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Polvere et al.(10) **Pub. No.: US 2006/0118502 A1**(43) **Pub. Date: Jun. 8, 2006**(54) **MERCHANDISE DISPLAY SYSTEM****Publication Classification**(76) Inventors: **Dennis James Polvere**, Millstone
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A47F 5/00 (2006.01)(52) **U.S. Cl.** **211/135; 211/187**Correspondence Address:
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WASHINGTON, DC 20006 (US)(57) **ABSTRACT**

An inexpensive and easy to assemble merchandise display system is disclosed. The system includes at least one elongated wall having front and rear edges and including a plurality of slits extending from the front edge into the wall, and at least one shelf having front and rear edges and including a plurality of slits extending from the rear edge into the shelf. The wall and shelf slits are configured to be matingly engageable so that the shelf and wall can be selectively interlocked by engagement of a shelf slit and a wall slit to form a skeletal structure that defines uniform or non-uniform areas, as desired.

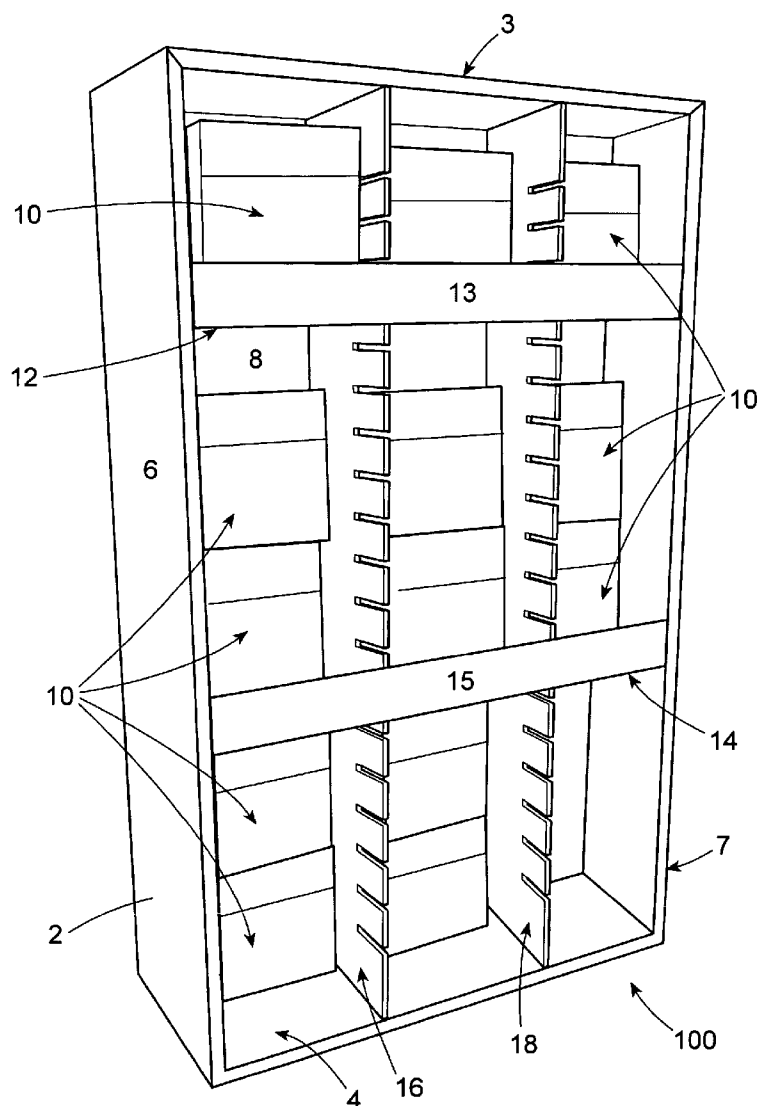
(21) Appl. No.: **11/286,043**(22) Filed: **Nov. 22, 2005****Related U.S. Application Data**(60) Provisional application No. 60/633,329, filed on Dec.
3, 2004.

FIG. 1

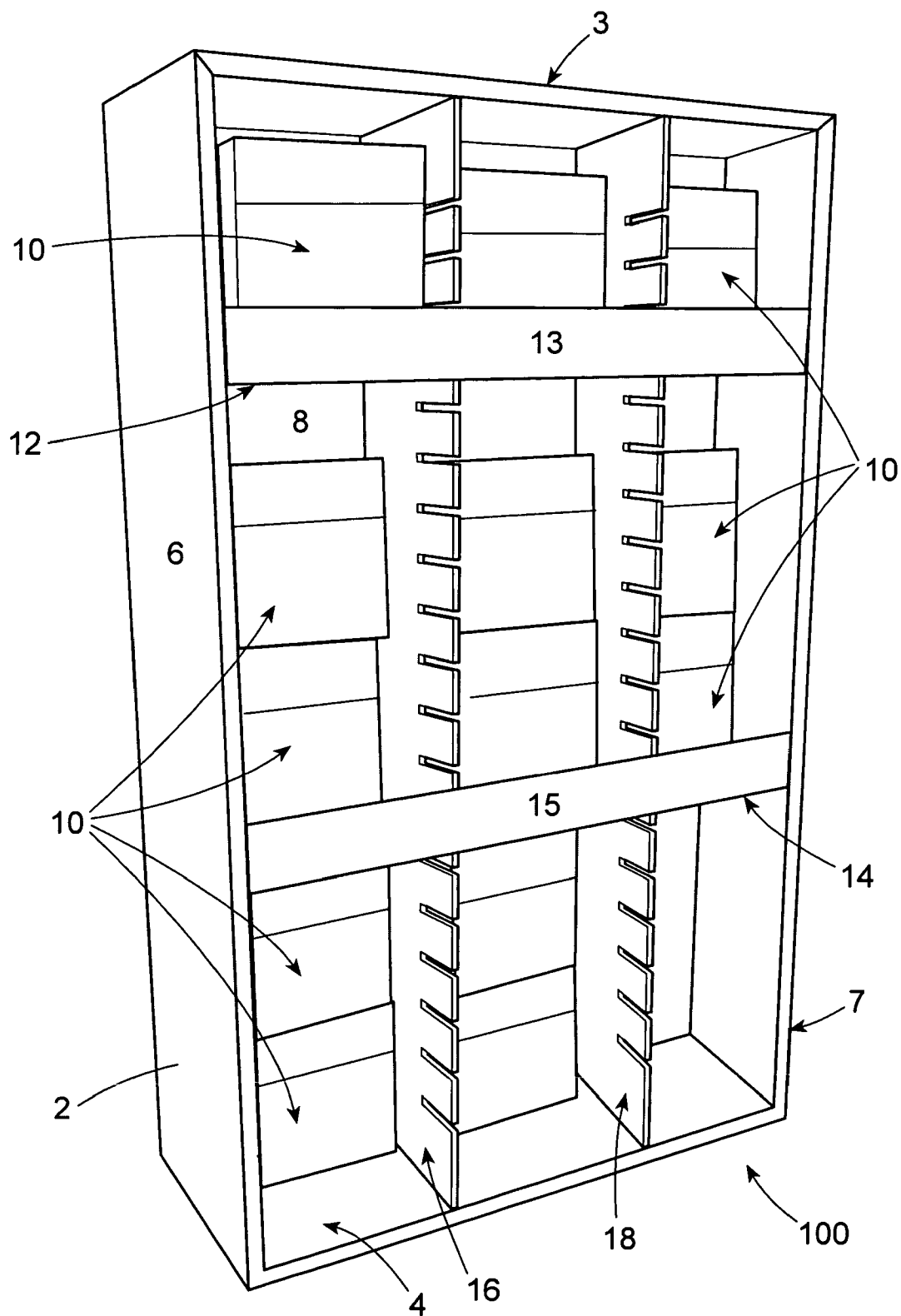


FIG. 2

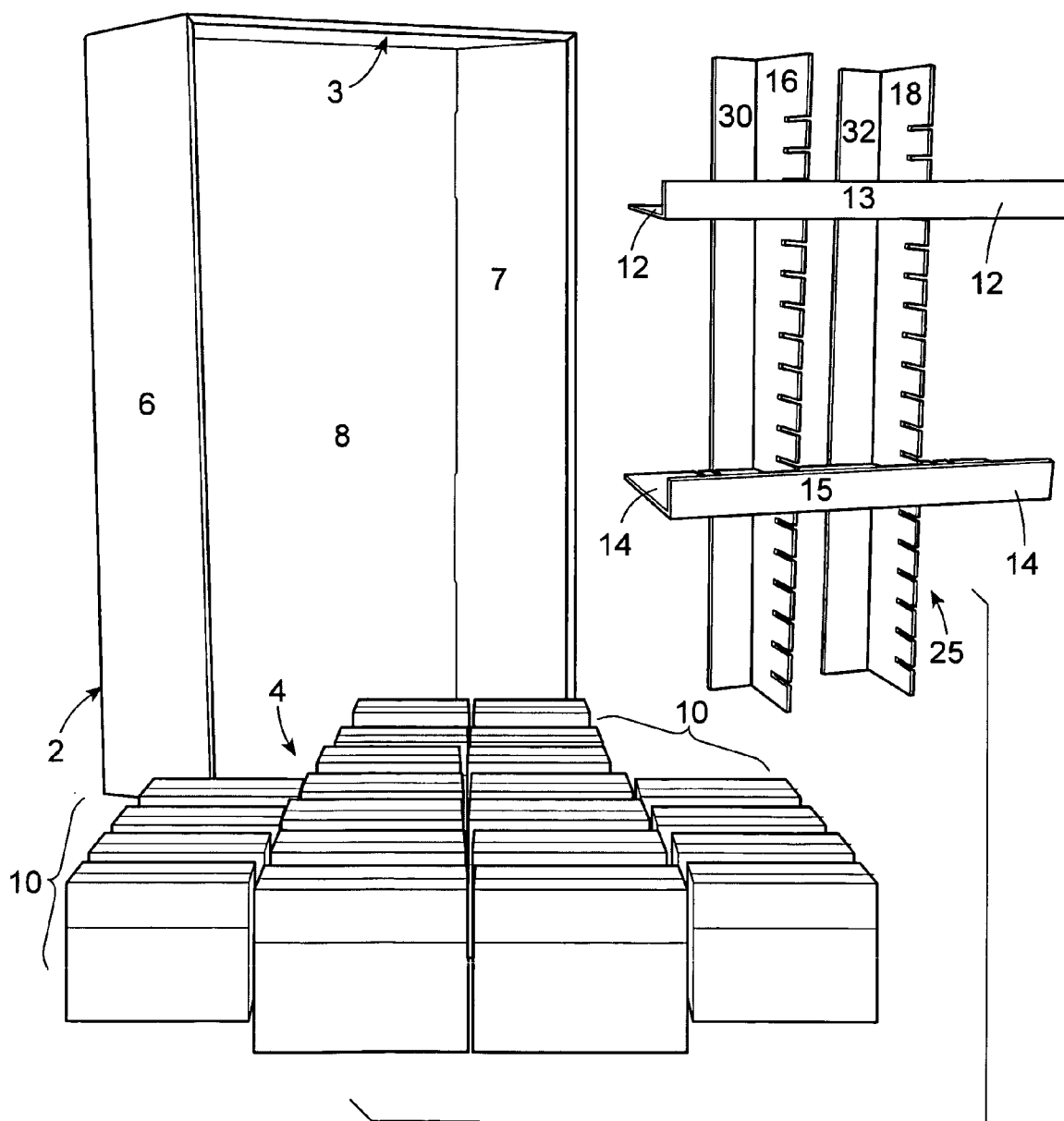
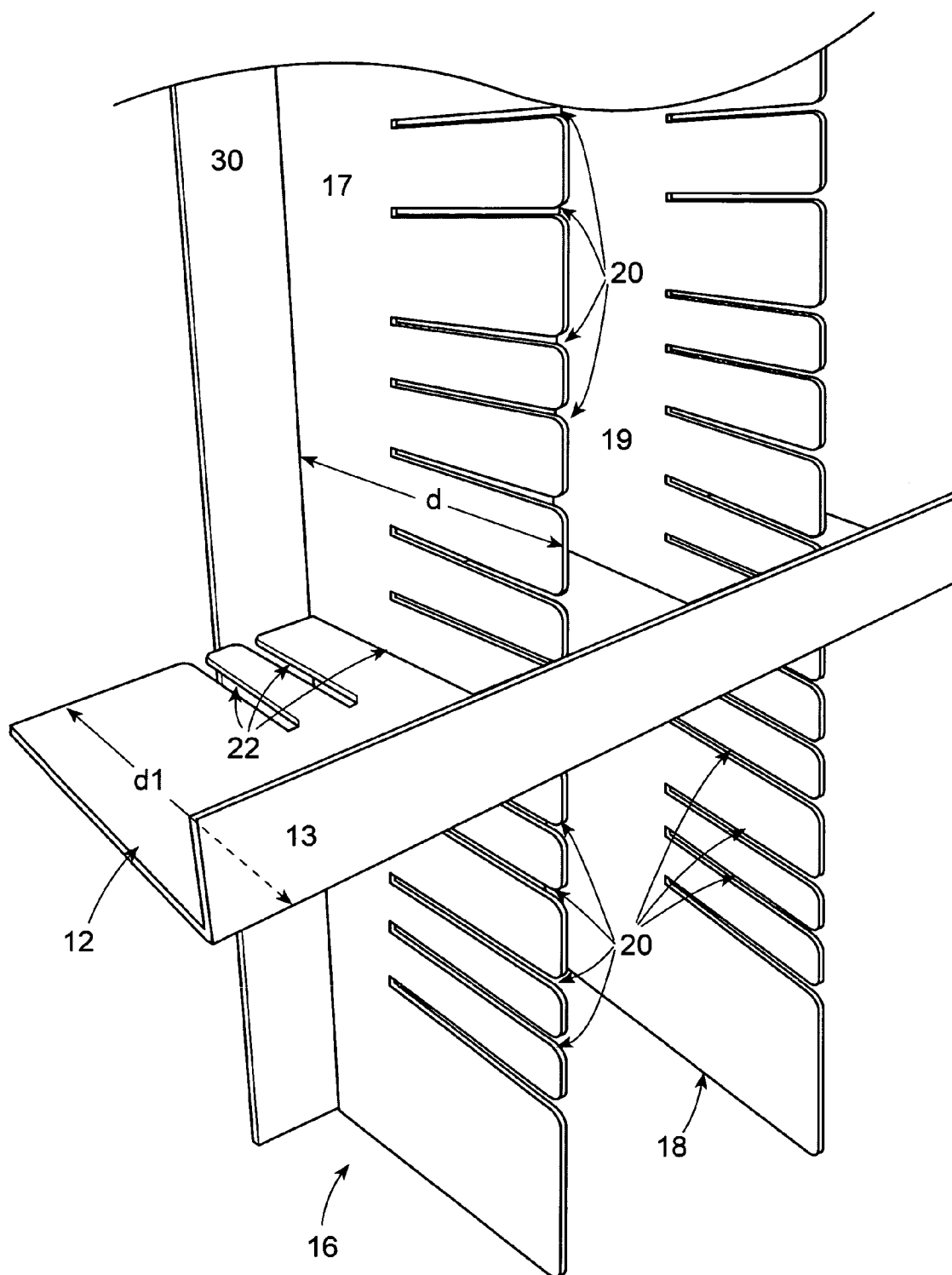
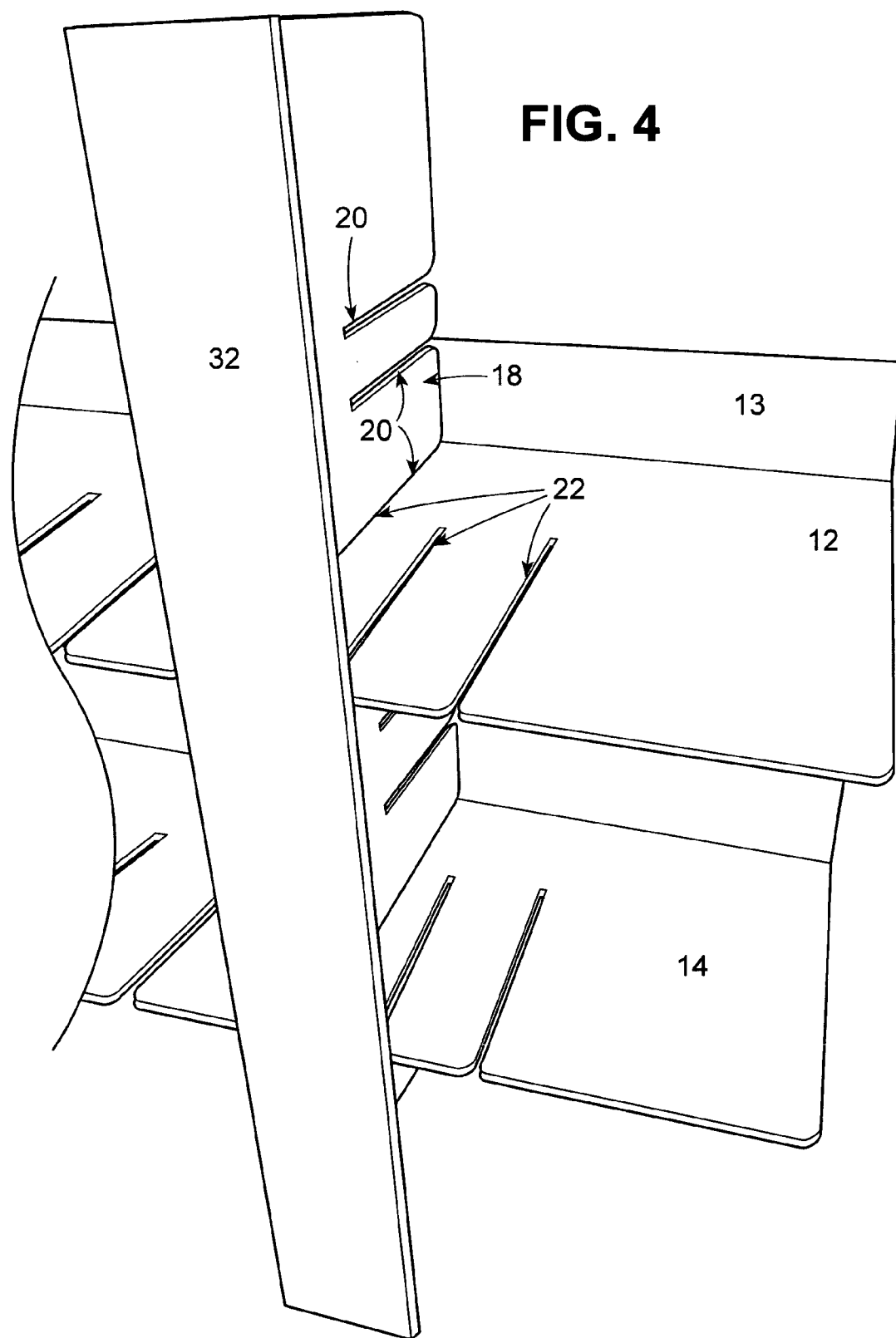


FIG. 3





MERCHANDISE DISPLAY SYSTEM

[0001] This application claims the benefit of Provisional application 60/633,329 filed Dec. 3, 2004, the entire content of which is expressly incorporated herein by reference thereto.

BACKGROUND ART

[0002] The present invention generally relates to an inexpensive and flexible merchandise display system. In an embodiment, the merchandise display system includes at least one elongated wall having front and rear edges and including a plurality of slits extending from the front edge into the wall, and at least one shelf having front and rear edges and including a plurality of slits extending from the rear edge into the shelf. The shelf and wall can be selectively interlocked by engagement of a shelf slit and a wall slit to form a skeletal structure defining uniform or non-uniform areas, as desired. The merchandise display is easy to assemble, and provides for the easy loading, organization, storage, shipment, display, promotion and dispensing of containerized or packaged goods, for example, goods contained within jars, bottles, cans and boxes.

[0003] Adjustable product or merchandise display and dispensing units are known. For example, a wide variety of modular display devices have been designed and manufactured for use in organizing and merchandising shelved products to consumers. Supermarkets and other retail stores commonly utilize the displays to show and focus attention on the products displayed therein.

[0004] It is also common practice to provide product display apparatus to product manufacturers for loading, organizing and shipping products to retailers. The retailers set up the loaded product displays within their retail stores. Such product displays typically include a housing made of cardboard and multiple interior cardboard walls or wire guides, and are delivered in kit form to the manufacturers' site for assembly and loading of products. A manufacturer may hire a third party co-packer to assemble such display devices and to load them with products for shipping to retailers. Such cardboard containers tend to be difficult to assemble and typically are somewhat flimsy. Due to the time and effort required to assemble and load such product displays, manufacturers pay the co-packers increased fees and that cost is either passed on to consumers or eats into profits.

[0005] A need therefore exists for a product display that is inexpensive, simple to assemble, and that is sturdy and presentable so as to meet the display and dispensing requirements of retailers.

SUMMARY OF THE INVENTION

[0006] The invention relates to an inexpensive, easy to assemble and flexible merchandise display system. The system includes at least one elongated wall having front and rear edges and including a plurality of slits extending from the front edge into the wall, and at least one shelf having front and rear edges and including a plurality of slits extending from the rear edge into the shelf. The slits are configured to be matingly engageable so that the shelf and wall can be selectively interlocked by engagement of a shelf slit and a wall slit to form a skeletal structure defining uniform or non-uniform areas, as desired.

[0007] Advantageously, the skeletal structure includes at least two shelves interlocked with two walls, wherein each shelf includes an article retaining lip provided at the front edge of the shelf and each wall includes a stand portion provided on the rear edge of the wall. The slits of the wall and/or the shelf are generally aligned with each other but are present in a non-uniform pattern.

[0008] The wall or shelf, or both, can be made of a paper composite material, cardboard or corrugated cardboard, plastic, rubber, fiberglass, metal or a composite material. When cardboard is used, it can be bent to form first and second side portions that provide a more stiff or rigid construction. Also, the cardboard can be bent to form the front lip of the shelf or the stand portion of the wall. Preferably, the wall and the shelf are made of the same material.

[0009] The skeletal structure is used to hold articles for display wherein the articles are arranged in the areas. This enables the skeletal structure to be configured to different open area dimensions to accommodate different sized articles or products. Preferably, the wall slits extend about half-way into the wall and the shelf slits extend about half-way into the shelf. This facilitates the secure engagement of the wall and shelf in the skeletal structure.

[0010] Generally, the apparatus further comprises a housing. This housing may be any shape and the skeletal structure is configured to be fitted into the housing. Preferably, the housing is rectangular and comprises a top wall, a bottom wall, a first side wall, a second side wall, and a rear wall. It is desirable for the housing to be of one piece construction. It is possible for the wall, the shelf and the housing to all be made of the same material. The article retaining lips include at least one of artwork, advertising or promotional material to further enhance the display of the articles.

[0011] The details of one or more embodiments of the invention are set forth in the accompanying drawings and the detailed description below. Other features and advantages of the invention will be apparent from the detailed description and drawings, and from the claims.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0012] Other aspects, purposes and advantages of the invention will become clear after reading the following detailed description with reference to the attached drawings, in which:

[0013] **FIG. 1** shows a front perspective view of an assembled embodiment of a merchandise display system according to the invention.

[0014] **FIG. 2** depicts a partially assembled merchandise display similar to that of **FIG. 1**, which includes a skeletal structure and a housing.

[0015] **FIG. 3** is an enlarged view of two walls fitted to a shelf.

[0016] **FIG. 4** is an enlarged, rear view of a wall connected to two shelves.

[0017] Like reference symbols in the various drawings indicate like elements.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] **FIG. 1** shows a preferred embodiment of an assembled merchandise display system **100** according to the invention. In this implementation, the merchandise display system **100** includes a housing **2** having a top wall **3**, a bottom wall **4**, sides walls **6** and **7**, and a rear wall **8** (shown in **FIG. 2**). Merchandise boxes **10** have been loaded into the merchandise display, and are shown sitting on the bottom wall **4** and on two shelves **12** and **14** that include article retaining lips **13** and **15**. Separating the merchandise boxes and supporting the shelves **12** and **14** are two walls **16** and **18**. In the embodiment shown, the article retaining lips **13** and **15** of the shelves and the outer wall portions of the housing **2** are blank, but these areas may contain artwork, advertising or other promotional material. The merchandise boxes **10** may be loaded as shown inside the housing **2**, and in a retail environment consumers remove the merchandise for purchase from any of the compartments or areas defined by the shelves **12,14** and walls **16,18**. The merchandise containers shown in the example of **FIG. 1** are all boxes, but it should be understood that other containers such as jars, cans and boxes of different sizes and shapes could also be housed and dispensed by a suitably configured and dimensioned product display **100**.

[0019] **FIG. 2** depicts a partially assembled merchandise display, with the merchandise boxes **10** waiting to be loaded therein. A skeletal structure **25** has been assembled that includes two walls **16** and **18** interlocked with two shelf components **12** and **14**. The skeletal structure **25** may be force-fit into the housing **2** so that the back portions of the walls and shelves are contacting the back wall **8** of the housing, in order to form the merchandise display as shown in **FIG. 1**. The back portions of the walls and shelves may be provided with an adhesive substance such as glue to secure the skeletal structure within the housing, or the skeletal structure may be held in place by frictional forces. In a variation, inner portions of the back wall **8**, the side walls **6** and **7**, top wall **3** and the bottom wall **4** may include indentations or channels (not shown) to accept or seat the corresponding back portions of the skeletal structure therein.

[0020] **FIG. 3** is an enlarged view of two walls **16** and **18** fitted to one shelf unit **12** to form a skeletal structure that may be used as a merchandise display. It should be noted that each of the walls **16** and **18** includes a plurality of slits **20** that are designed to interact or interlock with any of the plurality of slits **22** found on the shelf unit **12**. The slits **20** and **22** occur at predetermined uniform or non-uniform intervals along the length of the walls and shelves, and are provided so that different combinations of shelf and wall configurations can be assembled that define different uniform or non-uniform areas. Any particular configuration of shelves and walls can depend upon considerations such as the overall size of the merchandise display, the type and dimensions of items to be displayed, and the weight of the items. In an embodiment, the slits **20** and **22** run approximately half the width “d” of the side panels **17** and **19** of each wall **16** and **18**, and the slits **22** are likewise about half the distance “d1” of the shelf **12**. This provides the most secure engagement of the walls and shelf members.

[0021] The plurality of slits permits alternate configurations of shelves to be securely connected or interlocked to

the wall panels in any desired configuration to meet retailer or merchandiser requirements, and to provide a skeletal structure having appropriate rigidity to support the desired size or sizes of merchandise containers. The slits may be formed in predetermined uniform or non-uniform locations on the front edges of the walls and the back edges of the shelves so that after assembly the areas formed are proportional to the dimensions of items or products of a particular manufacturer. For example, three or more walls could be used with two or more shelves to create different size areas. Such a skeletal structure could be used with or without a housing to display merchandise. When the skeletal structure of assembled walls and shelves are snugly fit into the housing **2** as shown in **FIG. 1**, a visually clean, presentable, and stable merchandise display is provided.

[0022] It should also be noted that the preferred embodiment of walls and shelf components have an “L-shaped” cross section. In particular, the walls **16** and **18** include stand portions **30** and **32**, and the shelves **12** and **14** include article retaining lips **13** and **15**, respectively (see **FIGS. 2 and 3**). The L-shape of these components also function to add stability and rigidity to the skeletal structure **25** that results when they are assembled, as shown in **FIG. 2**. In an implementation, at least one of the corrugated cardboard wall and shelf components includes flute wires, which are wires that are inserted into the flute-shaped corrugations and function to provide added support. One or more, preferably two, such flute wires would be pre-installed before the shelf and/or wall components are shipped to assemblers. The flute wires may be, for example, one-sixteenth inch diameter wires that are capable of being bent to support the stand portions of the wall components and/or the article retaining lip portions of the shelf components.

[0023] It should be understood that other cross-sectional shapes could be used that result in a skeletal structure that functions to adequately separate and support merchandise containers. The walls and shelves provide mechanical strength to the resulting skeletal structure and are sufficiently rigid or non-bending to hold merchandise containers.

[0024] **FIG. 4** is an enlarged, rear view of a wall **18** connected to two shelves **12** and **14**. As shown, one of the slits **20** of the walls **18** is interlocked with a slit **22** of the shelf **12**. The shelf unit **14** is connected in like manner, and one or more additional walls (not shown) may also be interlocked in like fashion.

[0025] Individual components (walls, shelves, housings) of the unassembled merchandise display system **100** may be shipped separately to assemblers. In particular, the housing may be contained within a flat piece of cardboard and then folded to obtain the generally rectangular shape shown in **FIGS. 1 and 2**. The wall and shelf members likewise could be shipped flat, and then folded or otherwise manipulated to into shape and assembled to form skeletal structures by selecting particular wall slits and shelf slits on each component to interlock as required. Instructions could be provided on separate instruction sheets to co-packers indicating the appropriate configuration to assemble, or could be printed directly on the housing or on the wall and shelf components, as appropriate. The components of the present merchandise display can be shipped more compactly than prior art merchandise displays, and thus shipping costs are reduced.

[0026] The unassembled components may also be shipped as kits, and two or more walls and shelves may be provided in each kit depending on the type of skeletal structure required. In a particular embodiment similar to that illustrated in **FIGS. 1 and 2**, the walls **16 and 18** may be about 24 inches long, and the shelf components **12 and 14** may be about 12 inches long, which are standard dimensions for certain merchandise displays in the retail industry. The length, width and depth of the housing, wall and shelf components may vary, depending on the items or merchandise to be seated thereon. Of course, the shelf, wall and housing components can be made to be larger or smaller depending on various conditions such as merchandise size and weight.

[0027] In a preferred embodiment, the housing, walls and the shelf components are made of a durable, lightweight, corrugated material such as cardboard. As mentioned above, such a merchandise display system may be shipped to a co-packer or to a product manufacturer for assembly at a product site, such as a warehouse, and could be provided as a flat or planar form with scored sections that enable folding of the form to produce the housing, along with a plurality of walls and shelf components. But it should be understood that other materials could also be used, such as a resilient plastic, wood, rubber, fiberglass, metal or a composite material, so long as the merchandise display components have sufficient rigidity to resist bending under the weight of the merchandise, and during prolonged use. In particular, when in place, the skeletal structure must be strong enough to support the weight of the merchandise containers and must provide uninterrupted access to the merchandise for loading or unloading. Thus, if the product containers to be inserted into the merchandise display are heavy, more walls could be used to support the shelves, or the shelves and walls could be made of a strong material.

[0028] Other configurations of the merchandise display are contemplated that would accommodate products of different sizes and weights. Furthermore, as also mentioned above, the walls and shelf components could have other cross-sectional shapes. In addition, a portion of one or both tips or ends of these components could have a reduced size to facilitate fitting the walls and/or shelves into a cavity or slit provided in the housing so as to firmly seat the skeletal structure therein.

[0029] If the merchandise display is to be loaded with heavy items, such as shampoo containers or tomato sauce jars, and then shipped to retail outlets, then the housing, walls and shelves used to separate and display the products must also be designed to withstand shipment of such heavy products when the product display is laid on its back during shipment. Moreover, the walls and shelves may be required to support the heavy products during shipment without breakage to either the product containers or to the walls and shelves themselves. Additional walls and/or shelves could be supplied and located behind or underneath the heavy products to act as a support during shipment, and to support the items during display in some cases. Provision could be made in housing so that such additional walls and/or shelves are centered behind the products, and these additional components would be inserted into the housing during assembly in the same manner described above.

[0030] It should be understood that the merchandise display system presented herein could be suitable for use by

retailers, wholesalers, manufacturers or any others requiring an easy to assemble, inexpensive and durable merchandise display. Simple assembly and low material costs are achieved by using a small number of common or shared walls and interlocking shelves that include a plurality of slits, and that may be inserted within a standard size housing. Such a merchandise display system could be used to display many different merchandise item combinations, and made of any number of desired materials to match any budget and any marketplace. In particular, any of the disclosed embodiments could be made from a paper product such as corrugated board, durable cardboard stock or a paper composite material, which can be prepared so that it is easy to fold to form the generally rectangular shape of the housing or the shapes of the wall and shelf components. Use of such paper product materials lowers costs, especially when compared to prior art product displays of this type which typically used more costly materials that required special tooling and longer assembly time. The factors considered when choosing the material in which to fabricate a product display system according to the invention include durability, retail life span, product perception, retail environment and budget constraints.

[0031] The merchandise displays described herein could also be made of a durable plastic, a polymer material, or a rubberized material which would potentially allow the product display to be reused many times. If the same or even if different products are to be loaded into such a reusable merchandise display, a co-packer or retail store employee need only change any advertisements or other artwork appearing on the merchandise display to make the merchandise display appear to look like new again.

[0032] It should also be understood that the manufacturing processes used to make the various components may include any of vacuum forming a plastic material, die cutting a material, using injection molding and all other types of molding to form a component, heat bending, wood routing and other manufacturing processes known to those skilled in the art. Such manufacturing processes could be used alone or in any combination.

[0033] A number of embodiments of the invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. Accordingly, other embodiments are within the scope of the following claims.

What is claimed is:

1. A merchandise display system, comprising:

at least one elongated wall having front and rear edges and including a plurality of slits extending from the front edge into the wall; and

at least one shelf having front and rear edges and including a plurality of slits extending from the rear edge into the shelf, wherein the wall and shelf slits are configured to be matingly engageable so that the shelf and wall can be selectively interlocked by engagement of a shelf slit and a wall slit to form a skeletal structure that defines uniform or non-uniform areas, as desired.

2. The apparatus of claim 1, which further comprises a skeletal structure including two shelves interlocked with two walls.

3. The apparatus of claim 1, wherein each shelf includes an article retaining lip provided at the front edge of the shelf.

4. The apparatus of claim 1, wherein each wall includes a stand portion provided on the rear edge of the wall.

5. The apparatus of claim 1 wherein the slits of the wall are generally aligned with each other but are present in a non-uniform pattern.

6. The apparatus of claim 1 wherein the slits of the shelf are generally aligned with each other but are present in a non-uniform pattern.

7. The apparatus of claim 1, wherein at least one of the wall and the shelf is made of corrugated cardboard.

8. The apparatus of claim 7, wherein the corrugated cardboard is bent to form first and second side portions.

9. The apparatus of claim 7, wherein the corrugated cardboard is bent to form the front lip of the shelf.

10. The apparatus of claim 7, wherein the corrugated cardboard is bent to form the stand portion of the wall.

11. The apparatus of claim 7, which further comprises at least one flute wire inserted into at least one of the wall and shelf.

12. The apparatus of claim 1, wherein the wall and the shelf are made of the same material.

13. The apparatus of claim 12, wherein the material comprises at least one of a paper composite material, cardboard, corrugated cardboard, plastic, rubber, fiberglass, metal or a composite material.

14. The apparatus of claim 1, further comprising articles for display arranged in the areas.

15. The apparatus of claim 1, wherein the wall slits extend about half-way into the wall.

16. The apparatus of claim 1, wherein the shelf slits extend about half-way into the shelf.

17. The apparatus of claim 1, further comprising a housing.

18. The apparatus of claim 17, wherein the housing is rectangular and comprises a top wall, a bottom wall, a first side wall, a second side wall, and a rear wall.

19. The apparatus of claim 17, wherein the housing is of one piece construction.

20. The apparatus of claim 17, wherein the skeletal structure is configured to be fitted into the housing.

21. The apparatus of claim 17, wherein the wall, the shelf and the housing are all made of the same material.

22. The apparatus of claim 21, wherein the material comprises at least one of a paper composite material, cardboard, corrugated cardboard, plastic, rubber, fiberglass, metal or a composite material.

23. The apparatus of claim 17, wherein each shelf includes an article retaining lip provided at the front edge of the shelf.

24. The apparatus of claim 23, wherein each wall includes a stand portion provided on the rear edge of the wall.

25. The apparatus of claim 23, further comprising articles for display arranged in the areas so that they stand on the shelf and are retained by the lip.

26. The apparatus of claim 23, wherein the article retaining lips include at least one of artwork, advertising or promotional material.

27. The apparatus of claim 17, wherein at least one of the wall and the shelf includes a non-uniform pattern of slits.

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