



US 20120103922A1

(19) **United States**

(12) **Patent Application Publication**
Bird et al.

(10) **Pub. No.: US 2012/0103922 A1**

(43) **Pub. Date: May 3, 2012**

(54) **PRODUCT MERCHANDISER**

Publication Classification

(75) Inventors: **Gregory M. Bird**, Solon, OH (US);
Gerald Szpak, North Royalton, OH (US);
Shane Obitts, Elyria, OH (US);
James J. Rataiczak, III, Chesterland, OH (US)

(51) **Int. Cl.** *A47F 1/04* (2006.01)
(52) **U.S. Cl.** **211/59.3**

(57) **ABSTRACT**

(73) Assignee: **Fasteners For Retail, Inc.**

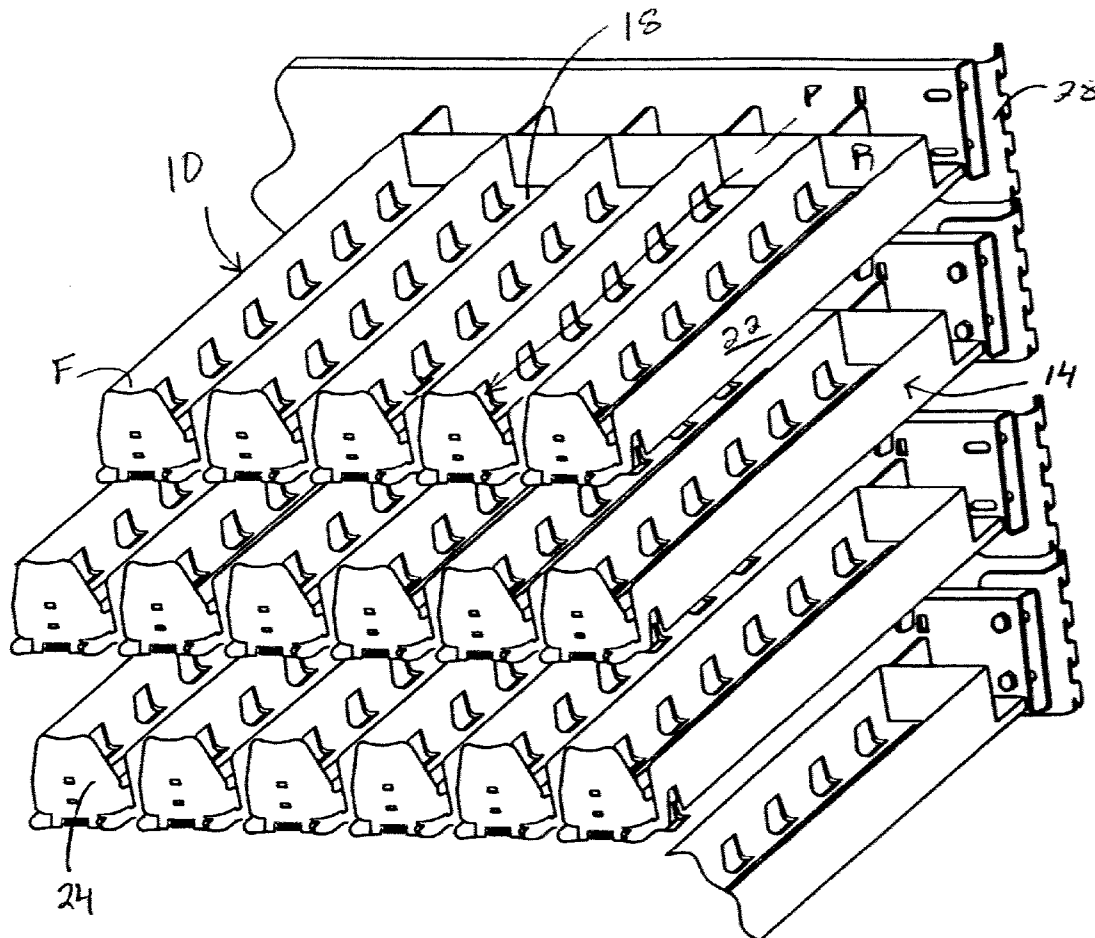
A shelf security system in the form of a merchandising shelf having a support member for supporting at least one associated object for display and/or dispensing. The support member defines longitudinal pathway along which the associated at least one object can travel from a rear position to a front position. A moveable retainer is operatively connected to the support member. The retainer is moveable between a first position at least partially obstructing the pathway thereby restricting forward movement of the at least one associated object beyond the front position, to a second position allowing further forward movement of the at least one associated object for removal of same from the support member. The retainer extends substantially across a width of the pathway.

(21) Appl. No.: **13/282,031**

(22) Filed: **Oct. 26, 2011**

Related U.S. Application Data

(60) Provisional application No. 61/409,237, filed on Nov. 2, 2010.



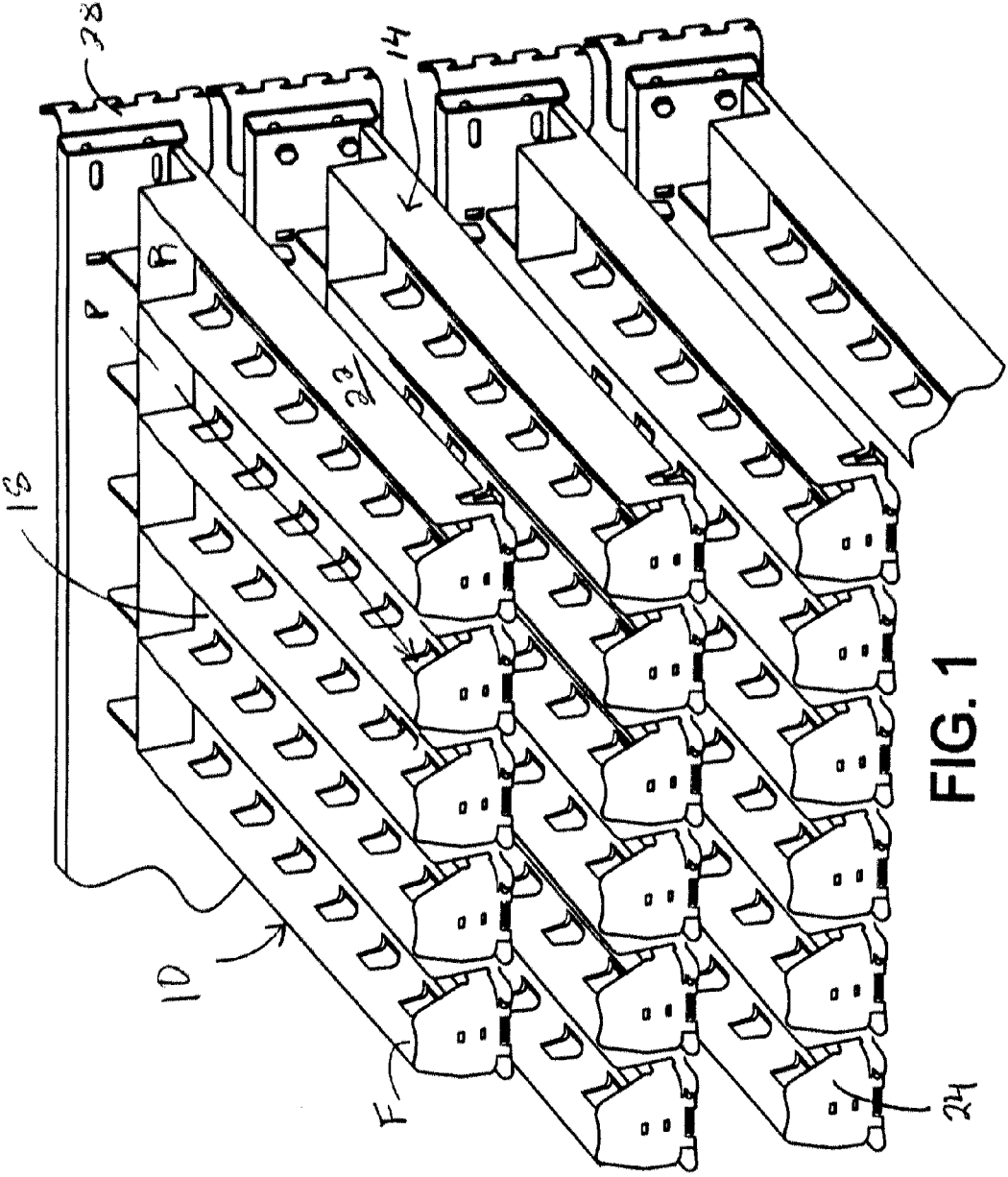


FIG. 1

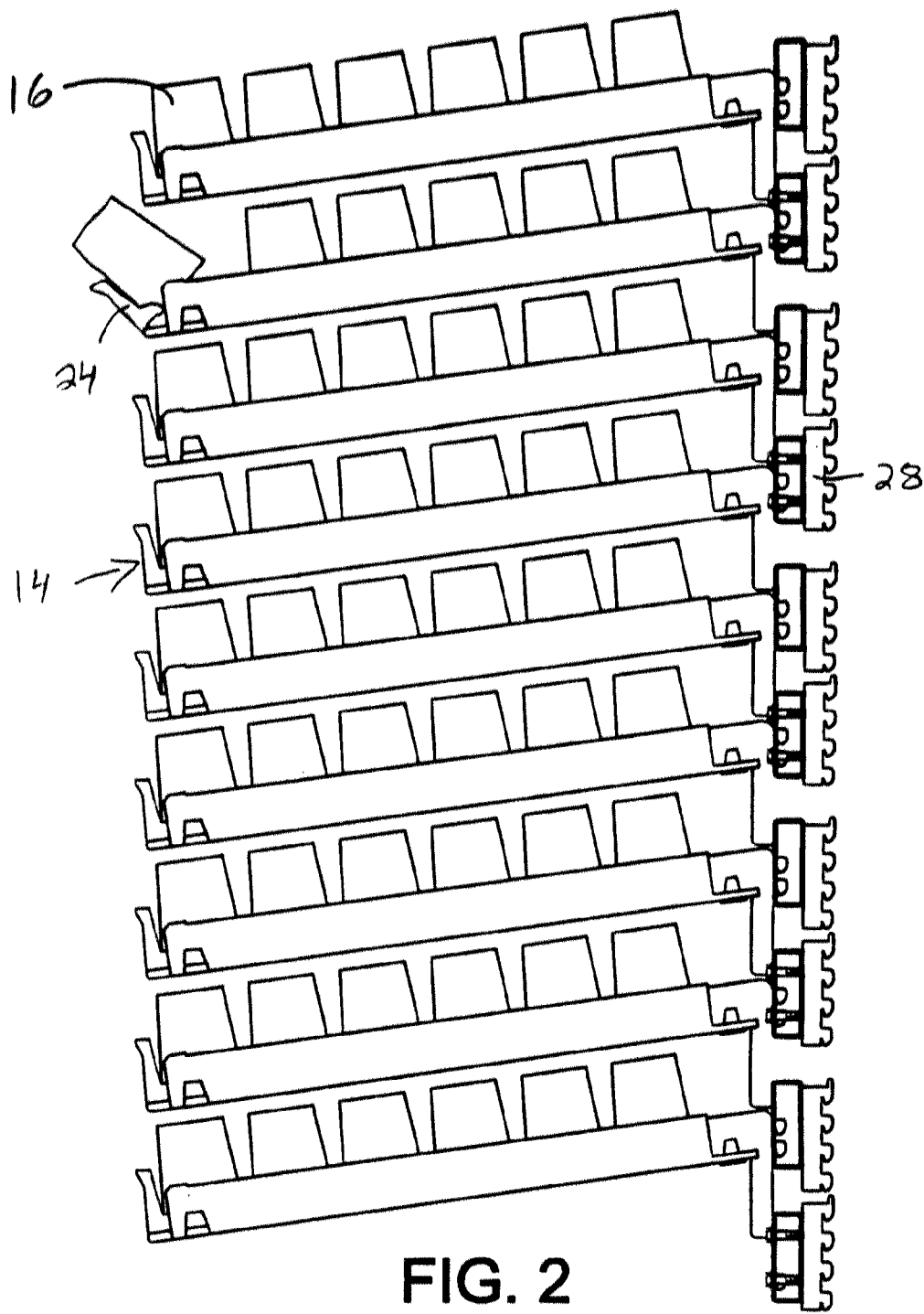


FIG. 2

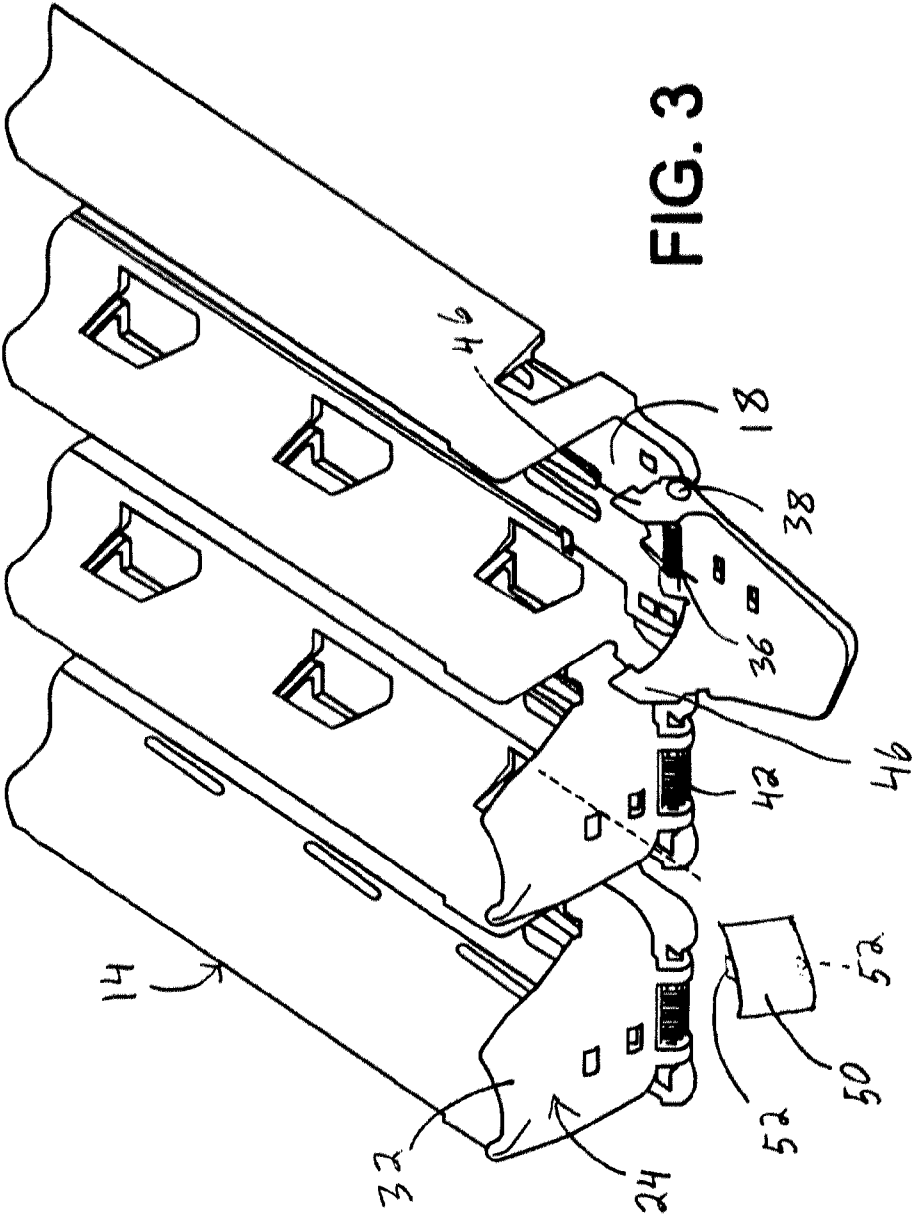


FIG. 3

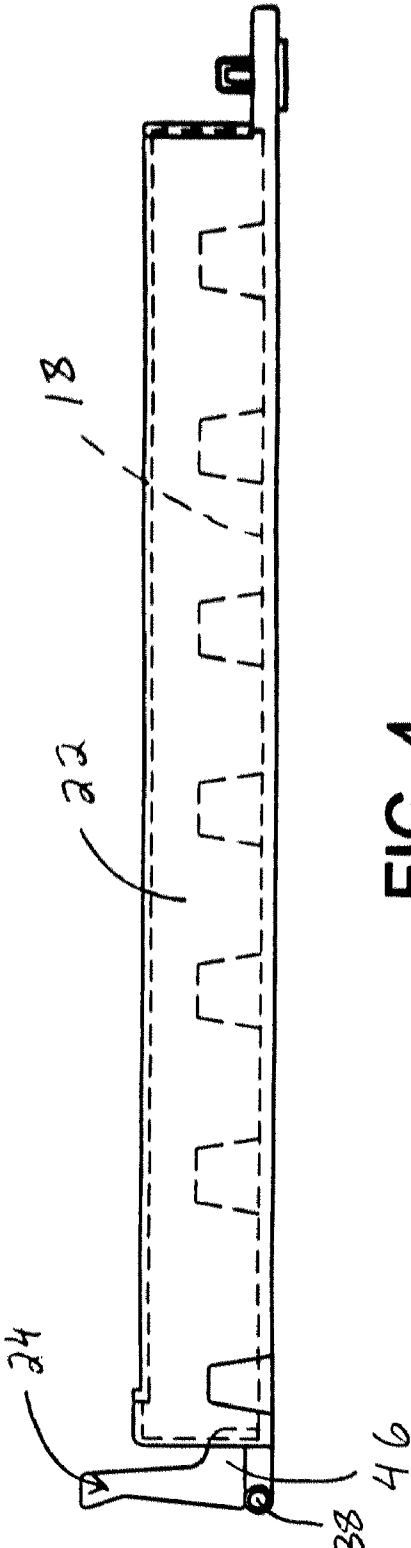


FIG. 4

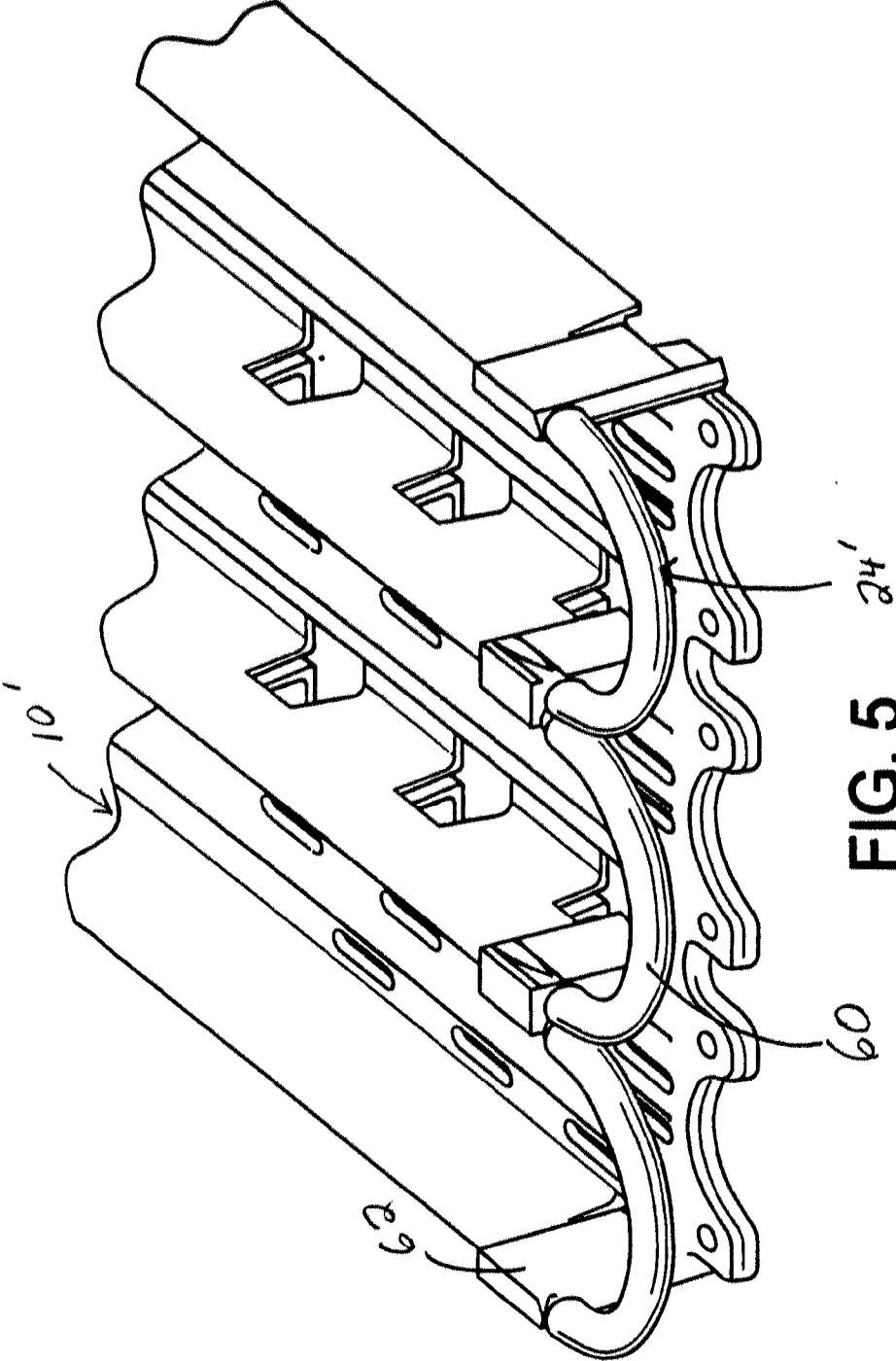


FIG. 5

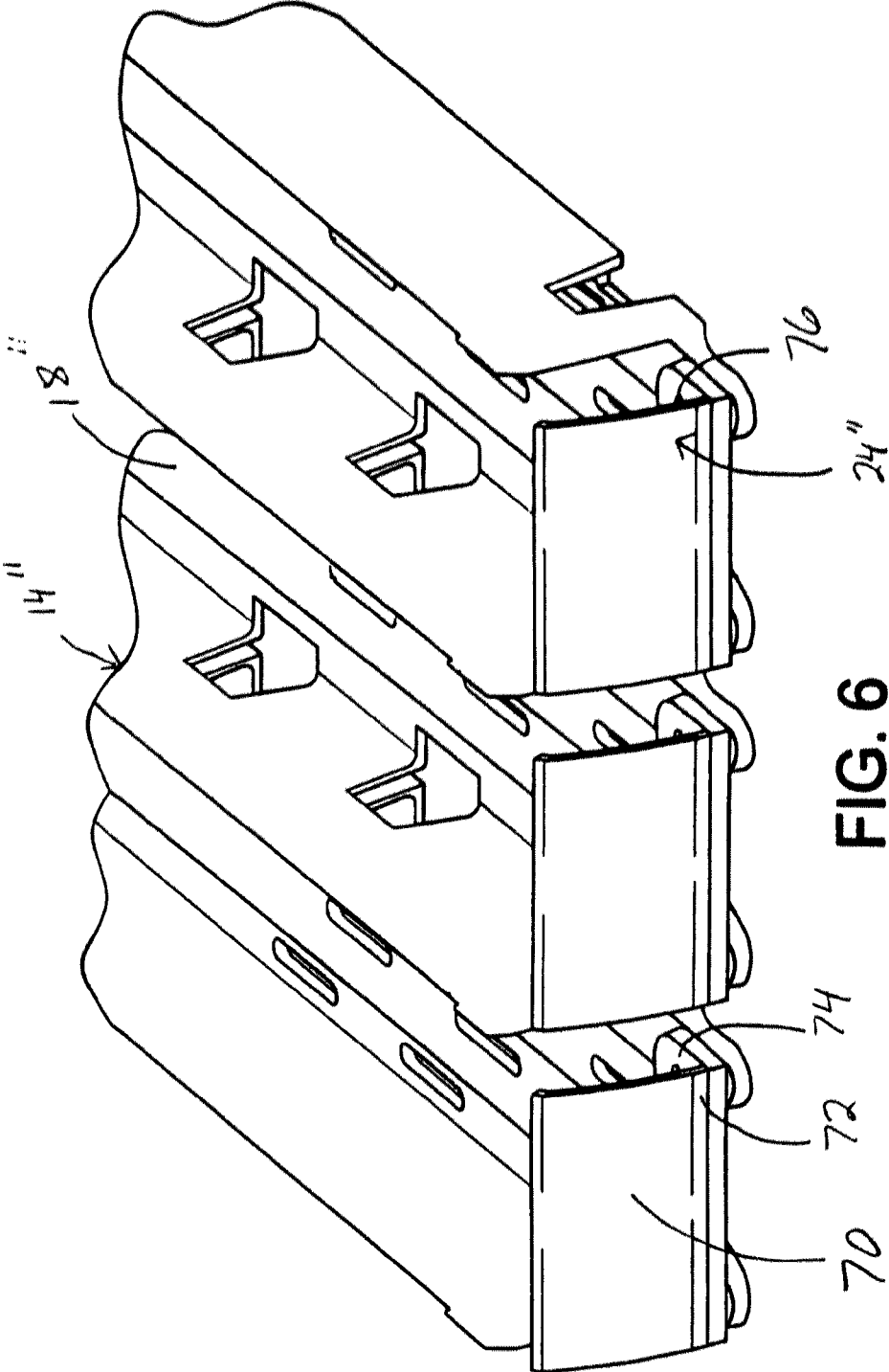


FIG. 6

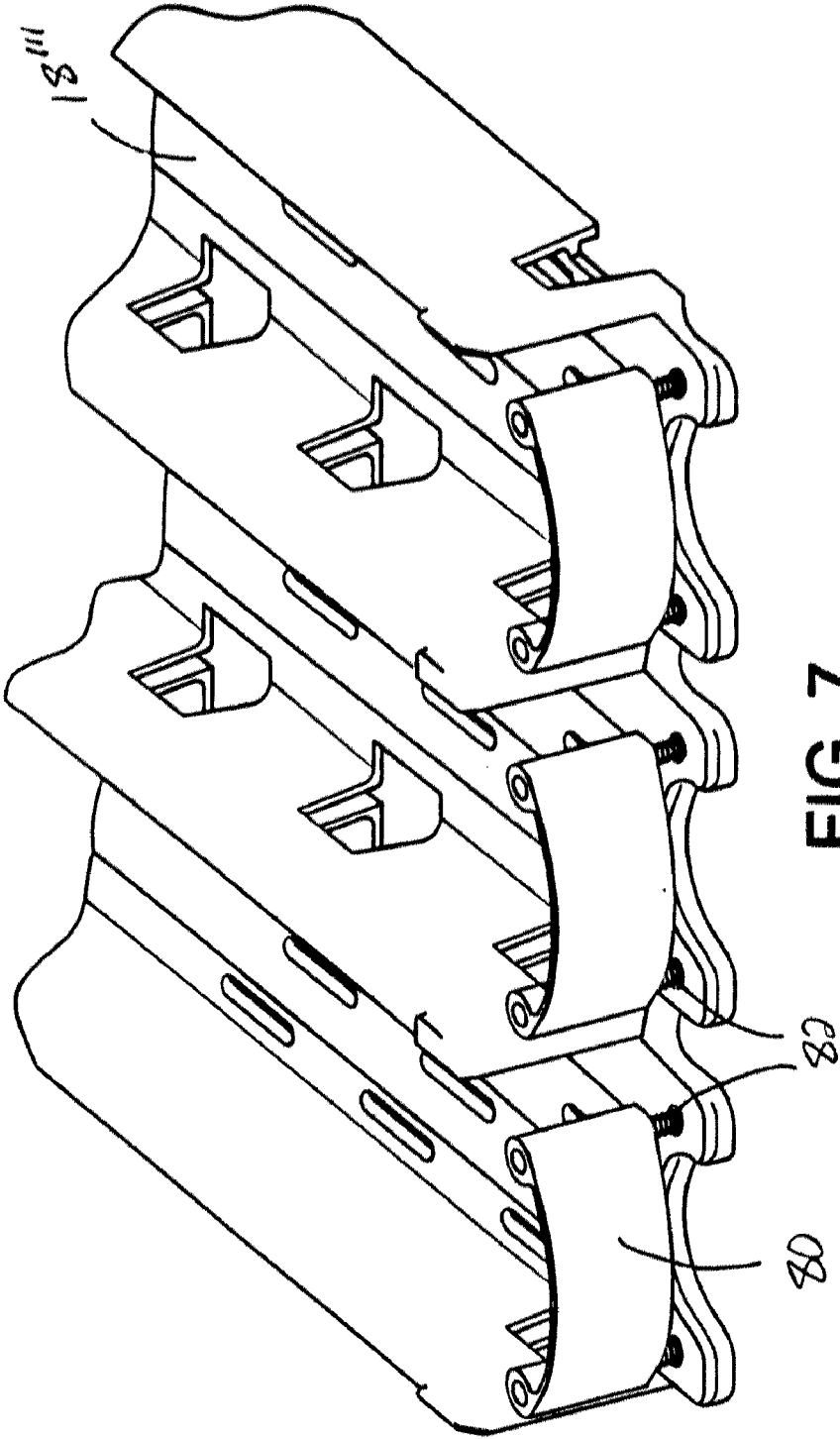


FIG. 7

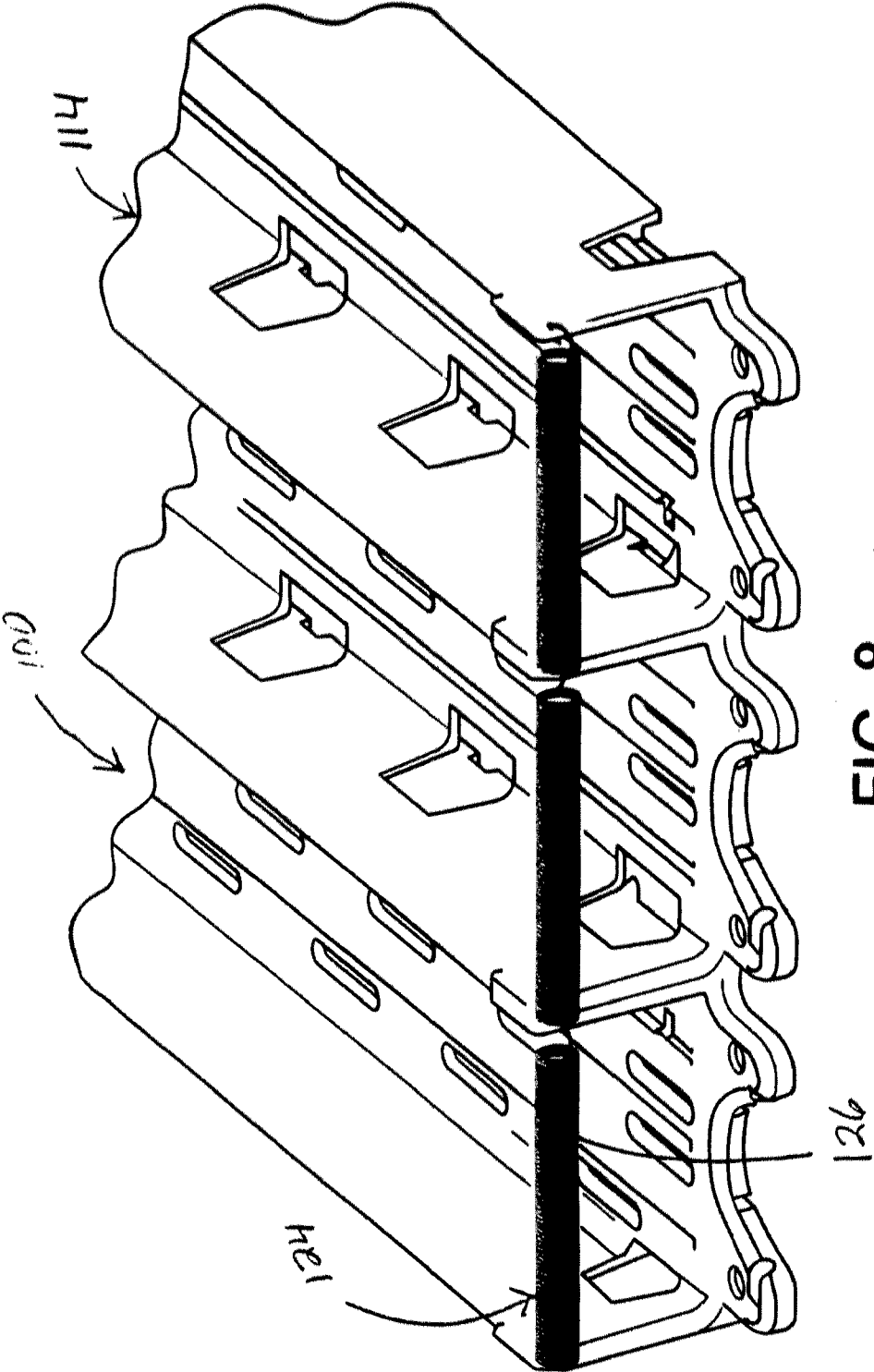


FIG. 8

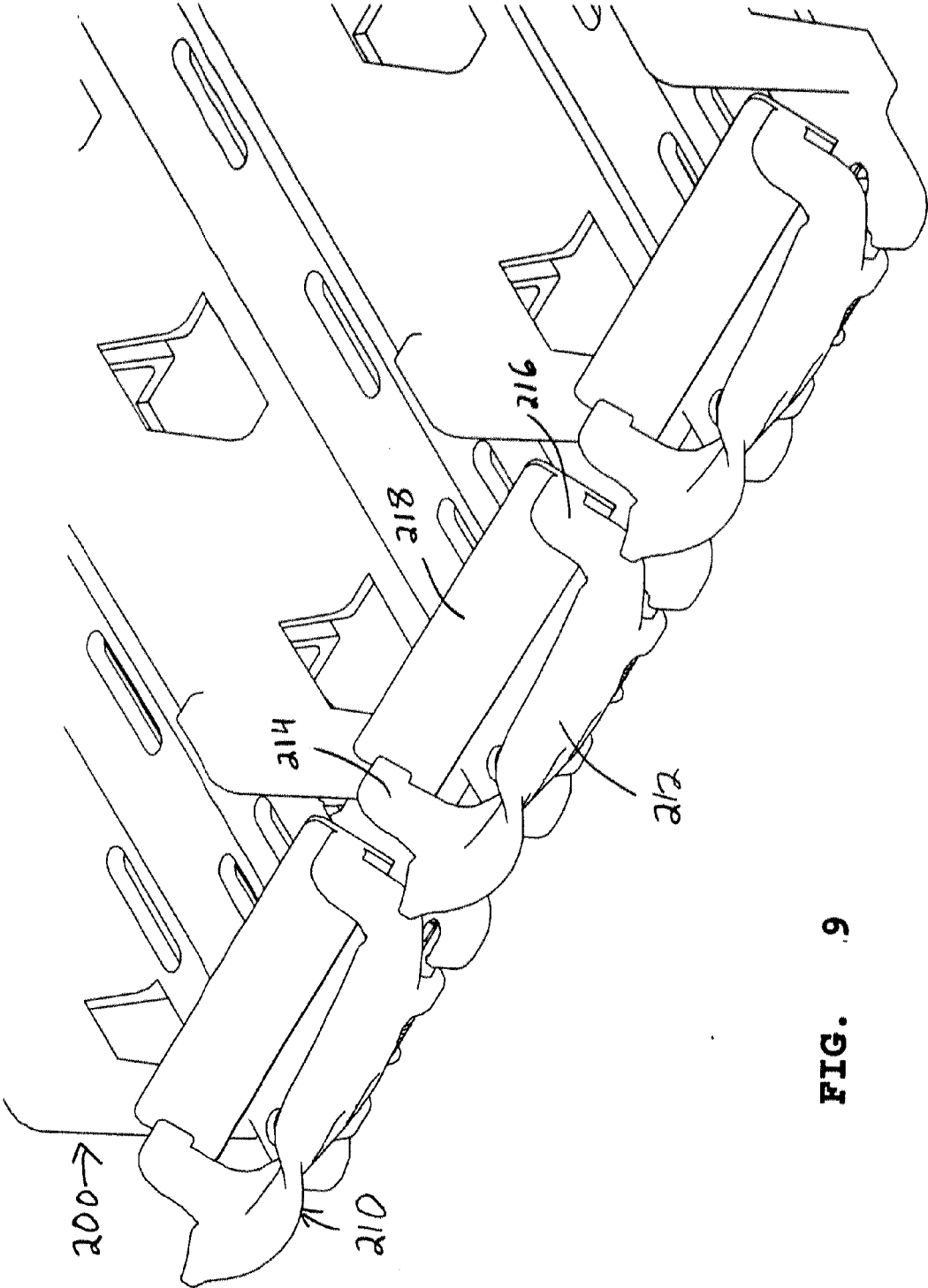


FIG. 9

PRODUCT MERCHANDISER

BACKGROUND

[0001] The present development concerns a product dispensing system employed in point of sale merchandising.

[0002] The present disclosure relates particularly to shelving systems for feeding containers forward. More specifically, it relates to modular gravity fed shelving systems for fragile products, such as individual thin wall containers of a refrigerated product, such as yogurt. Yogurt is typically sold in individual cups or containers in supermarkets and the like. Traditionally, yogurt is sold in refrigerator cases including generally horizontal shelves upon which the yogurt containers, having planar bases and planar tops, are stacked.

[0003] Gravity feed systems are known to move products towards the front of display or storage cases. While it is now known to gravity feed yogurt towards the front end of a refrigerated display case, the currently known retainers positioned at the front end of such yogurt display trays or shelves are not optimal. More specifically, it is known to provide flexible fingers or tabs attached to each side wall or divider wall of a channel defined in the tray. These fingers or tabs are not particularly sturdy and may become damaged. Replacement of the fingers, tabs or arms may necessitate replacing the divider wall itself, since these elements are generally fastened to the dividing wall. Thus, a need exists for a shelving system which would allow the stocking, display and sale of individual cup or jar type products, such as yogurt, for sale and which overcomes the deficiencies of prior shelving systems.

BRIEF DESCRIPTION OF THE DISCLOSURE

[0004] In one embodiment, the present invention relates to a product vending system in the form of a merchandising shelf comprising a support member for supporting at least one associated object for display and/or dispensing. The support member defines a longitudinal pathway along which the associated at least one object can travel from a rear position to a front position. A moveable retainer is operatively connected to the support member. The retainer is moveable between a first position at least partially obstructing the pathway thereby retarding forward movement of the at least one associated object beyond the front position of the at least one associated object, to a second position allowing further forward movement of the at least one associated object for removal of same from the support member. The retainer extends substantially across a width of the pathway.

[0005] The support member can include a pair of laterally spaced apart side walls and a base wall defining therebetween a longitudinally extending channel having a rear end and a front end, and in which the at least one associated object can be supported. The moveable retainer is attached to at least one of the side walls or the base wall adjacent the front end of the channel. The moveable retainer can include a panel pivotally attached to the support member, the panel configured to pivot from an upright position, corresponding to the first position at least partially obstructing the path, to a position reclined relative to the upright position, corresponding to the second position allowing further forward movement of the at least one object. The panel can be attached by a hinge to the support member. The hinge can comprise at least one coil spring adapted to secure the panel to the support structure and to urge it to the upright position and permit deflection of the panel to the reclined position. The panel can be generally planar, con-

vex or concave. The panel can include a base wall which can serve as a stop member to retard further associated objects held on the support member from moving towards the front position when the panel is moved from the first position. The panel can be biased towards the first position which retards the associated object from advancing in relation to the support member, such as by a resilient member. The resilient member can comprise at least one spring. The spring can permit deflection of the panel in a direction which allows the associated object to be advanced in relation to the support member.

[0006] In another embodiment, the moveable retainer can include a resilient member which is adapted to be resiliently deflected between the first and second positions. The resilient member can include a spring extending transversely across the longitudinal pathway of the support member, the spring being fixed at opposite ends thereof to permit resilient deflection of the spring in a direction which allows the associated object to be advanced in relation to the support member. Alternatively, the resilient member can include an elastomer body extending transversely across the longitudinal pathway of the support member, the elastomer body being fixed at opposite ends thereof to permit resilient deflection of the body in a direction which allows the associated object to be advanced in relation to the support member. The elastomer body can have a concave shape for at least partially surrounding an associated at least one object when in the front position of the support member. A merchandising shelf module can comprise a plurality of merchandising shelves as set forth above, the support members of the merchandising shelves arranged in a side-by-side fashion.

[0007] According to another aspect of the disclosure, a merchandising system comprises a plurality of merchandise shelves for displaying and/or dispensing one or more associated objects, said shelves being arranged in an array and each shelf including a support member for supporting at least one associated object for display and/or dispensing. The support member defines a longitudinal path along which the associated at least one object can travel from a rear position to a front position. A moveable retainer is operatively connected to the support member and is moveable between a first position at least partially obstructing the path, thereby restricting forward movement of the at least one associated object beyond the front position, to a second position allowing further forward movement of the at least one associated object for removal of same from the support member. The pathway of at least one of the shelves is bounded at least partially by an adjacent shelf, said adjacent shelf restricting access to the at least one associated object except when the corresponding moveable retainer is moved to the second position. The retainer extends substantially across a width of the pathway.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The present invention may take physical form in certain parts and arrangements of parts, several embodiments of which will be described in detail in this specification and illustrated in the accompanying drawings which form a part hereof and wherein:

[0009] FIG. 1 a perspective view of a product merchandiser system according to one embodiment of the present disclosure;

[0010] FIG. 2 is a reduced side elevational view of the product merchandiser system of FIG. 1;

[0011] FIG. 3 is an enlarged perspective view of a portion of the product merchandiser system of FIG. 1;

[0012] FIG. 4 is an enlarged side elevational view of a mounting channel of the product merchandiser system of FIG. 1;

[0013] FIG. 5 is a perspective view of an exemplary product merchandiser according to another embodiment of the disclosure including elastomer bodies for retaining one or more containers on a tray or shelf;

[0014] FIG. 6 is a perspective view of an exemplary product merchandiser according to still another embodiment of the disclosure including a movable retainer, including a hinge formed by a flexible web, for retaining one or more containers;

[0015] FIG. 7 is a perspective view of an exemplary product merchandiser according to a further embodiment of the present disclosure including a movable retainer mounted on vertical springs for retaining one or more containers on a tray or shelf;

[0016] FIG. 8 is a perspective view of an exemplary product merchandiser according to yet another embodiment of the present disclosure including an exemplary spring element for retaining one or more containers; and

[0017] FIG. 9 is a perspective view of a yet further embodiment of a product merchandiser according to the present disclosure including a movable retainer having a bottom wall, acting as a stop member.

DETAILED DESCRIPTION

[0018] It should be understood that the description and drawings herein are merely illustrative and that various modifications and changes can be made in the structures disclosed, without departing from the scope of the present disclosure. It should also be appreciated that the various identified components of the product merchandising system discussed herein are merely terms of art and that these may vary from one manufacturer to another. Such terms should not be deemed to limit the present disclosure.

[0019] With reference now to FIG. 1, a first embodiment of the disclosure includes a plurality of merchandising shelves or trays 10 arranged in a two-dimensional array. Each merchandising shelf 10 includes a support member 14 for supporting one or more containers, such as jars or cup-shaped objects, for example, yogurt containers 16 (FIG. 2), for display and/or dispensing. In the illustrated embodiment, the support member 14 generally includes a bottom panel 18 and a pair of laterally spaced apart sidewalls 22 defining therebetween a longitudinally extending channel that generally defines a longitudinal pathway P along which the associated objects can travel from a rear position R to a front position F of the shelf, as by a gravity feed. In another embodiment (not shown), a pusher fed design can be employed. At a leading end or front end of each support member 14, a movable retainer 24 is supported or mounted for retaining the objects within the channel. While yogurt containers are discussed specifically herein, it should be appreciated that other types of cup-shaped or jar-shaped containers such as soup, cereal, oatmeal, baby food or other food containers or other types of containers such as paint or stain containers could be merchandised in the same manner.

[0020] With further reference to FIG. 2, it will be appreciated that the movable retainer 24 of each merchandising shelf 10 is movable between a first position, or rest position, at least partially obstructing the pathway thereby restricting forward

movement of a yogurt container 16 beyond the front position F of the shelf 10 to a second position, or dispensing position, allowing further forward movement of the yogurt container 16 for removal of the yogurt container. The movable retainer 24, therefore, functions both to retain yogurt containers 16 on the merchandising shelf 10 as well as to permit selective removal of the forward-most container from a column of such containers held on the shelf, while generally restricting access to other yogurt containers on the shelf.

[0021] The merchandising shelves 10 or trays of FIGS. 1 and 2 are angled downwardly from rear to front such that the yogurt containers are fed by gravity to the front position F of the support member 14. Although not illustrated, a suitable pusher assembly, which may be spring loaded, can alternatively be provided for advancing the cup-shaped containers toward the front of the merchandising shelf 10. Such pusher assemblies are well known in the art. The merchandising shelves can be made of a suitable known material (such as a thermoplastic) and, in one embodiment, are provided in sets of three elongated side-by-side support members forming a tray that is secured to a common rack member 28 for mounting to rails (not shown) in a conventional manner.

[0022] Turning to FIGS. 3 and 4, the movable retainer 24 includes a panel 32 pivotally attached to the support member 14. The panel 32 is configured to pivot from an upright position (left and center merchandising shelves) corresponding to the first position at least partially obstructing the path along which the yogurt containers can travel, to a position reclined or tilted relative to the upright position (right merchandising shelf) corresponding to the second position allowing further forward movement of the yogurt containers along the pathway. In other words, the panel 32 is resiliently mounted to the support member 14. The withdrawal of the forwardmost container may involve tilting out the top portion or bottom portion of the container once the panel is moved away from its upright position. In other words, the container is rotated somewhat before it is removed. It is apparent that, in the embodiment shown, a separate panel 32 is provided for each column of containers meant to be merchandised.

[0023] In the embodiment illustrated in FIG. 3, the panel 32 is secured to the bottom panel 18 of the support member 14 by a hinge 36 comprised of a pair of pins 38 (only one of which is visible) retained in corresponding slots 40 in the bottom panel 18. The panel 32 of the movable retainer 24 is biased towards the upright position by a spring 42, such as a torsion spring installed between the panel 32 and the support member 14. The spring 42 generally maintains the panel in the upright position to prevent the product containers from spilling off the front edge of the shelf. While a particular type of spring is shown in FIG. 3, it should be appreciated that any type of spring could be employed, such as flat springs, leaf springs, and a variety of coil springs such as tension, compression, or torsion springs depending on the particular construction of the associated panel and support member.

[0024] To dispense a product container 16 from the merchandising shelf 10, a consumer will typically grasp the forward-most container and pull the container away from the shelf. As shown in FIG. 2, the additional force applied to the panel 32 by the consumer as the container is being moved away from the merchandising shelf will result in the panel deflecting to a tilted or reclined position that allows further forward movement of the container such that it clears the end of the support member 14 and/or panel 32 at which time the panel 32 returns to the upright position in order to retain the

remaining containers on the support member 14 of the merchandising shelf 10. While a downward tilted or reclined position is shown in FIG. 3, the panel could be pivoted at its upper end so as to allow withdrawal of containers when the panel is tilted upwardly. Put another way, a pivotable barrier or "door" is disclosed in this embodiment, with the pivot axis being aligned with the base or bottom panel 18 of the support member 14.

[0025] In the embodiment illustrated in FIG. 3, the product facing side of the panel 32 is generally concave such that it can at least partially surround the forward most cup-shaped container. This can prevent the container 10 from rolling side to side when the panel 32 is in the tilted position (e.g., second shelf from top in FIG. 2). With reference now also to FIG. 4, in one embodiment, the generally concave shape of the panel 32 is formed by a pair of opposed arms 46 that extend rearwardly from the panel. Other configurations of the panel could be provided, as will be appreciated. Each panel can further include a tag holder 50 that can be affixed to a front facing surface of the panel for displaying pricing information and other product information. A pair of tabs 52 are provided for securing the tag holder 50 to the panel 32.

[0026] Other configurations of the movable retainer are also contemplated. For example, turning to FIG. 5, merchandising shelves 10' are shown with a movable retainer in the form of an elastomer body 60 secured at opposing ends thereof to respective side sections or anchor elements 62 of the support member 14' of each shelf 10'. In the embodiment shown, the elastomer body 60 can be tubular. Of course, other designs are also contemplated. However shaped, the body is flexible and is designed to be resiliently deformed between a first position, at least partially obstructing the pathway along which the product containers can travel to restrict forward movement of the product containers to a second position allowing further forward movement of the product containers beyond the first position.

[0027] For example, a consumer may grasp the forward-most product container and apply a force to the elastomer body through the container tending to stretch the elastomer body 60 in relation to the shelf 10'. As will be appreciated, such deflection of the elastomer body 60 results from further forward movement of the container and allows the container to be removed from its shelf. Once the container is no longer in contact with the elastomer body 60, the elastomer body 60, which retains memory, will return to its configuration illustrated in FIG. 5 whereat it will at least partially obstruct the pathway along which the remaining containers can travel to restrict forward movement of the remaining product containers along the pathway.

[0028] In another embodiment shown in FIG. 6, a movable retainer 24" is in the form of a panel 70 that is hingedly secured to a support member 14" via a flexible web 72 that is connected to a base 74. The flexible web 72 acts as a hinge to allow the panel 70 to flex between an upright position and a tilted position, similar to the embodiment of FIGS. 1-3. In this embodiment, the panel 70 can be formed integrally with the hinge portion/flexible web such that the panel 70, hinge 72 and base 74 can be mounted as a single unit to a base portion 18" of the support member 14" without the need to assemble a hinge separately. The hinge or flexible web 72 can be resilient such that the panel 70 is biased to the upright position as shown. In one embodiment, the retainer 24" can be made of a suitable coextruded thermoplastic material in which the hinge portion 72 is made of a softer, more resilient thermoplastic

than is either the panel 70 or the base 74. It should be appreciated that the base 74 can be secured to the base portion 18" of the support member 14" by suitable fasteners 76.

[0029] Turning to FIG. 7, yet another exemplary embodiment is illustrated wherein a movable retainer 24" is in the form of a panel 80 that is mounted to the support member 14" by a pair of spring elements 82 extending between the panel 80 and a bottom 18" of a support member 14". The spring elements 82 in the illustrated embodiment are coil springs and generally bias the panel 80 towards the upright position, but also permit deflection of the panel to a reclined position, thus serving as both a hinge connection and as a biasing mechanism. It should be appreciated that the springs 82 will resiliently bias the panel 80 to the position illustrated in FIG. 7, i.e., a position perpendicular to the bottom 18" of the support member 14", when the panel is moved away from that position, such as by the removal of a cup, jar or other container of product from the display tray or shelf. It should be appreciated that other types of resilient members, such as rubber tendons, can be used instead of the springs illustrated in this embodiment.

[0030] In the embodiments illustrated in FIGS. 3, 4, 6 and 7, the respective moveable retainer 24, 70 and 80 is pivotally attached along its lower end to a portion of the respective channel. Thus, the retainer pivots forwardly and allows access to the food item held in the channel.

[0031] Restocking of the tray can be accomplished by providing a tray system which can slide outwardly from the shelf, as is known in the art. Alternatively, restocking could take place by simply pivoting the barrier downwardly away from its blocking position, although this would appear to be a less desirable alternative.

[0032] Referring now to FIG. 8, still another exemplary embodiment of a shelf 100 including a movable retainer in accordance with the disclosure is illustrated. In this embodiment, a movable retainer 124 is in the form of a spring 126 extending transversely across the longitudinal pathway defined by a support member 114. The spring 126 is fixed at opposite ends thereof to the opposing sidewalls of the support member 114 and is configured to resiliently deflect in relation to the support member between the position illustrated in FIG. 8 for restricting forward movement of the product containers to a second position (not shown) allowing further forward movement of the front product container beyond the position illustrated for removal from the shelf 10 in a manner similar to that described in connection with previous embodiments. When pressure is no longer exerted on the spring 126, it will return to its configuration as illustrated in FIG. 8, thus preventing any other product containers from falling away from the tray or shelf 100.

[0033] FIG. 8 also illustrates an embodiment in which three columns of product, i.e., yogurt or the like, can be displayed on an integrally formed tray. It should be appreciated that the tray can display any desired number of columns of product from 1 to 10, if so desired. It should also be appreciated that the disclosed product merchandiser can be employed with multi-packs of products, such as pudding, apple sauce, Jell-O and the like.

[0034] In the embodiments illustrated in FIGS. 5 and 8, the respective movable retainers 60 and 124 are designed to flex or extend from a first position which prevents forward movement of a merchandise item located in the channel to a second

extended position which allows such further movement of the merchandise product. In this way, products can be withdrawn from the channel.

[0035] With reference now to FIG. 9, a further embodiment of a product merchandiser **200** is there illustrated. In this embodiment, a movable retainer **210** includes a front wall or panel **212**, a pair of side walls **214** and **216**, and a bottom wall **218**. When the retainer **210** is moved from its rest position to a dispensing position, all of the walls move. In the dispensing position, which is illustrated in FIG. 9, the bottom wall **218** acts as a stop which prevents additional products from advancing forwardly in the column from which product is being dispensed. Such a stop is particularly important if the containers are sold in glass jars, such as is baby food. The stop is designed to prevent additional products from falling out of the shelf when one product is removed. However, when the retainer is returned to its original rest position, the containers are allowed to move forwardly on the shelf. In the embodiment disclosed, the retainer is movable between its rest position and its dispensing position via a suitable hinge (not visible). The retainer can be biased to its rest position by a biasing element (not visible). In the embodiment illustrated, the base wall **218** is fastened to the pair of side walls **214**, **216** of the retainer **210**. However, it should be appreciated that other constructions are also contemplated.

[0036] The product merchandiser illustrated herein allows shelving to be stacked closely together as withdrawal of the containers does not involve much upward movement of the containers to clear a barrier. Instead, the containers can be simply tilted and then withdrawn in a generally horizontal direction. This allows the product density for the merchant to be increased, which is very desirable, as shelves can be stacked more closely together.

[0037] In the embodiments disclosed herein, the several versions of the movable retainer each extend substantially across a width of a channel defined in the support member between a pair of facing side walls. In several embodiments, the retainer is pivotally attached to front portions of the channel. In other embodiments, the retainer can flex outwardly to allow product to be withdrawn from the shelf by a consumer. Both versions allow the retainer to move from a first position retarding forward movement of merchandise in a channel to a second position allowing such movement. The movement of the retainer allows food containers and like merchandise to be withdrawn from a front end of a channel.

[0038] The present disclosure has been described with reference to several embodiments. Obviously, modifications and alterations will occur to others upon the reading and understanding of the preceding detailed description. It is intended that the present disclosure be construed as including all such modifications and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.

What is claimed is:

1. A merchandising shelf comprising:
 - a support member for supporting at least one associated object for display and/or dispensing, said support member defining a longitudinal pathway along which the associated at least one object can travel from a rear position to a front position; and
 - a moveable retainer operatively connected to said support member, said moveable retainer being moveable between a first position at least partially obstructing the pathway thereby retarding forward movement of the at least one associated object beyond the front position of

the at least one associated object, to a second position allowing further forward movement of the at least one associated object for removal of same from the support member, wherein the retainer extends substantially across a width of the pathway.

2. A merchandising shelf as set forth in claim 1, wherein the support member includes a pair of laterally spaced apart side walls and a base wall defining a longitudinally extending channel having a rear end and a front end, and in which the at least one associated object can be supported.

3. A merchandising shelf as set forth in claim 2, wherein the moveable retainer is attached to at least one of the side walls or the base wall adjacent the front end of the channel.

4. A merchandising shelf as set forth in claim 1, wherein the moveable retainer includes a panel pivotally attached to the support member, the panel being configured to pivot from an upright position corresponding to the first position at least partially obstructing the path, to a position reclined relative to the upright position corresponding to the second position allowing further forward movement of the at least one object.

5. A merchandising shelf as set forth in claim 4, wherein the panel is attached by a hinge to the support member.

6. A merchandising shelf as set forth in claim 5, wherein the hinge comprises at least one coil spring adapted to secure the panel to the support structure, and to urge it to the upright position, and permit deflection of the panel to the reclined position.

7. A merchandising shelf as set forth in claim 4, wherein the panel is one of generally planar, concave or convex.

8. A merchandising shelf as set forth in claim 4, wherein the panel includes a base wall, wherein the base wall serves as a stop member to retard further associated objects held on the support member from moving towards the front position when the panel is moved from the first position.

9. A merchandising shelf as set forth in claim 4, wherein the panel is biased towards the first position, which retards the associated object from advancing in relation to the support member.

10. A merchandising shelf as set forth in claim 9, wherein a resilient member biases the panel towards said first position.

11. A merchandising shelf as set forth in claim 1, wherein the moveable retainer includes a resilient member adapted to be resiliently deflected between the first and second positions.

12. A merchandising shelf as set forth in claim 11, wherein the resilient member includes a spring extending transversely across the longitudinal pathway of the support member, the spring being fixed at opposite ends thereof to the support member to permit resilient deflection of the spring in a direction which allows the associated object to be advanced in relation to the support member.

13. A merchandising shelf as set forth in claim 11, wherein the resilient member includes an elastomer body extending transversely across the longitudinal pathway of the support member, the elastomer body fixed at opposite ends thereof to the support member to permit resilient deflection of the body in a direction which allows the associated object to be advanced in relation to the support member.

14. A merchandising shelf as set forth in claim 13, wherein the elastomer body has a concave shape for at least partially surrounding an associated at least one object when in the front position of the support member.

15. A merchandising shelf module comprising a plurality of merchandising shelves as set forth in claim **1**, the support members of the merchandising shelves being arranged in a side-by-side fashion.

16. A merchandising system comprising:

a plurality of merchandise shelves for displaying and/or dispensing one or more associated objects, said shelves arranged in an array and each shelf including:

a support member for supporting at least one associated object for display and/or dispensing, said support member defining a longitudinal path along which the associated at least one object can travel from a rear position to a front position; and

a moveable retainer operatively connected to the support member, said moveable retainer being moveable between a first position at least partially obstructing the path thereby restricting forward movement of the at least one associated object beyond the front position, to a second position allowing further forward movement of the at least one associated object for removal of same from the support member;

wherein the pathway of at least one of the shelves is bounded at least partially by an adjacent shelf, said adjacent shelf restricting access to the at least one associated object except when the corresponding moveable retainer is moved to the second position, wherein the retainer extends substantially across a width of the pathway.

17. A merchandising shelf as set forth in claim **16**, wherein the support member includes a pair of laterally spaced apart side walls and a base wall defining a longitudinally extending channel having a rear end and a front end, and in which the at least one associated object can be supported.

18. A merchandising shelf as set forth in claim **17**, wherein the moveable retainer is attached to at least one of the side walls or the base wall adjacent the front end of the channel.

19. The system of claim **18** wherein the movable retainer includes at least one of a panel pivotally attached to the support member and a resilient member which can be deflected from the first position to the second position.

* * * * *