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(54) **MERCHANDISE DISPLAY APPARATUS**

(76) Inventors: **Richard S. Champagne**, Leonville, LA (US); **Angela T. Champagne**, Leonville, LA (US)

Correspondence Address:
Ted M. Anthony
Suite 1600
600 Jefferson Street
Lafayette, LA 70501 (US)

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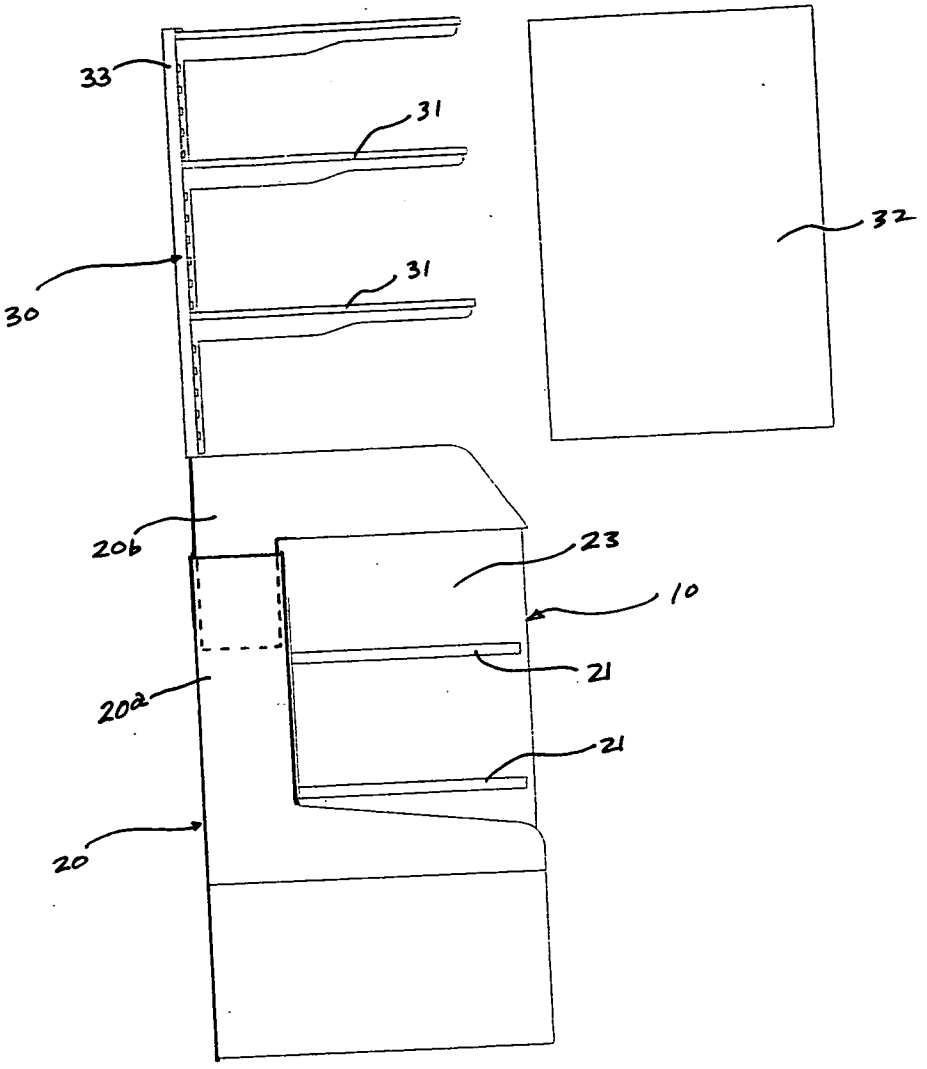
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(57) **ABSTRACT**

A merchandise display apparatus having both refrigerated and non-refrigerated sections for simultaneous display of complementary perishable and non-perishable goods, such as groceries. The refrigerated section can be extended or retracted to accommodate different sizes and types of perishable goods to be displayed. A computer processor controls temperature settings for the refrigerated section, and permits display and/or printing of recipes and other information of interest to consumers.



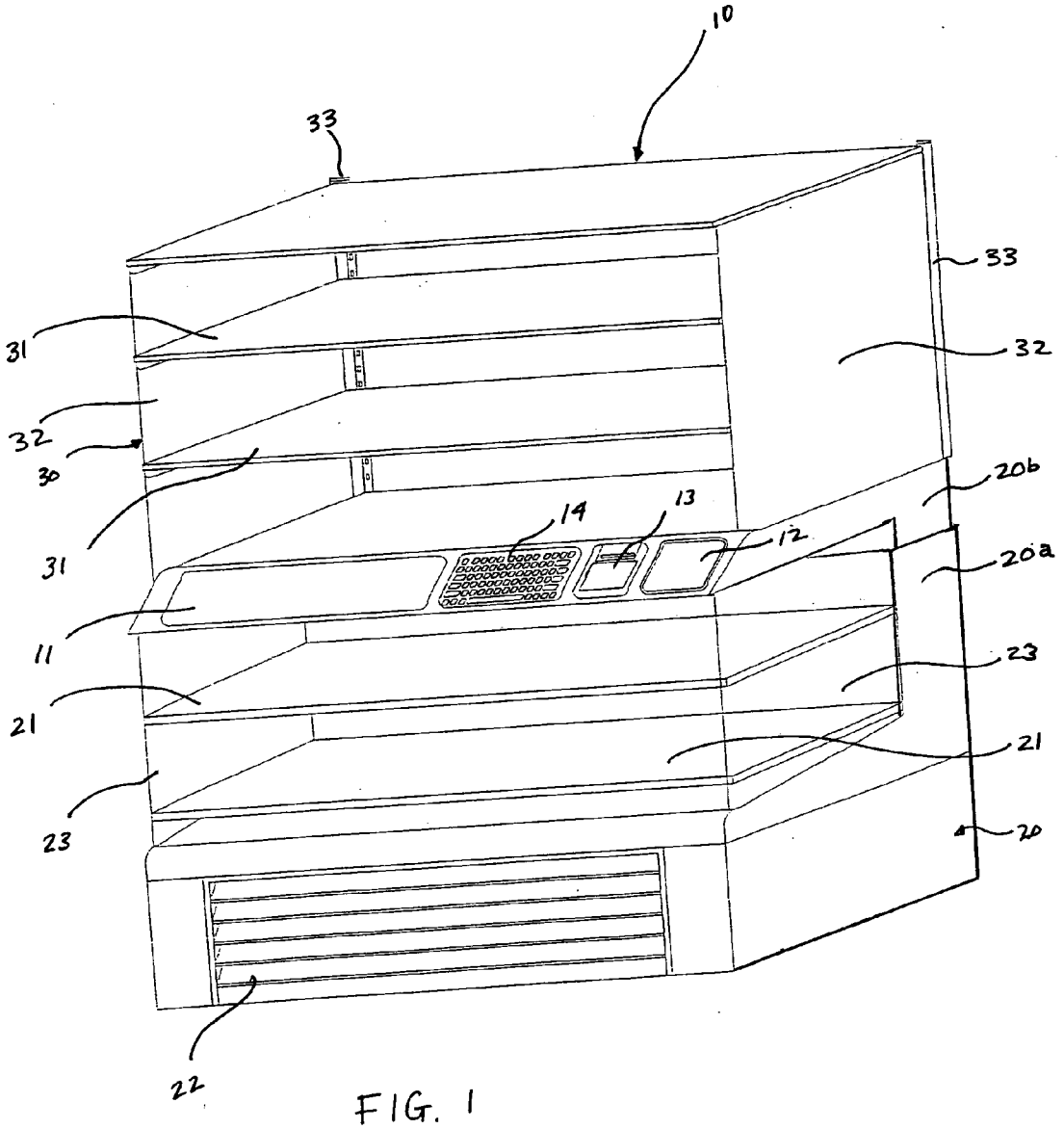


FIG. 1

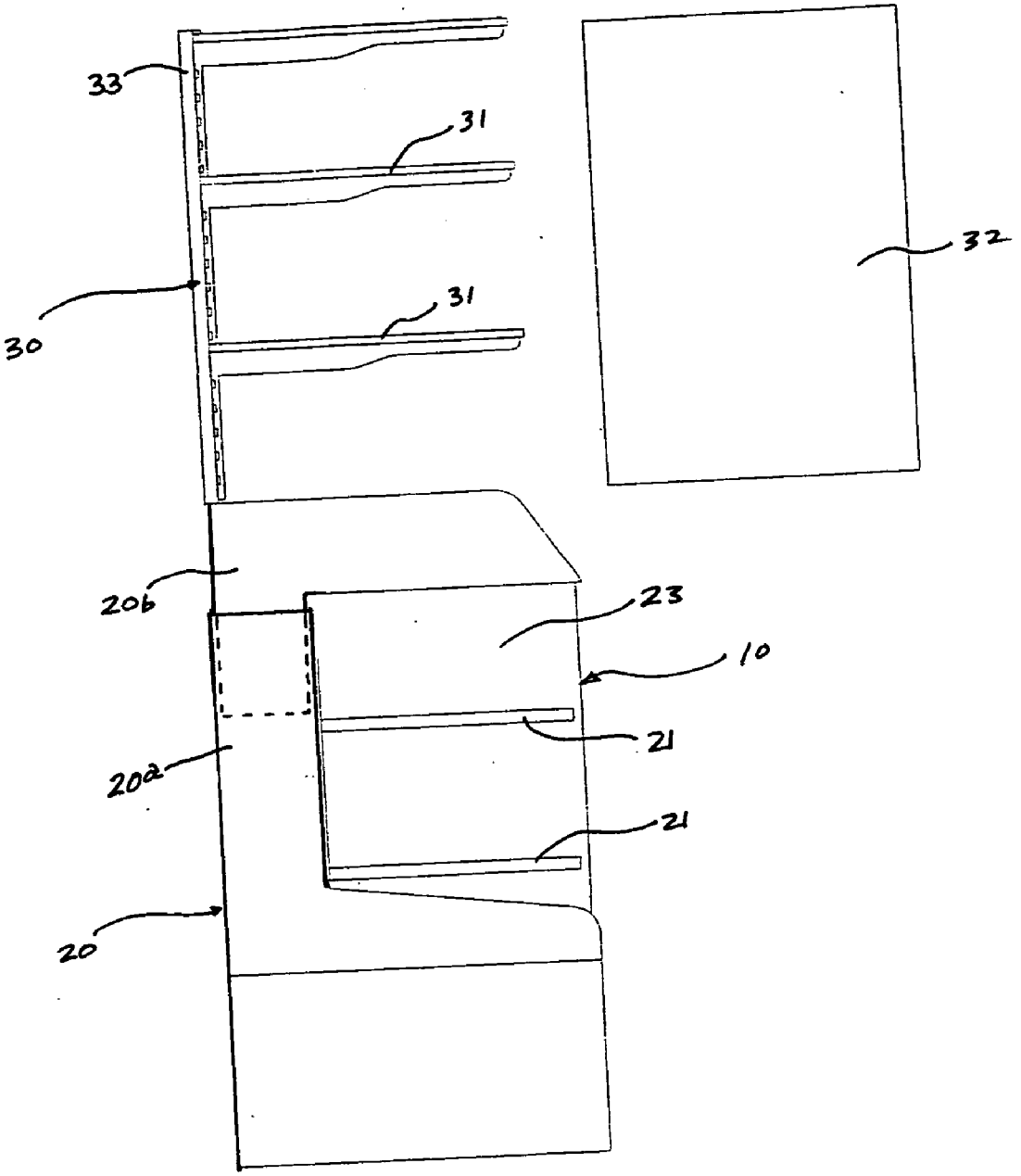


FIG. 2

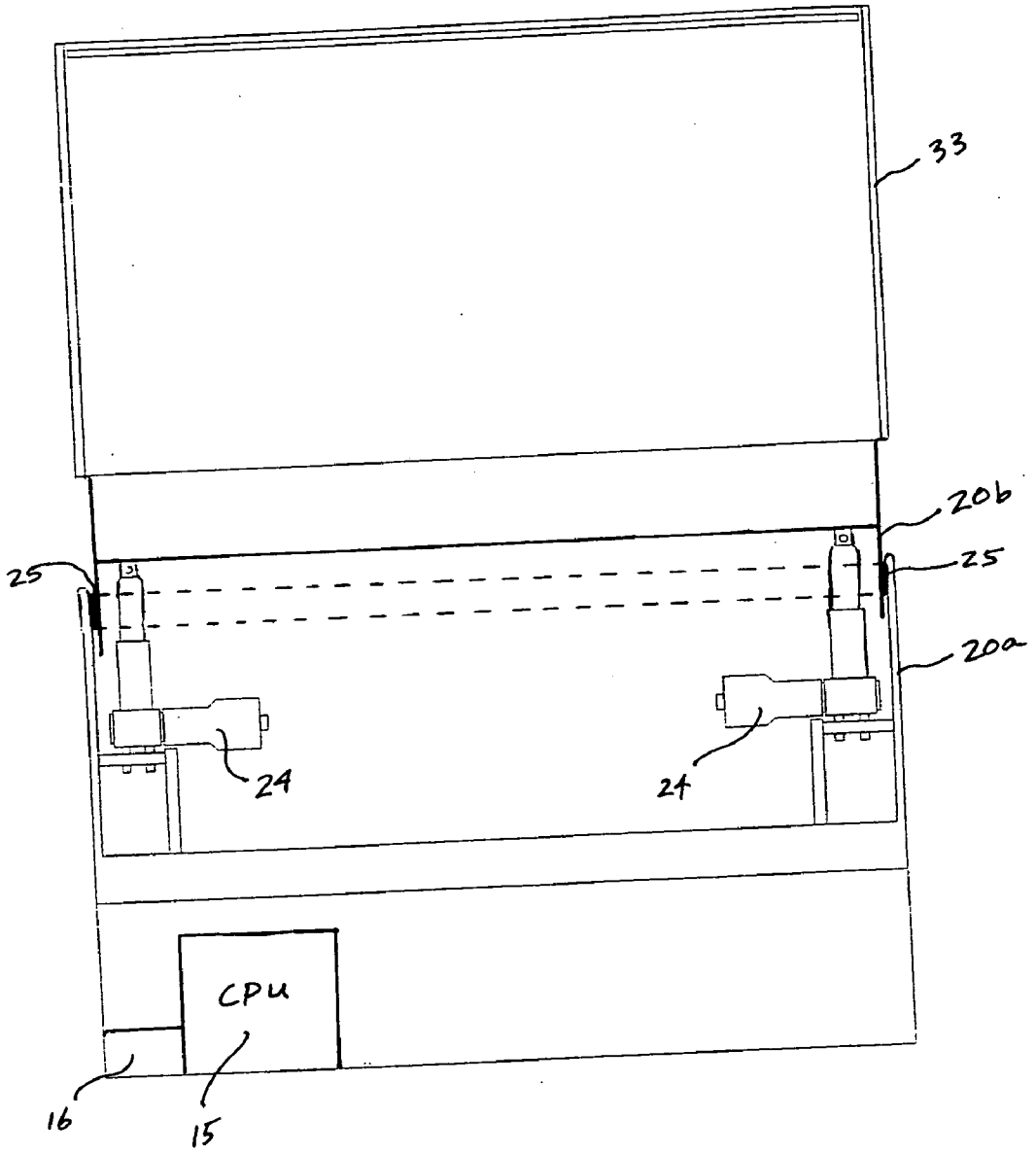


FIG. 3

MERCHANDISE DISPLAY APPARATUS

CROSS REFERENCES TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/688,116 filed Jun. 7, 2005

STATEMENTS AS TO RIGHTS TO INVENTIONS MADE UNDER FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

[0002] NONE

BACKGROUND OF THE INVENTION

[0003] 1. Field of the Invention

[0004] The present invention pertains to an apparatus used to display merchandise in stores and other retail establishments. More particularly, the present invention pertains to an apparatus that can simultaneously display both perishable and non-perishable merchandise. More particularly still, the present invention pertains to a versatile apparatus having an adjustable compartment for displaying perishable merchandise, as well as shelving for displaying non-perishable merchandise.

[0005] 2. Brief Description of the Prior Art

[0006] Time spent planning and preparing meals has changed significantly through the years. According to some estimates, the average time spent on meal preparation has dropped from about 2 hours in the 1960's to approximately 15 minutes in the 1990's. Simply put, modern consumers spend much less time planning and preparing meals than in prior years. As a result, many modern consumers also spend much less time in stores shopping for groceries than in prior years.

[0007] This shift in shopping patterns has had an impact on the way that groceries are marketed. In recent years, the retail grocery industry has undergone a number of significant changes. Conventional supermarkets have given way to mass merchants, dollar stores and alternative format stores. Because of these changes, conventional supermarkets, and particularly independent supermarkets, must be more creative in meeting the needs of customers.

[0008] Retail supermarkets have traditionally encouraged consumers to traverse every aisle and, as a result, to pass through entire stores. This design is intended to expose consumers to a wide variety of goods. However, because of time demands and other factors, modern consumers are generally less willing to browse throughout entire stores in order to find particular items on a shopping list. Because retailers have access to consumers for shorter lengths of time, such retailers must find other ways to market goods to consumers in an efficient and effective manner.

[0009] One way to efficiently and effectively market such goods is to display complementary products together in common combinations. When such complementary products are displayed together, consumers are not required to navigate through an entire store in order to find various items on a shopping list. Rather, when complementary items are presented in the same basic location, there is an increased likelihood that consumers will purchase multiple goods at the same time. Moreover, the combined display can also promote "impulse" buying, because consumers can be reminded of complementary products while in the store. By way of example, but not limitation, consumers entering a store to purchase milk may be reminded of the need to purchase cereal when such cereal is displayed in close proximity to the milk.

[0010] Consumers are also aided by combined display of complementary merchandise in the same general location within retail establishments. The combined display can provide creative ideas to consumers regarding meal preparation ideas and/or product combinations. The combined display of complementary merchandise can also save busy consumers from having to search throughout an entire store to locate desired goods.

[0011] Thus, there is a need for a merchandise display apparatus that can be used to display complementary goods in the same general location within a retail establishment. In many cases, perishable goods may complement non-perishable goods, and vice versa. Accordingly, there is also a need for a merchandise display apparatus that can simultaneously accommodate both perishable and non-perishable goods.

SUMMARY OF THE PRESENT INVENTION

[0012] The merchandise display apparatus of the present invention comprises at least one refrigerated section for displaying perishable goods, as well as at least one "standard" (i.e., non-refrigerated) section for displaying non-perishable goods. The merchandise display apparatus of the present invention permits cross merchandising of perishable and non-perishable grocery items in a single location within a store or other retail establishment.

[0013] Although the merchandise display apparatus of the present invention can be used to market a wide variety of complementary products, in one embodiment it can be used to display the main ingredients of a total meal solution. As such, in the preferred embodiment, the merchandise display apparatus of the present invention can beneficially include a computer processor, together with some combination of a monitor or other visual display means, printer and Internet access. Such components can provide consumers with recipes and/or other meal solutions, ideally incorporating complementary ingredients contained within the merchandise display apparatus.

[0014] In one embodiment, the merchandise display apparatus of the present invention comprises a cabinet with an open-style lower refrigerated section having at least one adjustable shelf for displaying perishable items, and an upper section having at least one non-refrigerated adjustable shelf for displaying non-perishable items. In this embodiment, merchandise display units of the present invention can be combined in clusters or groups, or positioned individually at desired locations on a stand-alone basis. Moreover, said merchandise display units can be positioned as "end cap" units—that is, at the end of existing store aisles.

[0015] In an alternative embodiment, the merchandise display apparatus of the present invention can be configured to fit within standard store shelving units commonly found in supermarkets and/or other retail establishments. This embodiment of the present invention can be used with existing shelving, individually or in multiples, to create an inline display. Specifically, this embodiment of the present invention can be installed in tandem with existing store shelving to cross merchandise perishable and non-perishable items.

[0016] In both embodiments of the present invention, the refrigerated section utilizes a self-contained refrigeration

unit or, alternatively, cold air can be supplied via umbilical lines extending from the display unit to one or more remote refrigeration supply unit(s).

[0017] The dimensions of the display units can be adjusted to meet particular applications. However, in the preferred embodiment, the dimensions of the stand-alone merchandise display apparatus is approximately 52 inches wide by 72 inches tall. The shelves of the refrigerated section are approximately 48 inches long and approximately 15 inches deep, and said lower section is enclosed on both sides with plexi-glass. The shelves of the non-refrigerated section are approximately 48 inches long and 18 inches deep. In the preferred embodiment, the shelves of the non-refrigerated section would also have side panels to prevent merchandise from falling.

[0018] In the preferred embodiment, the height of the refrigerated lower section of the stand-alone merchandise display apparatus is adjustable. The refrigerated lower section comprises a cabinet body and a movable extension member attached to said cabinet body. The movable extension member can be raised and lowered relative to said cabinet body; in the preferred embodiment, the movable extension member can be raised and lowered using at least one conventional linear actuator. In the preferred embodiment, the height of the refrigerated section can be adjusted in the range from 22 inches to 26 inches. The gap existing between the movable extension member and the cabinet body is sealed with an adjustable boot gasket.

[0019] In the preferred embodiment of the present invention, a control panel is provided at a convenient location on the merchandise display apparatus. Actuation of the adjustable height mechanism of the refrigerated section is controlled from this control panel. Similarly, an interactive keyboard/touch pad with press print option is provided. A monitor or other display device and printer are also provided on the control panel. Internet connectivity allows consumers to search out recipes for quick meal solutions using the complementary products displayed in the present invention. Additionally, a message device, such as a scrolling marquee, is available to post messages and/or advertising.

[0020] The refrigeration unit is easily adaptable to differing refrigeration requirements. A control device, ideally situated at a convenient location, can be used to adjust the temperature of the refrigerated section. In the preferred embodiment, the control device will permit adjustment of the temperature in the refrigerated section within a range between −10 degrees F. to 60 degrees F.

[0021] The merchandise display apparatus of the present invention is more efficient than conventional open-style vertical refrigerated merchandisers because the air curtain of the present invention is only approximately 2 feet, whereas the air curtain for conventional refrigerated merchandisers is approximately 5 to 6 feet. The merchandise display apparatus of the present invention is also more energy efficient than conventional refrigeration units, because the refrigerated section is in a lower operating temperature zone.

[0022] In the preferred embodiment, the shelving and background of the merchandise display apparatus are colored dark (e.g., black), while the other portions have lighter coloring. Of course, other color schemes may be chosen to suit surrounding decor. Casters could be added as an option. Additionally, optional advertising panels can be mounted on the sides and/or front portions of the merchandise display apparatus of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] **FIG. 1** depicts a perspective view of the merchandise display apparatus of the present invention.

[0024] **FIG. 2** depicts a side plan view of the merchandise display apparatus of the present invention.

[0025] **FIG. 3** depicts a partial cut-away rear view of the merchandise display apparatus of the present invention.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

[0026] Referring to the drawings, **FIG. 1** depicts a perspective view of the merchandise display apparatus **10** of the present invention. Merchandise display apparatus **10** comprises lower refrigerated section **20** for displaying perishable goods, as well as upper non-refrigerated section **30** for displaying non-perishable goods. Merchandise display apparatus **10** of the present invention permits cross merchandising of perishable and non-perishable goods, such as grocery items, in a single location within a store or other retail establishment.

[0027] In a stand-alone embodiment of the present invention, merchandise display apparatus **10** comprises a basic cabinet. Lower refrigerated section **20**, which is situated at the base of merchandise display apparatus **10**, has an open face and at least one adjustable shelf **21** for displaying perishable items. Upper non-refrigerated section **30** is situated above lower refrigerated section **20** and has at least one non-refrigerated adjustable shelf **31** for displaying non-perishable items. In this embodiment, merchandise display units **10** can be combined in clusters or groups, or positioned individually at desired locations on a stand-alone basis. If desired, merchandise display unit **10** can be positioned at the end of an existing store aisle.

[0028] Although the merchandise display apparatus **10** of the present invention can be used to market a wide variety of complementary products, in one embodiment it can be used to display main ingredients of a total meal solution or other beneficial information. As such, in the preferred embodiment, merchandise display apparatus **10** of the present invention can beneficially include a computer processor (not shown in **FIG. 1**), together with information display apparatus **11**, monitor **12**, printer **13** and data input device **14**. Among other functions, such components can provide consumers with recipes and/or other meal solutions, ideally incorporating complementary ingredients contained within the merchandise display apparatus.

[0029] In the preferred embodiment, information display apparatus **11** can be one of any number of electronic display means known in the art, such as a programmable scrolling sign or the like. Monitor **12** can be a simple output display device, or an interactive touch screen. In the preferred embodiment, data input device **14** is a computer keyboard. Ideally, optional information display apparatus **11**, monitor **12**, printer **13** and/or input device **14** are connected to a computer processor (not shown in **FIG. 1**) to provide an integrated information system.

[0030] Although **FIG. 1** depicts a stand-alone embodiment of merchandise display apparatus **10** of the present invention, in an alternative embodiment the merchandise display apparatus **10** can be configured to fit within standard shelving units commonly found in supermarkets and/or other retail establishments. Such an alternative embodiment of the present invention can be used with existing shelving,

individually or in multiples, to create an inline display—if desired, such merchandise display units can be positioned along an entire store aisle, or portion thereof, to replace conventional shelving. Specifically, this embodiment of the present invention can be installed in tandem with existing store shelving to cross merchandise perishable and non-perishable items.

[0031] Still referring to **FIG. 1**, in the preferred embodiment, lower refrigerated section **20** utilizes a self-contained refrigeration unit **22** of a type commonly known in the art. Alternatively, if desired to fit a particular application, cold air can be supplied via umbilical lines extending from merchandise display apparatus **10** to one or more remote refrigeration supply unit(s).

[0032] The dimensions of merchandise display apparatus **10** can be adjusted to meet any number of different applications. However, in the preferred embodiment, the dimensions of the stand-alone merchandise display apparatus **10** is approximately 52 inches wide by 72 inches tall. At least one adjustable shelf **21** of lower refrigerated section **20** are approximately 48 inches long and approximately 15 inches deep, and said lower section **20** is enclosed on both sides with plexi-glass panels **23**. At least one adjustable shelf **31** of non-refrigerated upper section **30** are approximately 48 inches long and 18 inches deep, and are adjustably mounted to upright corner posts **33**. In the preferred embodiment, adjustable shelves **31** of the upper non-refrigerated section **30** also have side panels **32** to prevent merchandise from falling.

[0033] In the preferred embodiment, the height of lower refrigerated section **20** of merchandise display apparatus **10** is adjustable. Lower refrigerated section comprises cabinet body **20***a* and a movable extension member **20***b* slidably received within said cabinet body **20***a*. Movable extension member **20***b* can be raised and lowered relative to cabinet body **20***a* to adjust the overall height dimension of lower refrigerated section **20**. In the preferred embodiment, the height of lower refrigerated section **20** can be adjusted within a range between 22 inches and 26 inches. Although not depicted in **FIG. 1**, in the preferred embodiment movable extension member **20***b* is raised and lowered using at least one conventional linear actuator. Further, the gap existing between the movable extension member **20***b* and cabinet body **20***a* is sealed with a conventional sealing means, such as an adjustable boot gasket.

[0034] **FIG. 2** depicts a side view of the merchandise display apparatus **10** of the present invention. Merchandise display apparatus **10** comprises lower refrigerated section **20** for displaying perishable goods, as well as upper non-refrigerated section **30** for displaying non-perishable goods. Lower refrigerated section **20**, which is situated at the base of merchandise display apparatus **10**, has an open front face and at least one adjustable shelf **21** for displaying perishable items. Upper non-refrigerated section **30** is situated above lower refrigerated section **20** and has at least one non-refrigerated adjustable shelf **31**, mounted on upright corner posts **33**, for displaying non-perishable items. Lower refrigerated section **20** has side panel **23** (ideally made of plexi-glass or other transparent material), while upper non-refrigerated section **30** has removable side panel **32** (shown removed) to prevent merchandise from falling. Removable side panel **32** can provide a surface for advertising or product promotion, especially when merchandise display apparatus **10** is positioned in an end-cap application.

[0035] Still referring to **FIG. 2**, the height of lower refrigerated section **20** of merchandise display apparatus **10** is adjustable. Lower refrigerated section **20** comprises cabinet body **20***a* and movable extension member **20***b* slidably received within the upper portion of said cabinet body **20***a*. Movable extension member **20***b* can be raised and lowered relative to cabinet body **20***a* to adjust the overall height dimension of lower refrigerated section **20**. Such height adjustability permits great flexibility in connection with sizes and types of non-perishable goods that can be displayed within lower refrigerated section **20**.

[0036] Referring to **FIG. 3**, movable extension member **20***b* is slidably received within the upper portion of cabinet body **20***a*. Movable extension member **20***b* can be raised and lowered relative to cabinet body **20***a* to adjust the overall height dimension of lower refrigerated section **20** using linear actuators **24**. Further, any gap or space existing between movable extension member **20***b* and cabinet body **20***a* is sealed with a conventional sealing means, such as adjustable boot gasket **25**.

[0037] Still referring to **FIG. 3**, in the preferred embodiment of the present invention, a space is provided in the base of lower refrigerated section **20** to house computer processor **15** having Internet connectivity means, such as modem **16**. Actuation of linear actuators **24** can be controlled from a separate control panel in this area or, alternatively, using computer processor **15**, input device **14** and/or monitor **12**.

[0038] The refrigeration performance of merchandise display apparatus **10** is easily adaptable to differing refrigeration requirements. In the preferred embodiment, computer processor **15** can be used to adjust the temperature of lower refrigerated section **20**. In the preferred embodiment, the temperature of the lower refrigerated section can be adjusted within a range between minus 10 degrees F. to 60 degrees F. Further, a plurality of pre-set temperature levels can be programmed within computer processor **15** efficiently switch between different types of perishable goods to be displayed within the lower refrigerated section **20**. The performance of merchandise display apparatus **10** of the present invention is more efficient than conventional open-style vertical refrigerated merchandisers because the air curtain of the present invention is only approximately 2 feet, whereas the air curtain for conventional refrigerated merchandisers is approximately 5 to 6 feet. The merchandise display apparatus of the present invention is also more energy efficient than conventional refrigeration units, because the refrigerated section is in a lower operating temperature zone.

[0039] Whereas the invention is herein described with respect to a preferred embodiment, it should be realized that the above described and other various changes may be made without departing from the essential contributions to the art made by teachings hereof.

What is claimed:

1. A merchandise display apparatus comprising:

a. a non-refrigerated section having at least one shelf; and

b. a refrigerated section having at least one shelf, wherein the vertical dimension of said refrigerated section is adjustable.

* * * * *