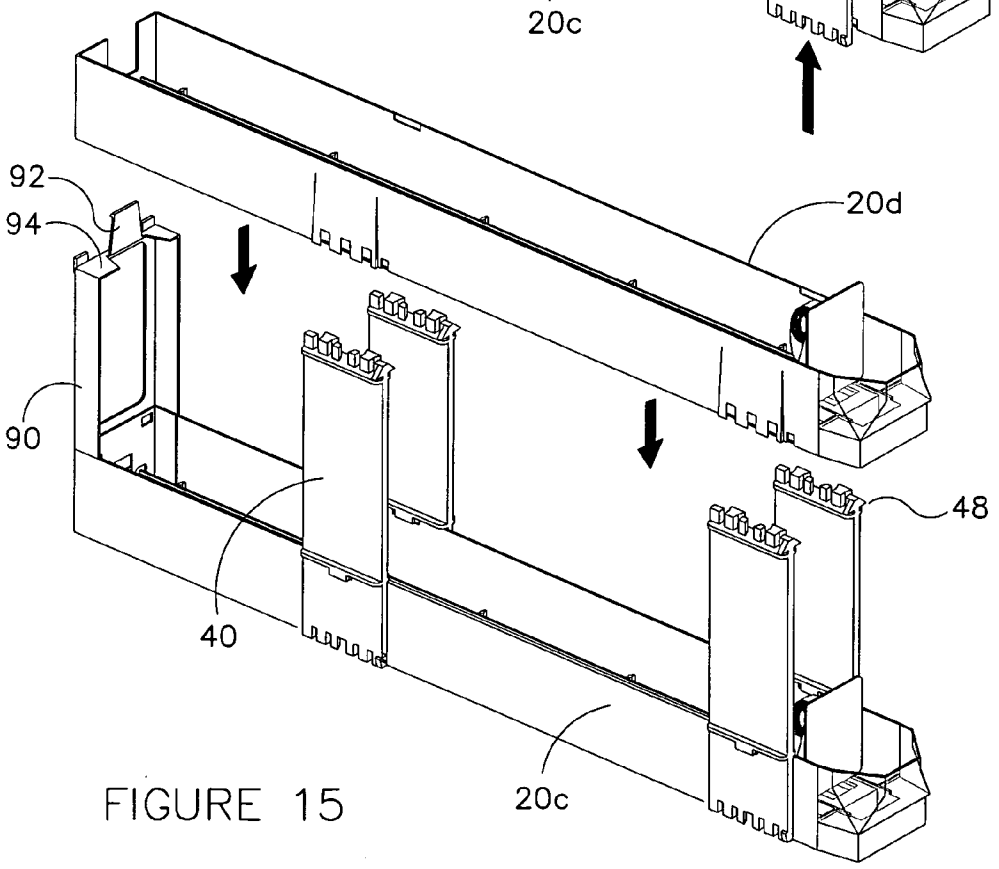
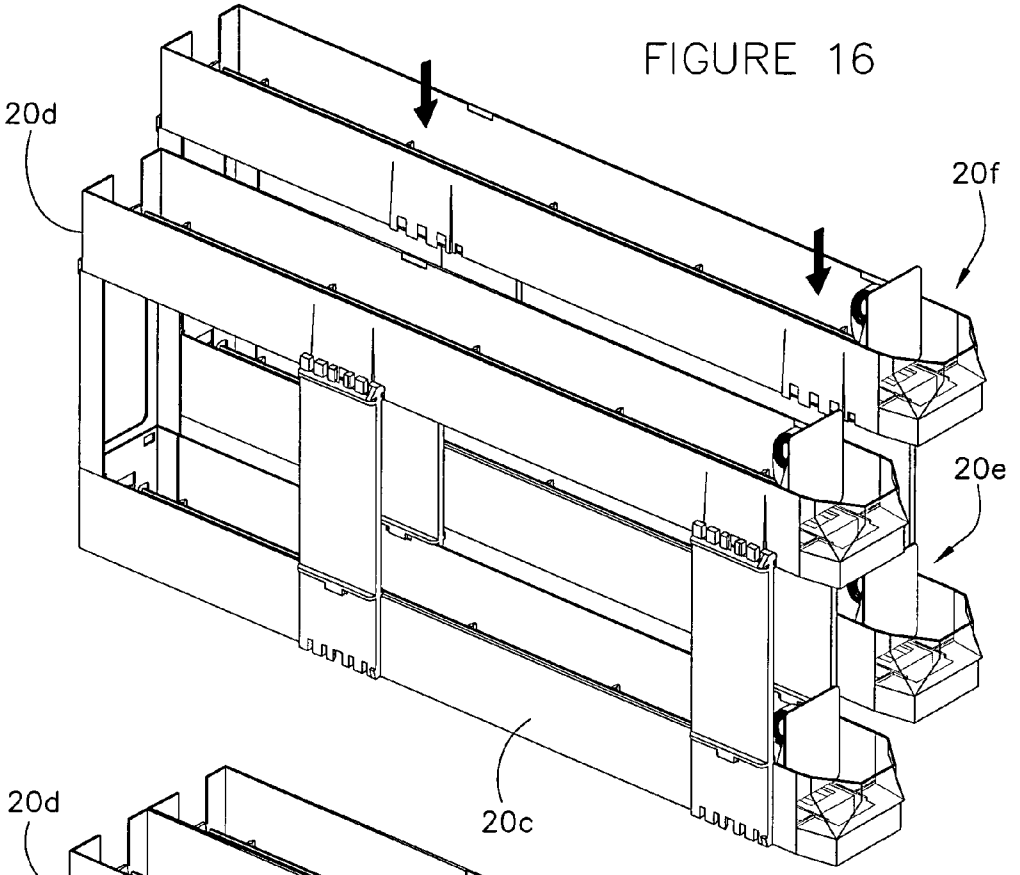


FIGURE 15

FIGURE 16



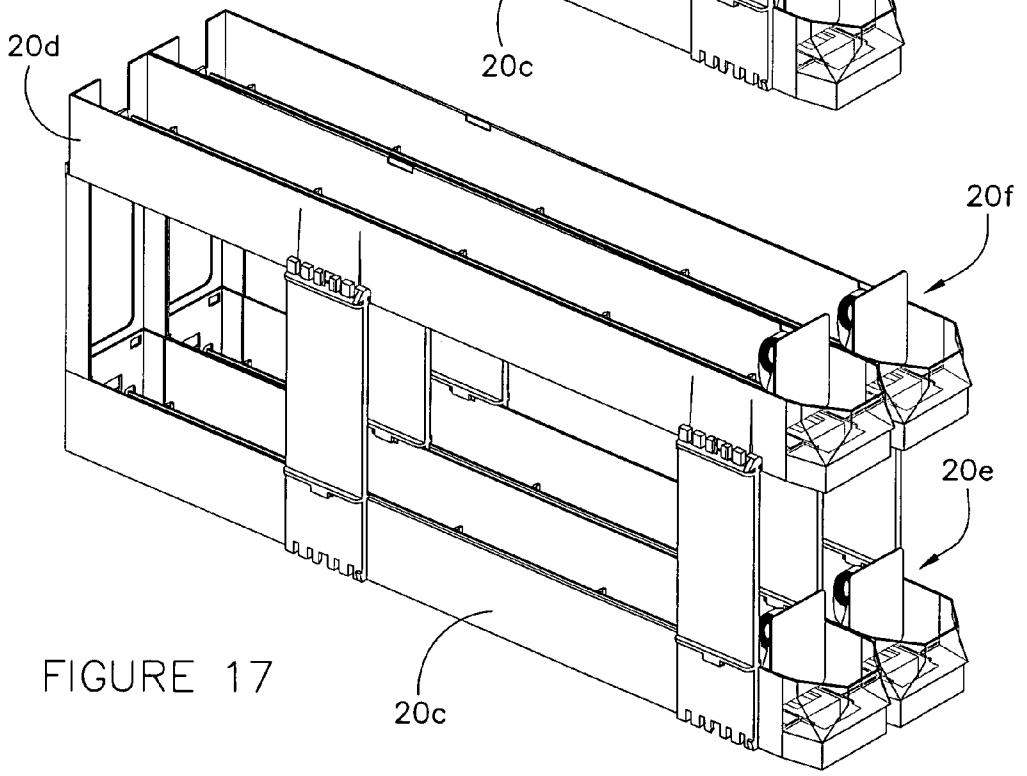


FIGURE 17

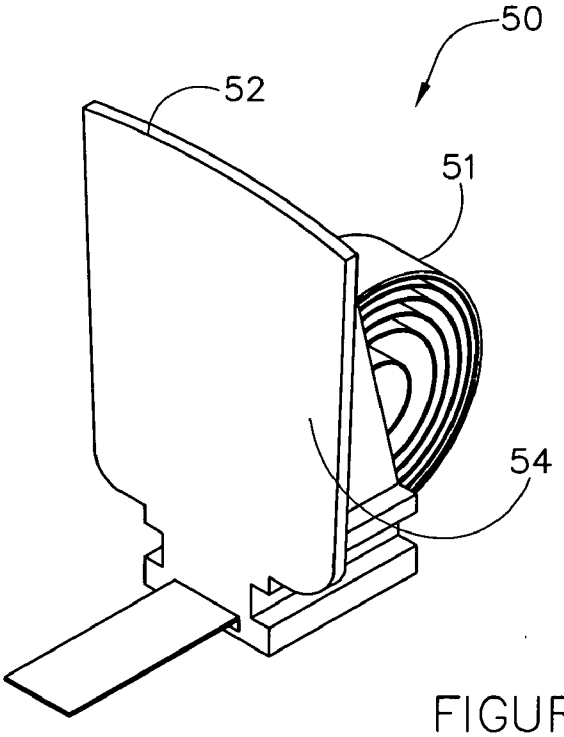


FIGURE 18

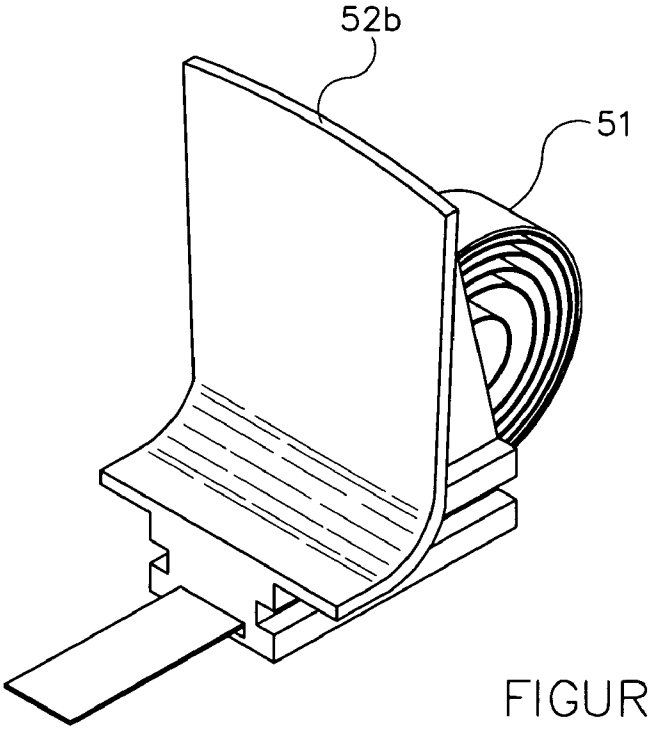


FIGURE 19

MERCHANDISING SYSTEM

PRIORITY CLAIM/CROSS REFERENCE

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/552,294 filed on Mar. 11, 2004, which is hereby incorporated in its entirety for all purposes.

BACKGROUND OF THE INVENTION

[0002] The present invention relates generally to the field of merchandising systems. In particular, the present invention relates to merchandising systems providing for orderly presentation of articles (such as products) in a display space.

[0003] It is known to provide for a merchandising system that may be used for displaying products in consumer settings such as grocery stores, retail outlets, shops, etc. Such known merchandising systems may be used to present, display and store products in fixed or limited spaces such as on shelves, in display cases, in cabinets, etc.

[0004] It is beneficial when merchandising an article such as a product to allow potential customers to view or handle it in a convenient and comfortable manner. Known merchandising systems may display products to a consumer by providing the products in inefficient configurations. However, products and product containers come in a variety of sizes and shapes, and some products may be more difficult to merchandise (e.g., present for potential retail sale) than others. Within fixed or limited spaces, known merchandising systems may not be configured to optimize the presentation of such products to a consumer. Such known merchandising systems also do not always provide convenient ways for dispensing products, especially those with unique or irregular shapes. Ease of use can be an important concern for customers and store personnel. As is sometimes the case, product or container design may be dictated by considerations separate from the ease or difficulty with which the product may be presented.

[0005] Accordingly, it would be advantageous to provide a merchandising system that is configured for stocking, orderly presentation, and convenient storage of products with a shape that may not be easily stored, presented, or displayed, such as products with uniquely shaped containers. It would also be advantageous to provide a merchandising system that is configured for selective modularity in the construction and assembly of the merchandising system. It would also be advantageous to provide a merchandising system that allows for the construction and assembly of a merchandising system with any number of product facings, modules, compartments, etc. It would also be advantageous to provide a merchandising system that advances a product and/or allows a product to advance along a defined path. It would also be advantageous to provide a merchandising system having a frame for supporting and selectively retaining a product within the merchandising system. It would also be advantageous to provide a merchandising system that is able to support products in multiple levels without stacking the products on one another. It would also be advantageous to provide a merchandising system that includes connectors for supporting multiple levels of frames.

[0006] It would be advantageous to provide a merchandising system or the like of a type disclosed in the present application that provides any one or more of these or other advantageous features.

SUMMARY OF THE INVENTION

[0007] One embodiment of the invention relates to a merchandising system for presenting and storing articles. The merchandising system comprises a plurality of bases including a first base and a second base for supporting the articles and a plurality of connectors configured to removably couple the first base to the second base. The plurality of bases comprise apertures for coupling with the plurality of connectors and the plurality of connectors comprise portions configured to engage the apertures of the plurality of bases. The plurality of connectors are adapted to support the first base in an upper position relative to the second base and the second base in a lower position relative to the first base when the portions of the plurality of connectors configured to engage the apertures of the plurality of bases are coupled to the apertures of the plurality of bases.

[0008] Another embodiment of the present invention relates to a merchandising system for presenting and storing products. The merchandising system comprises a first tray for holding products, a second tray for holding products, and a first set of connectors configured to removably couple the first tray to the second tray. The first tray and the second tray comprise apertures for coupling with the first set of connectors and the first set of connectors comprise portions configured to engage the apertures of the first tray and the second tray. The first set of connectors are adapted to support the first tray in an upper position relative to the second tray and the second tray in a lower position relative to the first tray when the portions of the first set of connectors configured to engage the apertures of the first tray and the second tray are coupled to the apertures of the first tray and the second tray.

[0009] Another embodiment of the present invention further relates to a merchandising system for articles comprising a first set of platforms for holding articles including a first platform and a second platform and a first set of connectors configured to couple the first platform to the second platform in a multi-level arrangement wherein one of the first platform and the second platform is positioned above the other of the first platform and the second platform. The first platform and the second platform comprise apertures and connectors for coupling the first platform and the second platform together side-by-side. The first platform and the second platform are adapted to either be coupled in the multi-level arrangement by way of the first set of connectors, or side-by-side by way of apertures and platform connectors. The first set of connectors comprise teeth of varying shapes configured to engage the apertures of the first set of platforms. The first platform and the second platform further comprise an assembly for advancing the articles from a back end to a front end of the first platform and the second platform.

DESCRIPTION OF THE DRAWINGS

[0010] **FIG. 1** is a front perspective view of a merchandising system according to an exemplary embodiment;

[0011] **FIG. 2** is an exploded front perspective view of a merchandising system according to an exemplary embodiment;

[0012] **FIG. 3** is a top plan view of a merchandising system according to an exemplary embodiment;

[0013] **FIG. 4** is a bottom view of a merchandising system according to an exemplary embodiment;

[0014] **FIG. 5A** is a side view of a merchandising system according to an exemplary embodiment;

[0015] **FIG. 5B** is a side view of a merchandising system according to an exemplary embodiment;

[0016] **FIG. 6** is a front perspective view of a connector from the merchandising system according to an exemplary embodiment;

[0017] **FIG. 7** is a top view of a connector from the merchandising system according to an exemplary embodiment;

[0018] **FIG. 8** is a bottom view of a connector from the merchandising system according to an exemplary embodiment;

[0019] **FIG. 9** is a front perspective view of a connector from the merchandising system according to an exemplary embodiment;

[0020] **FIG. 10** is a top view of a connector from the merchandising system according to an exemplary embodiment;

[0021] **FIG. 11** is a bottom view of a connector from the merchandising system according to an exemplary embodiment;

[0022] **FIG. 12** is an illustrative embodiment of bases from a merchandising system being coupled together;

[0023] **FIG. 13** is front perspective view of bases from a merchandising system coupled together according to an exemplary embodiment;

[0024] **FIG. 14** is an illustrative embodiment of connectors being coupled to a base from a merchandising system;

[0025] **FIG. 15** is an illustrative embodiment of a second base being coupled to the connectors of a merchandising system;

[0026] **FIG. 16** is an illustrative embodiment of a plurality of bases from a merchandising system being coupled together;

[0027] **FIG. 17** is a front perspective view of a plurality of bases from a merchandising system coupled together according to an exemplary embodiment;

[0028] **FIG. 18** is a front perspective view of a biasing mechanism according to an exemplary embodiment; and

[0029] **FIG. 19** is a front perspective view of a biasing mechanism according to an alternative embodiment.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0030] Referring to the Figures, various exemplary and alternative embodiments of a merchandising system intended for displaying articles such as products, containers, items, units, etc. in consumer settings such as grocery stores, retail outlets, shops, etc. are shown. According to a preferred embodiment, the merchandising system is intended to dispense, store, merchandise, display, etc. articles to provide for the space-efficient presentation of groups of articles within a given or fixed display area, and/or to allow for convenient and orderly presentation, dispensing, and storage of articles (such as products or product containers) having any of a wide variety of sizes, shapes, and profiles (e.g., wedges, cylinders, rectangular, non-rectangular, etc.). While the invention may be susceptible to embodiment in different forms, there are shown in the drawings, and herein are described in detail, certain illustrative embodiments with the understanding that the present disclosure is to be considered an exemplification of the principles of the invention, and is not intended to limit the invention to those as illustrated and described herein. Additionally, features illustrated and described with respect to one embodiment could be used in connection with other embodiments.

[0031] **FIG. 1** shows a merchandising system **10** (e.g., tray system, shelf system, display system, case, divider system, storage system, modular system, etc.) according to an exemplary embodiment. As shown in the FIGS., merchandising system **10** may comprise a base **20**, a connector **40**, an assembly **50**, and a panel **60**.

[0032] According to an exemplary embodiment shown in **FIGS. 1 and 2**, system **10** includes a base **20** (e.g., tray, floor, support, support system, panel, member, platform, etc.) having a rear end **22** (e.g., rear) and a front end **28** (e.g., front). The rear end **22** may comprise a rear wall **23** (e.g., member, element, etc.) and the front end may comprise a front support **27** (e.g., member, element, etc.). Base **20** may also include sides **18** and **19** (e.g., walls, panels, members, elements, etc.) and surface **21** (e.g., floor, bottom, shelf, etc.). The front support **27**, rear wall **23**, side walls **18** and **19**, and surface **21** may be coupled together to provide a space **29**. As shown in **FIGS. 1 through 5**, base **20** may be provided in a substantially horizontal orientation. The base **20** may be configured to support articles such as product (e.g., merchandise, foodstuffs, boxes, containers, food products, bottles, cans, etc.) in space **29**. The base **20** may also be provided with one or more apertures **16** and **33** (e.g., holes, cutouts, voids, slots, grooves, etc.) in the base **20**.

[0033] As shown in **FIGS. 5A and 5B**, the base **20** may include a first side **18** and a second side **19**. First side **18** may include one or more side supports **25** (e.g., members, frames, bars, walls, elements, panels) for providing support when multiple bases are interconnected. **FIG. 5A** shows a base **20** having two side supports **25** on a side **18**. According to alternative embodiments, any number of side supports may be used. For example, a base may have three side supports (on one side of the base), a base may have four side supports (on one side of the base), etc. Base **20** may include connectors **31** on side **18** for attaching to other objects such as other bases. Connectors **31** may be coupled to apertures **16** and connectors **40**. According to an exemplary embodiment, connectors **31** may be integrally formed as part of the side supports **25**. The base **20** may comprise one or more aperture **33** positioned near the side supports **25** and connector **31**. Apertures **33** may be configured to couple with portions of connector **40** in order to support multiple levels of bases **20**. As shown in **FIG. 5B**, second side **19** may include a number of grooves or apertures **16** for coupling to connectors **40** or other bases **20**.

[0034] According to various exemplary embodiments, one or more base (e.g., tray system) may be provided. The base may be provided on an existing merchandising system such as a shelf, grid system, display case, etc. The base may be

configured to hold, display, retain, store, or otherwise receive articles (e.g., goods, displayed objects, etc.). The base provides for the space division and orderly and convenient presentation of such articles. Base **20** may be configured to connect or couple adjacent systems into a larger overall merchandising system. According to a preferred embodiment, the base **20** has a "modular" construction and facilitates use with other bases, shelves, or a variety of other existing merchandising systems, including shelving units, support surfaces, grids, brackets, hangers, etc.

[**0035**] Referring to **FIGS. 6 through 8**, merchandising system **10** may include one or more of connectors **40**. According to a preferred embodiment, merchandising system **10** includes a plurality of connectors **40**. Connector **40** may include portions **42** (e.g., panels, walls, ends, sides, etc.). According to various exemplary embodiments, connector **40** may include one or more portions for connecting with a base. For example, as shown in **FIGS. 6 through 8**, connector **40** includes "teeth"**48**. Teeth **48** may be configured to coactively engage with corresponding portions of base **20** in order to couple the connector **40** to base **20**. According to an exemplary embodiment as shown in the FIGS., teeth **48** have varying shapes. Teeth **48** may be rectangular, circular, triangular, angular, obtuse, etc. **FIGS. 14 through 17** show how teeth **48** engage with portions of base **20**. For example, teeth **48** may be configured to couple with apertures **16** and **33** on base **20** to hold the connector and base in a desired position. According to various embodiments, the teeth **48** may be of any suitable shape or configuration. Connector **40** may also include one or more rims **46** (e.g., ridges, members, frames, supports, extensions, etc.). Rims **46** may be configured to hold base **20** in position by providing an area for the base **20** to engage with (e.g., rest upon) when the connector **40** and base **20** are coupled together. Rims **46** are preferably configured to accommodate the placement of one or more bases **20** on the connector **40**. For example, rims **46** may include teeth **47** for engaging the base **20**. The side supports **25** of base **20** may engage and couple with connectors **40** as illustrated in **FIGS. 14 through 17**. According to an exemplary embodiment, teeth **48** may be "snapped" onto portions of side supports **25**, thereby coupling the base **20** to connector **40**. Connector **40** may be integrally formed as one piece. According to alternative embodiments, connector **40** may be formed by coupling separate members together (e.g., rim **46** and portions **42** and **43**). According to alternative embodiments, connector **40** may be formed by any suitable method.

[**0036**] The base **20** may also be provided with at least one track **70** (e.g. guide, notch, groove, recess, slot, etc.). The track **70** may extend substantially along the length of the base **20**. When coupled with base **20**, connector **40** provides support for track **70** as shown in the FIGS. For example, teeth **48** may be configured to "snap" onto portions of base **20** to help prevent track **70** from being spread apart as member **52** moves along base **20**. According to alternative embodiments, base **20** may include a support **34** (e.g., bar, clip, fastener, etc.) that adheres to the bottom of the base on both sides of the track **70**. The support **34** may be permanently coupled to base **20** to provide support to track **70**. For example, the support **34** may include tabs (e.g., fingers, prongs, hooks, connectors, etc.) which "clip" into apertures located on base **20** and an adhesive bond may be applied to keep the support **34**"locked" in place. According to alternative embodiments, a support **34** may be removably coupled to base **20**.

[**0037**] According to various alternative embodiments, the configuration of the base may be altered to better accommodate the shape of the articles (e.g., the base may have a circular, rectangular, triangular or polygonal cross-section, the base may have a non-uniform configuration throughout, etc.). For example, the sides **18** and **19** may comprise multiple members positioned in multiple orientations or positions.

[**0038**] According to an exemplary embodiment, system **10** includes an assembly **50** for advancing articles toward the front end **28** of the base **20**. Assembly **50** may include biasing mechanism **51** (e.g., spring, coil spring, helical spring, elastic, etc.) to urge or bias the member **52**. Member **52** (e.g., paddle, movable panel, scoop, pusher, plate, follower, etc.) is preferably slidably engaged to the base **20**. As shown in **FIGS. 1 and 12** through **17**, the member **52** is slidably engaged to the track **70** of the base **20**. According to an exemplary embodiment, the member **52** may be constructed as a single unit. In an alternative embodiment, the member **52** may be provided as an assembly of two or more elements.

[**0039**] As shown in **FIGS. 1 and 12** through **17**, the biasing mechanism **51** may be a coil spring with a first end attached to the front end **28** of the base **20** and a second end coacting with the member **52**. When the member **52** is near the front end **28** of the base **20**, the spring is at least partially relaxed. As the member **52** is moved away from the front end **28** of the base **20**, the tension in the spring is increased.

[**0040**] According to an alternative embodiment, the coil spring shown in **FIGS. 1 and 12** through **17** can be replaced with any other suitable biasing mechanism. In alternative embodiments, the biasing mechanism may be, but is not limited to, a spring, helical spring, elastic, etc.

[**0041**] As best shown in **FIG. 18**, the member **52** includes a back portion **54** that is provided in a substantially vertical orientation. As shown in **FIG. 18**, the back portion **54** is positioned perpendicular to the base **20**. The back portion **54**, as shown in **FIG. 18**, may be rectangular in shape. The member **52** may be configured to sidably engage with the base **20**. For example, the member **52** may be configured to slidably engage with the track **70** extending substantially the length of the base **20**. The member **52** may be configured to support articles such as product. The member **52** may also be configured to interact with a biasing mechanism **51**. In some embodiments, the shape of the member may be fork-shaped. In other embodiments, the shape of the member may be rectangular, scoop-shaped, circular, triangular, trapezoidal, etc.

[**0042**] Member **52** may be provided with tabs (e.g., projections, pegs, connectors, etc.) which may be configured to coact or engage with the track **70** of the base **20**. The member **52** may also be configured with a platform (tab, ledge, member, shelf, etc.) that may provide support for the biasing mechanism **51**. The platform may also guide the biasing mechanism **51** during the movement of the member **52**.

[**0043**] According to various alternative embodiments, the member may have a wide variety of shapes and/or configu-

rations. For example, the member may be circular, scoop-shaped, triangular, trapezoidal, fork-shaped, etc. According to an alternative embodiment, **FIG. 19** shows a curved member **52***b* (e.g., curved, scoop, shovel-like, cup-like, bucket-like, etc.). Providing a member with a curved shape may better accommodate certain shapes of articles. For example, the curved shape may better accommodate a bag of articles (such as chips, salty-snacks, etc.) while a member of another shape (e.g., rectangular) may better accommodate a more fixed or rigid article (such as boxed products, etc.). According to an alternative embodiment, the member located on a base may be provided with one or more apertures (e.g., cut-outs, reliefs, holes, etc.). The one or more apertures may advantageously reduce the amount of material needed to build and/or construct the member, or alternatively reduce the weight of the member.

[**0044**] As shown in the FIGS., a front support **27** (e.g., portion, base, panel, member, plate, etc.) may be provided along the front end **28** of a base **20**. The front support **27** may be provided in a substantially vertical orientation. According to one exemplary embodiment, the front support **27** may be a configured to couple with panel **60**. As shown in the FIGS., the front support **27** is configured to selectively engage with a portion of the panel **60**. According to a particularly preferred embodiment, the front support **27** engages with the corresponding portions of the panel **60** by a "snap-fit." For example, support **27** may include apertures that are configured to couple with portions (e.g., tabs, protrusions, prongs, connectors, etc.) of panel **60**. The panel **60** may be coupled to the support **27** by inserting the portions of panel **60** into the apertures of support **27**. The portions of panel **60** may be held in place by various means including tension, adhesive, mechanical fasteners, or any other suitable method. The panel **60** may be rectangular, circular, octagonal, trapezoidal, curved, angular, etc. in shape and may be of any size or configuration sufficient to retain the article as a force is being applied to the article by the member. According to alternative embodiments, the panel **60** may be an integral piece with the base and/or sides.

[**0045**] The panel **60** may be configured to receive or display indicia (e.g. text, graphics, display placards, signage, etc.). For example, indicia may be applied directly to the panel **60**. Alternatively, the panel **60** comprises one or more channels configured to hold and display indicia. Additionally, the plate may be clear to increase visibility of the merchandising articles. This configuration allows the articles to be readily visible by minimizing the potential obstruction that could be created by a front wall. According to an exemplary embodiment, the visibility of the articles may be maximized by providing a clear or transparent plate.

[**0046**] According to an exemplary embodiment, one or more fasteners (e.g., mechanical fasteners, adhesives, suction cups, rubber feet, bolts, hook and loop fasteners, brackets, etc.) may be provided on the bottom of merchandising system **10** to hold, retain, etc. the merchandising system **10** in place. According to a particularly preferred embodiment, the fasteners may be non-skid rubber feet provided on the underside of the merchandising system **10** (e.g., provided on supports **34**). Slots may be provided on the underside of the merchandising system **10** to receive the non-skid rubber feet. The non-skid rubber feet may adhere or otherwise coact with a surface (such as a display shelf). According to alternative embodiments, fasteners may be omitted.

[**0047**] As shown in **FIGS. 12 and 13**, the sides **18** and **19** of base **20** may be configured to selectively engage with the sides **18** and **19** of other bases **20** (such as base **20***b*). The sides **18** may be configured with a plurality of connectors **31** (e.g. portions, portions for coupling, fingers, male connectors, members for coupling, hooks, base connectors, tray connectors, platform connectors, etc.) that correspond with apertures **16** (e.g. slots, female connectors, etc.) of other bases to engage and couple a plurality of bases together. As shown in **FIGS. 12 and 13**, multiple bases may be coupled next to one another (e.g., side-by-side). **FIGS. 12 and 13** show the process of coupling first base **20***a* to a second base **20***b*. Connectors **31** on first base **20***a* are inserted into apertures **16** on second base **20***b*. **FIG. 12** shows two connectors **31** of first base **20***a* being inserted into two respective apertures **16** on second base **20***b* (as indicated by the arrows). **FIG. 13** shows the first base **20***a* and second base **20***b* coupled together after the connectors **31** have been inserted into the apertures **16**. The resultant system includes two bases side-by-side for additional storage of articles. In a preferred embodiment, the connector **31** may be coupled to aperture **16** by way of sliding the connector **31** into the aperture **16**. Connector **31** may be released by pulling connector **31** away from or sliding connector **31** along aperture **16**.

[**0048**] According to an alternative embodiment, the connector **31** may be replaced with any element (e.g., latch, hook, etc.) configured to selectively release the base from another base. Each base is preferably identical in shape so that they may be coupled side-by-side with little to no additional equipment of parts.

[**0049**] According to another alternative embodiment, connector **40** may comprise portions that are configured to couple to other connectors **40**. For example, connector **40** may include two portions for coupling on one side of the connector **40** and two corresponding slots on the other side of connector **40** for receiving another connector for coupling. Each connector may be identical in shape in order to reduce tooling costs. One side may be coupled to a side of the base **20**. The other side of connector **40** is available to couple with another connector. According to alternative embodiments, any other suitable method of coupling connectors **40** together may be implemented.

[**0050**] **FIGS. 14 through 17** show how a connector **40** may be attached to a base in order to provide support for a second level of one or more bases positioned above the lower level (e.g., a multi-level arrangement). According to an exemplary embodiment, a rear connector **90** (shown in **FIGS. 9-11**) shown with teeth **92** and portions **94** is coupled to a lower base **20***c*. The portions **96** (e.g., teeth, connectors, sides, etc.) are coupled to the track **70** by insertion into the track opening. The teeth are coupled by way of a snap or tension fit with the track **70**. According to alternative embodiments, any other suitable attachment means may be used. Portions **96** of rear connector **90** further support the rear connector by fitting against and/or engaging with the sides **18** and **19** of the lower base **20***c*. Connectors **40** may also be coupled to the lower base **20***c* by attaching teeth **48** of the connectors **40** to the apertures **16** on side **19** and

connectors **31** on side **18** of the lower base **20***c*. The connector **40** is further positioned so that teeth **48** are available to couple with an upper base **20***d*. Rear connector **90** is also configured to couple with the upper base **20***d*. Similar to how the first base is coupled to rear connector **90** and connectors **40**, the upper base **20***d* is coupled to rear connector **90** and connectors **40**. **FIG. 15** shows how the upper base **20***d* is positioned above the connectors **90** and **40** and the lower base **20***c* so that it may be coupled to the connectors. **FIG. 16** through **17** show how this process may be repeated to add additional bases side-by-side and in multiple levels. For example, **FIG. 17** shows four bases **20***c*, **20***d*, **20***e*, **20***f* coupled side-by-side in a first and second level with respect to the vertical axis.

[**0051**] According to various exemplary embodiments, the assemblies and components of the merchandising system **10** may be constructed from extruded or injection molded plastic. A variety of plastics may be used for construction or assembly. For example, the connector(s) may be constructed or assembled from high-impact plastics, polymers, etc. Using plastic offers several advantages including that the pieces may be constructed in a variety of different colors, surface finishes, textures, opacity, etc. According to various alternative embodiments, a variety of other known or suitable materials may be used, including metals, alloys, composites, etc.

[**0052**] According to the various exemplary embodiments shown in the FIGS., a merchandising system may be provided on a substantially horizontal surface such as a display shelf or may be provided as the substantially horizontal surface of a display shelf merchandising system. According to alternative embodiments, the elements and the assemblies of the various exemplary embodiments may be applied to a merchandising system provided at any orientation and are not limited to a substantially horizontal surface. The exemplary embodiments shown in the FIGS. may be dimensioned to fit any applicable merchandising system (e.g. shelf, display, grid, etc.). For example, the exemplary embodiments advantageously allow a single merchandising system to be used interchangeably with display shelf merchandising systems of different depths without limiting the storage capacity of the merchandising system to the storage capacity of the smallest merchandising shelf system by providing an enlargeable storage space.

[**0053**] The merchandising system may be incorporated into a display shelf system so that the front end **28** of the merchandising system **10** is near the front edge of the display shelf system. Articles may be placed in the space **29** (e.g., storage space, compartment, bin, holder, etc.) of the merchandising system **10** defined by the surface **21**, the two sides **18** and **19**, the front support **27**, and the rear wall **23**.

[**0054**] The parts defining the space configured to store or display articles may be constructed and assembled as a single integrally formed piece or may be constructed and assembled from multiple parts. The parts may be arranged to form a storage space. Before an article is placed in the space of the merchandising system, the member may be positioned near the front support. With the member positioned near the front of the wall, the size of the space available to accept articles is minimal. The biasing mechanism positions the member near the front support of the merchandising system when no articles are loaded in the merchandising system.

[**0055**] The merchandising system **10** may be initially loaded with articles by either manually positioning the member **52** toward the back of the base **20** and then loading the articles into the expanded space, or by loading the articles through the front and having the articles move the member **52** towards the back of the base **20** as more articles are added to the space. As articles are loaded and the member **52** is moved further from the front end **28**, the tension force in the biasing mechanism **51** may increase. The tension developed in the biasing mechanism **51** may cause the member **52** to apply a force to the articles in the merchandising system **10**. The force applied by the member **52** may securably contain the articles within space **29**. Additionally, the force applied to the articles positions or urges the articles toward the front end **28** of the merchandising system **10**. The biasing mechanism **51** may be adjusted or configured so that the force applied to the articles by the member **52** does not damage the articles.

[**0056**] Once loaded with articles, the merchandising system **10** advantageously allows for the forward movement of the articles after an article is removed. When an article is removed from the front of the merchandising system **10**, the remaining articles are positioned forward by the member **52** to fill the void left by the removed article. Moving the remaining articles to the front of the merchandising system **10** maximizes the visibility of the articles by eliminating the possibility that adjacent articles positioned near the edge of the display shelf system could obstruct the view of an article set back from the edge of the display shelf system. Additionally, the movement of the article to the front of the merchandising system reduces the difficulty of trying to reach an article positioned away from the front edge of a display shelf system. Furthermore, the forward movement also eliminates the need to manually reposition all of the remaining articles in the merchandising system after an article has been removed.

[**0057**] The sides **18** and **19** of the merchandising system may retain the articles when the articles are stored or presented in the merchandising system. The sides **18** and **19** may guide the article as the article is positioned or urged in the merchandising system by the member **52**. The support **27** or panel **60** may prevent the articles from being urged off the front of the merchandising system. When the member **52** positions or urges the articles toward the front of the merchandising system, the support **27** or panel **60** may retain the articles in the merchandising system. According to an alternative embodiment, the merchandising system may be configured so that a support **27** or a panel **60** is not needed to retain the urged article (e.g., an additional member may be added, the configuration of the base and/or side wall may sufficiently retain the article, the angle of the merchandising system, etc.).

[**0058**] According to a preferred embodiment in which the biasing mechanism is a coil spring, the member may provide at least one platform to support the coil spring. When the member is positioned near the front support of the merchandising system, the portion of the coil spring that is uncoiled may be minimal. The platform may support the coiled portion of the spring and may further act as a guide for the coiled spring by preventing the coiled spring from interfering with the merchandising system during the movement of the member.

[0059] The same technique used to initially load the merchandising system may be used to reload the merchandising system as articles are removed. In a particularly preferred mode of operation, the new article is reloaded from the front of the merchandising system as it remains incorporated with the display shelf system.

[0060] The various embodiments of the merchandising system shown in the FIGS. may advantageously allow for individual merchandising systems to be positioned adjacently or stacked vertically, providing for selective modularity in the construction and assembly of the merchandising system. According to alternative embodiments, adjacent systems may be coupled to each other with a variety of fasteners, including dovetails, screws, bolts, adhesives, joints, etc.

[0061] It is important to note that the above-described preferred embodiments are illustrative only. Although the invention has been described in conjunction with specific embodiments thereof, those skilled in the art will appreciate that numerous modifications are possible without materially departing from the novel teachings and advantages of the subject matter described herein. Accordingly, these and all other such modifications are intended to be included within the scope of the present invention as defined in the appended claims. The order or sequence of any process or method steps may be varied or re-sequenced according to alternative embodiments. In the claims, any means-plus-function clause is intended to cover the structures described herein as performing the recited function and not only structural equivalents but also equivalent structures. Other substitutions, modifications, changes and omissions may be made in the design, operating conditions and arrangements of the preferred and other exemplary embodiments without departing from the spirit of the present invention.

What is claimed is:

1. A merchandising system for presenting and storing articles comprising:

a plurality of bases including a first base and a second base for supporting the articles; and

a plurality of connectors configured to removably couple the first base to the second base;

wherein the plurality of bases comprise apertures for coupling with the plurality of connectors;

wherein the plurality of connectors comprise portions configured to engage the apertures of the plurality of bases; and

wherein the plurality of connectors are adapted to support the first base in an upper position relative to the second base and the second base in a lower position relative to the first base when the portions of the plurality of connectors configured to engage the apertures of the plurality of bases are coupled to the apertures of the plurality of bases.

2. The merchandising system of claim 1 wherein the portions of the plurality of connectors configured to engage the apertures of the plurality of bases comprise couplers.

3. The merchandising system of claim 2 wherein the couplers of the plurality of connectors comprise teeth.

4. The merchandising system of claim 3 wherein the teeth have varying shapes and one or more of the teeth are adapted to couple to the base by sliding into the apertures of the base.

5. The merchandising system of claim 1 wherein at least one of the plurality of connectors comprises a support.

6. The merchandising system of claim 5 wherein the support comprises a ridge configured to engage a portion of the base to prevent the at least one of the plurality of connectors from moving when coupled to a base.

7. The merchandising system of claim 1 wherein at least one of the plurality of connectors is configured to couple to a connector provided on at least one of the plurality of bases.

8. The merchandising system of claim 7 wherein the at least one of the plurality of connectors is configured to couple to the connector provided on the at least one of the plurality of bases and at least one of the apertures provided on the at least one of the plurality of bases.

9. The merchandising system of claim 1 wherein each of the plurality of bases comprise an assembly for advancing the articles from a back end to a front end of each of the plurality of bases.

10. The merchandising system of claim 9 wherein the assembly for advancing the articles comprises a pusher device that provides a biasing force against the articles.

11. The merchandising system of claim 10 wherein the assembly for advancing the articles provides a biasing force from the back end of each of the plurality of bases toward the front end of each of the plurality of bases along a slot located on each of the plurality of bases.

12. The merchandising system of claim 1 wherein the plurality of connectors provide support to the plurality of bases at side supports provided on the plurality of bases.

13. The merchandising system of claim 12 wherein the side supports are integrally formed as part of the plurality of bases.

14. The merchandising system of claim 12 wherein the first base and the second base further comprise base connectors provided on the side supports.

15. The merchandising system of claim 14 wherein the first base and second base may be coupled together by inserting the base connectors of one of the first base and the second base into the apertures of the other of the first base and the second base.

16. The merchandising system of claim 15 wherein the first base and the second base are positioned side-by-side when the base connectors of one of the first base and the second base are inserted into the apertures of the other of the first base and the second base.

17. The merchandising system of claim 1 wherein the plurality of bases further comprises:

a third base and a fourth base; and

wherein the plurality of connectors are adapted to support the third base in an upper position relative to the fourth base and the fourth base in a lower position relative to the third base.

18. A merchandising system for presenting and storing products comprising:

a first tray for holding products;

a second tray for holding products; and

a first set of connectors configured to removably couple the first tray to the second tray;

wherein the first tray and the second tray comprise apertures for coupling with the first set of connectors;

wherein the first set of connectors comprise portions configured to engage the apertures of the first tray and the second tray; and

wherein the first set of connectors are adapted to support the first tray in an upper position relative to the second tray and the second tray in a lower position relative to the first tray when the portions of the first set of connectors configured to engage the apertures of the first tray and the second tray are coupled to the apertures of the first tray and the second tray.

19. The merchandising system of claim 18 further comprising a third tray, a fourth tray, and a second set of connectors;

wherein the first tray, second tray, third tray and fourth tray comprise apertures and tray connectors.

20. The merchandising system of claim 19 wherein the first tray is coupled to the third tray by way of the tray connectors of one of the first tray and the third tray being inserted into the apertures of the other of the first tray and the third tray so that the first tray and the third tray are positioned side-by-side.

21. The merchandising system of claim 20 wherein the second tray is coupled to the first tray by way of the first set of connectors so that the second tray is positioned above the first tray.

22. The merchandising system of claim 21 wherein the third tray is coupled to the fourth tray by way of the second set of connectors so that the fourth tray is positioned above the third tray.

23. The merchandising system of claim 22 wherein the second tray is coupled to the fourth tray by way of the tray connectors of one of the first tray and the third tray being inserted into the apertures of the other of the second tray and the fourth tray so that the second tray and the fourth tray are side-by-side.

24. A merchandising system for articles comprising:

a first set of platforms for holding articles including a first platform and a second platform;

a first set of connectors configured to couple the first platform to the second platform in a multi-level arrangement wherein one of the first platform and the second platform is positioned above the other of the first platform and the second platform;

wherein the first platform and the second platform comprise apertures and connectors for coupling the first platform and the second platform together side-by-side;

wherein the first platform and the second platform are adapted to either be coupled in the multi-level arrangement by way of the first set of connectors, or side-by-side by way of apertures and platform connectors;

wherein the first set of connectors comprise teeth of varying shapes configured to engage the apertures of the first set of platforms; and

wherein the first platform and the second platform further comprise an assembly for advancing the articles from a back end to a front end of the first platform and the second platform.

25. The merchandising system of claim 24 wherein the connectors of the first set of platforms are hooks that fit into the apertures to couple the first platform and the second platform together with a snap-fit.

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