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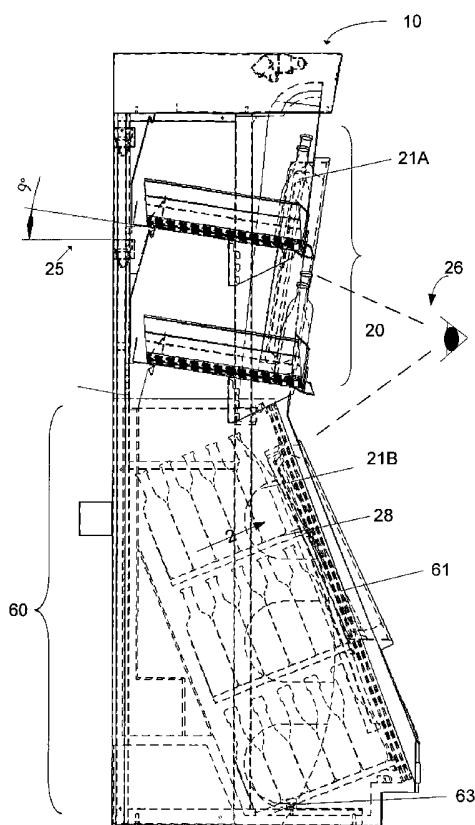
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(54) Title: DISPLAY APPARATUS



(57) Abstract: A display apparatus (10) for displaying goods, the display apparatus including a number of first shelves (20) for supporting first goods (21A), the first shelves (20) being provided at a first angle, such that in use, the first goods (21A) are urged towards a dispensing position by gravity; and, a display unit (60) including a number of second shelves (28) for supporting second goods (21B), the second shelves (28) being provided at a second angle, the second angle being selected to aid visibility of the second goods (21B) in use.

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## DISPLAY APPARATUS

### **Background of the Invention**

The present invention relates to a display apparatus which allows goods, such as bottles, to be easily viewed by potential customers, and in particular which displays the goods at respective angles substantially towards a viewer's line of sight.

### **Description of the Prior Art**

The reference to any prior art in this specification is not, and should not be taken as, an acknowledgment or any form of suggestion that the prior art forms part of the common general knowledge.

A display apparatus is a device used to support any number of goods that are to be displayed to a viewer. More specifically, display apparatus can be used in retail to display goods that are on sale in a store, such that a customer can view the goods stocked on the display apparatus.

In retail stores, goods are typically grouped together in similar items, and stacked in the display apparatus in a number of rows. Usually similar goods will be displayed together in a number of rows in close proximity to each other in the single display apparatus to make it easier for the customer to find specific goods, and also to make comparative decisions about brands of goods.

However, traditional display units often suffer from a number of problems, including limited available arrangements for stacking different types of goods and complementary goods of the same brand. Thus, display units being adaptable for different uses are required for marketing and customer satisfaction.

Also, traditional display apparatus usually include a number of shelves that are parallel to a substantially horizontal surface. This means that goods stacked on shelves, which are not parallel to the viewer's line of sight, will be difficult to view by a customer. For example, when a customer selects goods from the shelf, the number of goods in the relevant row decreases. However, since customers select the goods from the front of the row displayed, the newly displayed goods are further from the customer's line of sight since they are located towards the

back of the shelf. Therefore, after a number of selections of a good from a particular row, the displayed good may be difficult to view by a customer. Therefore, staff are generally required to bring the stock forward, closer to the front edge of the shelf, such that the customers can view the remaining stock.

5

Also particularly relevant with perishable goods, traditional display apparatus suffer from requiring staff to arrange older stock that is generally located at the back of the shelves. As such, staff are usually required to arrange the goods by placing the older goods at the front of the shelves, with the label facing the user and placing the newer goods at the back of the shelves. This process of arranging is quite inconvenient for staff to accomplish, and is rather time consuming.

These issues are particularly relevant in the field of wine sales, in which, due to the nature of the product, the wine bottles are almost exclusively presented either in horizontal wine racks, in which the bottle labels are difficult to view, or on horizontal shelving. Furthermore, due to the requirement for red and white wines to be sold at different temperatures, it is typical for these to be displayed at different locations within a store.

### **Summary of the Present Invention**

20 In a first broad form the present invention provides a display apparatus for displaying goods, the display apparatus including:

a number of first shelves for supporting first goods, the first shelves being provided at a first angle, such that in use, the first goods are urged towards a dispensing position by gravity; and,

25 a display unit including a number of second shelves for supporting second goods, the second shelves being provided at a second angle, the second angle being selected to aid visibility of the second goods in use.

Typically each first shelf is formed from a number of interconnected shelf modules.

30

Typically each first shelf module includes a base and a fin for supporting goods, the fin being provided at a third angle relative to the base.

Typically at least one of the base and fin includes at least one sliding member to thereby assist movement of the goods towards the dispensing position.

- 5 Typically the at least one sliding member is made from substantially frictionless material.

Typically the substantially frictionless material is Teflon™.

- 10 Typically the shelf module includes an attaching member, the attaching member cooperating with a receiving member on an adjacent module, thereby allowing the modules to be interconnected.

Typically the attaching and receiving members are in the form of respective male/female couplings.

15

Typically the first shelves include a holding mechanism to retain the goods in the dispensing position.

Typically the holding mechanism is clipped onto the shelf.

20

Typically the first angle is about 9 degrees relative to the horizontal.

Typically the display apparatus includes a display frame defining a housing for the first shelves and the second display unit.

25

Typically the first shelves are attached to the display frame by a hooking mechanism.

Typically the display unit is inserted into the display frame.

- 30 Typically the display unit has a display unit body, and the display frame supports the display unit body to thereby provide the second shelves at the second angle.

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Typically the display unit body is provided at the second angle.

Typically the display unit includes a refrigeration system.

- 5 Typically the display unit is moveable between a first position and a second position, such that the orientation of the display unit is adjusted to allow restocking of goods.

Typically the display apparatus includes an information module, the information module including one or more display cavities for containing information relating to the goods.

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Typically the information module forms part of the display frame.

Typically the one or more display cavities are positioned at an angle such that information provided in the one or more display cavities substantially faces a viewer's line of sight.

15

Typically the information module includes two display cavities positioned angularly relative to each other, such that each display cavity substantially faces towards a viewer's line of sight.

Typically the first and second goods are related goods.

20

Typically the first and second goods include bottled goods.

Typically the bottled goods include wine.

- 25 Typically the wine bottles are retained at the first angle, such that the cork of the bottles are substantially wet.

In a second broad form the present invention provides a display module for displaying elongate articles, the display module including:

- 30 a base defining at least two cavities, each cavity having a respective opening; and,  
one or more supports coupled to the base;

wherein in use, the display module is adapted to support at least one of:

- 5 -

an elongate article substantially aligned with, and positioned within the cavity opening;  
one or more elongate articles aligned substantially orthogonally with respect to the base  
and positioned within the cavity; and,  
information disposed within the cavity opening.

5

Typically the supports define steps, such that elongate articles aligned substantially orthogonally with respect to the base and positioned within a cavity are provided at respective heights.

10 Typically the display module includes a rim defining the cavity openings.

Typically the rim is removably attached to the base.

Typically the rim is attached by clips.

15

Typically the rim includes a perimeter that cooperates with the shape the articles.

Typically the rim allows printed information to be inserted into the opening of at least one of the cavities.

20

Typically the display module includes attaching mechanisms, such that a number of display modules may be attached together.

Typically the elongate articles are bottles.

25

Typically the display module is adapted to support at least:  
at least one wine bottle lying prone in the cavity opening; and,  
at least three wine bottles in an upstanding position within the cavity.

30 Typically the display module is refrigerated.

In a third broad form the present invention provides a refrigerator, the refrigerator having a

body, and a number of refrigerator shelves for supporting goods at an angle, the angle being selected to aid visibility of the goods.

Typically the refrigerator is insertable into a display frame.

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Typically the display frame supports the refrigerator body to thereby provide the shelves at the angle.

Typically the refrigerator body is provided at the angle.

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Typically the refrigerator shelves are provided at the angle.

Typically the refrigerator is moveable between a first position and a second position, such that the orientation of the refrigerator is adjustable to allow restocking of goods.

15

Typically the refrigerator has at least one door, the door being substantially transparent thereby aiding visibility of the goods.

Typically the refrigerator is the display unit of any one of the first broad form of the invention.

20

In a fourth broad form the present invention provides a display apparatus for displaying goods, the display apparatus including:

a first display unit including a number of first shelves for supporting first goods, the first shelves being provided at a first angle to thereby provide a gravity feed; and,

25

a second display unit including a number of second shelves for supporting second goods.

In a fifth broad form the present invention provides a display module for displaying elongate articles, the display module including:

30

a base defining at least two cavities, each cavity having a respective opening; and,  
one or more supports coupled to the base;

wherein in use, the display module is adapted to support at least one of:



an elongate article substantially aligned with, and positioned within a cavity opening;  
one or more elongate articles aligned substantially orthogonally with respect to the base  
and positioned within a cavity; and,  
information in a cavity opening.

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In a sixth broad form the present invention provides an information module adapted to support one or more display units or display modules for displaying goods, the information module including one or more cavities for containing information relating to the goods.

## 10 **Brief Description of the Drawings**

An example of the present invention will now be described with reference to the accompanying drawings, in which: -

Figure 1 is a schematic front view of an example display apparatus;

Figure 2A is a schematic side view of the display apparatus of Figure 1;

15 Figure 2B is a second schematic side view of the display apparatus of Figure 1;

Figure 3A is a schematic perspective view of an example information module;

Figure 3B is a second schematic perspective view of the information module of Figure 3A;

Figure 4A is a schematic perspective view of an example of a first shelf module for the display apparatus of Figure 1;

20 Figure 4B is an example of a sliding member mounted to the shelf module of Figure 4A;

Figure 4C is a schematic end view of an example first shelf;

Figure 4D is a schematic perspective view of an example of a first shelf, including a holding mechanism, for holding bottles;

Figure 4E is a schematic perspective view of an example of a coupling mechanism;

25 Figure 5A is a first schematic perspective view of an example of a display module;

Figure 5B is a second schematic perspective view of the display module of Figure 5A;

Figure 5C is a schematic bottom view of the display module of Figure 5A;

Figure 5D is a schematic side view of the display module of Figure 5A with a detachable rim;

30 Figure 6A is a schematic perspective view of an example of the use of the information module of Figure 3A;

Figure 6B is a schematic perspective view of a second example of the use of the information module of Figure 3A;

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Figure 6C is a schematic perspective view of a third example of an information module;

Figure 7A is a schematic perspective view of an example information module used together with a display apparatus and display module;

Figure 7B is a schematic side view of the information module used together with a display apparatus and display module of Figure 7A;

Figure 7C is a schematic top view of the information module used together with a display apparatus and display module of Figure 7A;

Figure 7D is a schematic front view of the information module used together with a display apparatus and display module of Figure 7A;

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### **Detailed Description of the Preferred Embodiments**

An example of a display apparatus will be described with reference to Figures 1, 2A, and 2B.

In this example, the display apparatus 10 includes a display frame 5 housing a first display unit 15 50, a second display unit 60. The first display unit 50 and second display unit 60 include a number of respective first shelves 20 and second shelves 28 respectively, with shelves 20, 28 being angled relative to each other, as shown.

In this example, the display frame 5 is at least partially formed from information modules 300, 20 which are shown in Figures 3A and 3B. The display modules 300 can operate to display information relating to the goods being displayed.

Thus, the information modules 300 form the display frame 5 and therefore act to support the first shelves 20, with the second display unit 60, in the form of a fridge, being positioned 25 between the information modules 300, as shown. This allows information relating the goods being presented to be displayed within the information modules 300, allowing customers to view information relating to corresponding goods.

The first shelves 20 can be attached to the display frame 5 in various ways. In one example as 30 shown in Figures 2A and 4A to 4E, a shelf support 81 attaches the first shelf 20 to the display frame 5 using a hooking mechanism 80, however people skilled in the art may appreciate a number of variations are possible.

Figures 4A to 4E show an example of the first shelves 20. In this example, the first shelves 20 are formed from a number of shelf modules 44. Each shelf module 44 includes a fin 18, a base 46, an attaching member 24, and a receiving member 22. Each base 46 typically includes a first sliding member 40, and a second sliding member 42 mounted thereto. These are provided in  
5 respective first and second portions 47, 48, although this is not essential.

The receiving and attaching members 22, 24 of the shelf modules 44 can be coupled together such that varying lengths of shelves can be constructed for use in the display apparatus 10. In  
10 one example, the receiving and attaching members 22, 24 are in the form of respective male/female couplings, so that any number of modules can be attached together to form desired lengths of shelves.

The first and second sliding members 40, 42 are preferably made from a substantially  
15 frictionless material, such as Teflon<sup>TM</sup>, or the like. The first and second sliding members 40, 42 perform the function of allowing the goods to slide along the shelf under the urge of a gravitational force, in order to create a gravity feed.

Each fin 18 is positioned at an angle relative to the base 46, and may be positioned at an angle  
20 which is substantially orthogonal relative to the base 46 if the base 46 itself is angled relative to horizontal in use. The fin 18 is angled such that when goods, such as bottles 15, are positioned on the shelf, the base of the bottles 15 rest upon the first and second sliding members 40, 42 with a side of the bottles 15 resting upon the fin 18, as shown in Figures 4A to 4E.

It will be appreciated that the fins 18 can also include a third sliding member 41 made from a  
25 substantially frictionless material, such as Teflon<sup>TM</sup>, or the like. The fins 18 can also be made from frictionless material, and in one example are made from aluminium alloys.

Each third sliding member 41 aids the gravity feed function of the shelf module 44, such that  
30 the products are able to move in a substantially frictionless manner. This ensures that the orientation of the goods does not alter as the goods slide down the shelves 20 under the action of gravity, such that the goods do not rotate, thereby ensuring that the bottle's labels are always

- 10 -

facing the customer. The first and second sliding members 40, 42 may also help prevent the goods, such as bottles 15, from rotating whilst sliding towards the customer.

In this example, a holding mechanism 70 is located along the side of the attached shelf modules 5 44 facing the customer, as shown in Figure 4D. The shelving is arranged so that as a customer removes goods, such as wine bottles 15, from a particular shelf module 44, then the next goods on the shelf module 44 slide down under the action of gravity and rest against the holding mechanism 70, with the holding mechanism 70 preventing the goods sliding off the shelf. This ensures the next goods are visible to, and within reach of, customers.

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In one example, the shelf is angled at  $9^\circ$  relative to the horizontal, which provides an advantage such that it ensures the bottles 15 slide towards the holding mechanism 70, without the risk of the bottles breaking.

15 The holding mechanism 70 can be coupled to the shelves using any suitable mechanism, as will be appreciated by persons skilled in the art. An example of a coupling mechanism 80 is shown in figure 4E, in the area 75, where the holding mechanism 70 is clipped onto the shelf module 44.

20 The first shelves 20 are preferably positioned at an angle such that the customer can view the goods displayed thereon. For example, as shown in Figure 2B, the first shelves 20 are arranged so the goods are angled thereby allowing a customer to view information, such as a label or the like, provided on the goods. Furthermore, the angling of the first shelves 20 is arranged to provide a gravity feed which allows goods that are stored on the shelves to move towards the 25 customer. In one example, the shelves are angled at  $9^\circ$  to the horizontal, as shown, although other angles may be used.

The second display unit 60 is also preferably arranged such that the second shelves 28 are positioned at an angle such that the customer can view the goods displayed thereon. This is 30 performed, such that at a typical customer position, the customer is able to view labels provided on the displayed goods regardless of their position on the second shelves 28, as will be described in more detail below.

Thus as shown, for example, in Figure 2B, the second shelves 28 are provided below the customer's eye level shown at 26, and the first shelves 20 are positioned above the customer's eye level. Hence, the second shelves 28 are angled upwards, and the first shelves 20 are angled downwards, in order to aid the customer is viewing the products displayed on the shelves 28, 20.

As a result of the use of angled fins 18 and angled first shelves 20 the goods that are supported by the first shelves 20 are angled in two different directions relative to a horizontal plane, and in one example, they are angled orthogonal to each other. This feature of supporting the goods at such angles provides advantageous results for particular goods, for example wine bottles 15.

In particular, wine bottles are preferably stored horizontally in order for the cork of the bottle to remain wet, to prevent oxidisation of the wine. However storing the bottles horizontally is disadvantageous as the label of the wine bottle is unable to be viewed and read by the customer. Thus, by allowing the bottle to rest on the angled fins 18 the cork is maintained wet so that oxidisation is prevented and the label may be viewed by the customer. In another embodiment, each fin 18 includes a plurality of sections 18A, 18B, wherein at least one section is angled relative to any of the remaining sections, as shown in Figure 4C.

20

An example of the second display unit 60 is shown in Figure 2A. Typically, the second display unit 60 is located below the first display unit 50 although this is not essential, and other arrangements will be evident to persons skilled in the art. The second shelves 28 are angled relative to the second display unit 60, so that the second display unit 60 is substantially horizontal, or alternatively, the second display unit 60 is angled relative to the horizontal. In any event, this may be performed so that goods presented on the second shelves 28 are arranged so that customers 26 can view information provided thereon, regardless of the relative position of the goods on the second shelves 28, as shown for example in Figure 2A.

30 In one example, although not essential, the second display unit 60 can include springs to push the goods towards the customer, where the springs are located towards the back of the second display unit 60. For example, when a customer selects or removes goods from the second

display unit 60, the remaining goods are urged in the direction shown by the arrow 2 (see Figure 2B), to thereby ensure the goods are visible to the user. It is also possible for the shelves of the second display unit 60 to include sliding members to prevent the rotation of the bottles 15, when a bottle is moved from the front of the second display unit 60.

5

Alternatively, the spring is not required and the goods may remain static upon the second shelves 28 until removed.

In either case, the second shelves 28 are typically angled to thereby ensure that the customers are able to view information provided thereon regardless of the position of the goods on the second shelves 28, as described above.

In one example, the position of the second display unit 60 is adjustable to allow the orientation of the second display unit 60 to be adjusted to aid restocking of goods. In this regard, if a spring is provided, this could include allowing the springs to be retracted so that goods are provided on the second shelves 28, and correctly orientated, before the spring engages the goods and urges the goods in the direction shown by the arrow 2. This can be achieved in a number of manners as will be appreciated by those skilled in the art.

In one example, as shown in Figure 2B, the display apparatus 10 includes a first group of goods 21A displayed in the first display unit 50, and a second group of complementary goods 21B displayed in the second display unit 60. This allows a customer to view (and possibly purchase) the goods substantially simultaneously. For example, the first display unit 50 displays red wine and the second display unit 60 displays white wine of the same brand.

25

This allows common brands of goods to be displayed collectively, which in turn can assist in the sales of related products. Thus, for example, when a customer is considering purchasing wines, the user may be familiar with a respective type of wine of a particular brand. Upon viewing the wine in the display apparatus 10, the customer is able to view other types of wine of the same brand. This encourages the customer to purchase other types of wine of the same brand, which in turn helps encourage customer brand loyalty.

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It will be appreciated that either of the first and second display units 50, 60 can also be refrigerated using known refrigerated units common in the art, although typically the first display unit is used to display red wine, in which case refrigeration is not generally required.

5 Thus, as shown in Figures 1, 2A and 2B, the second display unit 60 is a refrigerator. In this example, and as shown in Figure 2B, the goods stored in the second display unit 60 are viewed by the customer due to the refrigerator 61 being tilted. The frame 5 of the display apparatus 10 has supporting members 63 which support the refrigerator 61 in position.

10 Therefore, in one example, the refrigerator 61 is a separable unit from the display apparatus 10. The refrigerator 61 also has sliding doors to allow for easy customer access to the products within, and the unit 60 is encompassed by insulated housing.

An example of a display module 100 will now be described with reference to Figures 5A to 5D.

15

The display module 100 includes a body 180 and a rim 110 attached thereto as shown. In use, the display module 100 is adapted to allow goods and/or information to be displayed in a number of different manners as will now be described.

20 In one example, the body 180 includes two cavities 120, each of which includes a number of supports 130, with three being shown in this example for clarity only. Each support 130 is adapted to allow goods to be supported in first and second display positions. In the first display position, the goods lie upon the supports 130, with the rim 110 surrounding the goods, such that one article can be positioned to lie within the cavity 120, and in particular within an opening of  
25 the cavity.

Alternatively, in the second position the goods are arranged to stand on a module base 140, positioned between the supports 130, such that the goods are orientated substantially orthogonally with respect to the base. In this example, the display module 100 allows three  
30 articles to be arranged to stand in each cavity 120.

Each support 130 performs the functionality of providing stability to bottles or any goods that

are presented in the second display position to thereby assist in preventing the goods from toppling over if the goods become unstable.

In one example, the rim 110 is releasably attached to the body 180, as shown in Figure 5D. The rim 110 may be attached to the body 180 via suitable clips that are generally known in the art. The rim 110 includes a perimeter that cooperates with the shape of a particular article that is to be displayed. For example, as shown in Figure 5A, the rim 110 is in the shape of the body of a bottle. Therefore in this example, a bottle lies within the perimeter of the rim 110, with the bottle being supported by the supports. As illustrated in Figure 5A, the shape of the rim 110 includes a recess, such that for example the neck 170 of a bottle may be supported. It will be appreciated that different shaped rims can be used for different products.

It is also possible that a combination of display positions may be achieved simultaneously, such as having three bottles positioned in the second display position in one of the cavities 120, and one bottle lying in the first display position in the other cavities 120.

The display module 100 can also be used to display information associated with goods displayed in the display module 100. In one example, the rim 110 allows cardboard or paper printed with information to be inserted into the opening of one of the cavities 120, such that a customer can view information associated with goods provided in the other cavity 120.

The module base 140 also defines a number of steps allowing the goods to be displayed in a staggered manner, thus presenting goods in an aesthetic manner such that the labels of the goods are viewable by the customer.

As shown in Figures 5A and 5B, the display module 100 includes an attaching mechanism which allows display modules 100 to be interconnected. The attaching mechanism is typically formed from corresponding female/male recesses 150 and protrusions 160, although other suitable attaching mechanisms are possible.

It is possible for the display modules 100 to be chilled using known refrigerated units common in the art, if required. It is also possible that the display modules 100 are made from roto-



moulding techniques.

A second example of an information module 200 will now be described with reference to Figures 6A to 6C. The information module 200 includes at least one module attaching member  
5 230 and at least one display cavity 220.

In one example, as shown in Figure 6C, the information module 200 includes a display cavity 220 that is positioned at an angle such that information provided in the display cavity 220 faces substantially towards a viewer's line of sight.

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As shown in further examples, such as Figures 3A and 3B, the information module 200 includes two display cavities 310, 320 that are positioned angularly relative to each other such that each display cavity 220 faces substantially towards a viewer's line of sight, 330. Furthermore, a first display cavity 220 is angled downwards and a second display cavity 220 is  
15 angled upwards towards the customer's line of sight. It will be apparent to people skilled in the art that variations are possible.

In another example, as shown in Figure 6A, the information module 200 includes a detachable frame 240 that can be used to attach at least one another information module 200 and/or frame  
20 240. The frames 240 can also be retractable and/or moveable such that varying configurations may be achieved. The retractable functionality of the frame 240 is advantageous as it also allows for possible retracted storage of the frame 240 and the information modules 200, 300.

For example, Figure 6A shows a cross configuration, however other possible configurations can  
25 be achieved depending upon the type of display and the purpose of the display. Also illustrated in Figure 6A, the frames 240 may also be attachable to another frame via coupling members 250, 340, such as slidable mechanisms previously described above.

The information module 200 can also be connected to other information modules 200 by the  
30 module attaching member 230.

Figure 6B shows a further example, where at least one display module 100 is attached to at

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least one information module 200, thereby forming a large display device. By attaching a number of display modules 100 to a number of information modules 200, various configurations can be formed, where information is displayed by a respective information module 200, wherein the information module 200 is indicative of the goods presented in each  
5 attached display module 100.

This example also shows that at least one platform 400 can be attached to the various configurations described in the previous example. Each platform is engaged to span between two opposing information modules 200, 300 in a particular configuration. The platforms can  
10 have a variety of uses such as supporting, or displaying other goods.

It will be appreciated by persons skilled in the art that a number of modifications and variations are within the scope of the invention. For example, the information modules 200, 300 can be used to display goods within the cavities 220, 310, 320. Alternatively, the information modules  
15 can be adapted to provide information electronically. Thus, for example, the display apparatus can include electronic screens provided within the cavities 220, 310, 320 to allow information to be presented dynamically. In this case, buttons or the like can be positioned adjacent respective shelves, so that when a customer presses the button, information regarding the goods presented on the respective shelves can be displayed automatically.

20

It will also be appreciated that a wide range of configurations can be used including different combinations of the information modules 200, 300, the display units 50, 60, the display modules 100, as well as additional shelving, platforms or the like.

25 Thus, for example, Figures 7A to 7D show an example of a display apparatus 500, display module 510, and information modules 520 used together in order to aesthetically display wine, thereby forming a wine bar, or the like.

In this example, the display apparatus 500 includes a variation of the first display unit 505 and  
30 the second display unit 506.

The first display unit 505 includes shelves 532 having fins 530 which are substantially

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orthogonal with the base 531 of the shelf. The first display unit 505 is designed such that the bottles 503 (in this example, red wine) are placed within the shelves with the top of the bottles facing the customer.

- 5 The second display unit 506 is a refrigerator of the form previously discussed. Although not shown, the second display unit 506 includes shelves which are angled such that the products within the refrigerator can be viewed by the customer. Thus, the second display unit in this example is designed for white wine, and the example shows how complementary products of the same brand can be displayed together.

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Figures 7A to 7D further show the display module 510 placed on top of the display apparatus 500. The display module 510 is of the form previously discussed.

15 This example further shows the information modules 520 used as part of the frame 525, thereby providing information on items displayed in each unit. The information modules 520 have an area 521 which display written or electronic information, or an example item.

20 Persons skilled in the art will appreciate that numerous variations and modifications will become apparent. All such variations and modifications which become apparent to persons skilled in the art, should be considered to fall within the spirit and scope that the invention broadly appearing before described.

## THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A display apparatus for displaying goods, the display apparatus including:

5 a number of first shelves for supporting first goods, the first shelves being provided at a first angle, such that in use, the first goods are urged towards a dispensing position by gravity; and,

a display unit including a number of second shelves for supporting second goods, the second shelves being provided at a second angle, the second angle being selected to aid visibility of the second goods in use.

10 2. The display apparatus of claims 1, wherein each first shelf is formed from a number of interconnected shelf modules.

3. The display apparatus of claim 2, wherein each first shelf module includes a base and a fin for supporting goods, the fin being provided at a third angle relative to the base.

15

4. The display apparatus of claim 3, wherein at least one of the base and fin includes at least one sliding member to thereby assist movement of the goods towards the dispensing position.

20 5. The display apparatus of claim 4, wherein the at least one sliding member is made from substantially frictionless material.

6. The display apparatus of claim 5, wherein the substantially frictionless material is Teflon™.

25 7. The display apparatus of any one of claims 1 to 6, wherein the shelf module includes an attaching member, the attaching member cooperating with a receiving member on an adjacent module, thereby allowing the modules to be interconnected.

8. The display apparatus of claim 7, wherein the attaching and receiving members are in the form of respective male/female couplings.

30

9. The display apparatus of any one of claims 1 to 8, wherein the first shelves include a holding mechanism to retain the goods in the dispensing position.

10. The display apparatus of claim 9, wherein the holding mechanism is clipped onto the shelf.
11. The display apparatus of any one of claims 1 to 10, wherein the first angle is about 9  
5 degrees relative to the horizontal.
12. The display apparatus of any one of claims 1 to 11, wherein the display apparatus includes a display frame defining a housing for the first shelves and the second display unit.
- 10 13. The display apparatus of claim 12, wherein the first shelves are attached to the display frame by a hooking mechanism.
14. The display apparatus of any one of claims 12 or 13, wherein the display unit is inserted  
15 into the display frame.
15. The display apparatus of claim 14, wherein the display unit has a display unit body, and the display frame supports the display unit body to thereby provide the second shelves at the second angle.
- 20 16. The display apparatus of claim 15, wherein the display unit body is provided at the second angle.
17. The display apparatus of any one of claims 1 to 16, wherein the display unit includes a refrigeration system.  
25
18. The display apparatus of any one of claims 1 to 17, wherein the display unit is moveable between a first position and a second position, such that the orientation of the display unit is adjusted to allow restocking of goods.
- 30 19. The display apparatus of any one of claims 1 to 18, wherein the display apparatus includes an information module, the information module including one or more display cavities for containing information relating to the goods.

20. The display apparatus of claim 19, wherein the information module forms part of the display frame.

5 21. The display apparatus of any one of claims 19 or 20, wherein the one or more display cavities are positioned at an angle such that information provided in the one or more display cavities substantially faces a viewer's line of sight.

22. The display apparatus of any one of claims 19 to 22, wherein the information module  
10 includes two display cavities positioned angularly relative to each other, such that each display cavity substantially faces towards a viewer's line of sight.

23. The display apparatus of any one of claims 1 to 22, wherein the first and second goods are related goods.

15

24. The display apparatus of any one of claims 1 to 23, wherein the first and second goods include bottled goods.

25. The display apparatus of claim 24, wherein the bottled goods include wine.

20

26. The display apparatus of claim 25, wherein the wine bottles are retained at the first angle, such that the cork of the bottles are substantially wet.

27. A display module for displaying elongate articles, the display module including:

25 a base defining at least two cavities, each cavity having a respective opening; and,  
one or more supports coupled to the base;

wherein in use, the display module is adapted to support at least one of:

an elongate article substantially aligned with, and positioned within the cavity opening;

one or more elongate articles aligned substantially orthogonally with respect to the base

30 and positioned within the cavity; and,

information disposed within the cavity opening.

28. The display module of claim 27, wherein the supports define steps, such that elongate articles aligned substantially orthogonally with respect to the base and positioned within a cavity are provided at respective heights.
- 5 29. The display module of any one of claims 27 or 28, wherein the display module includes a rim defining the cavity openings.
30. The display module of claim 29, wherein the rim is removably attached to the base.
- 10 31. The display module of claim 30, wherein the rim is attached by clips.
32. The display module of any one of claims 29 to 31, wherein the rim includes a perimeter that cooperates with the shape the articles.
- 15 33. The display module of any one of claims 29 to 32, wherein the rim allows printed information to be inserted into the opening of at least one of the cavities.
34. The display module of any one of claims 27 to 33, the display module including attaching mechanisms, such that a number of display modules may be attached together.
- 20 35. The display module of any one of claims 28 to 34, wherein the elongate articles are bottles.
36. The display module of claim 35, wherein the display module is adapted to support at least:  
at least one wine bottle lying prone in the cavity opening; and,  
25 at least three wine bottles in an upstanding position within the cavity.
37. The display module of any one of claims 27 to 36, wherein the display module is refrigerated.
- 30 38. A refrigerator, the refrigerator having a body, and a number of refrigerator shelves for supporting goods at an angle, the angle being selected to aid visibility of the goods.

39. The refrigerator of claims 38, wherein the refrigerator is insertable into a display frame.

40. The refrigerator of claim 39, wherein the display frame supports the refrigerator body to thereby provide the shelves at the angle.

5

41. The refrigerator of claim 40, wherein the refrigerator body is provided at the angle.

42. The refrigerator of claim 40, wherein the refrigerator shelves are provided at the angle.

10 43. The refrigerator of any one of claims 38 to 42, wherein the refrigerator is moveable between a first position and a second position, such that the orientation of the refrigerator is adjustable to allow restocking of goods.

15 44. The refrigerator of any one of claims 38 to 43, wherein the refrigerator has at least one door, the door being substantially transparent thereby aiding visibility of the goods.

45. The refrigerator of any one of claims 38 to 44, wherein the refrigerator is the display unit of any one of claims 1 to 27.



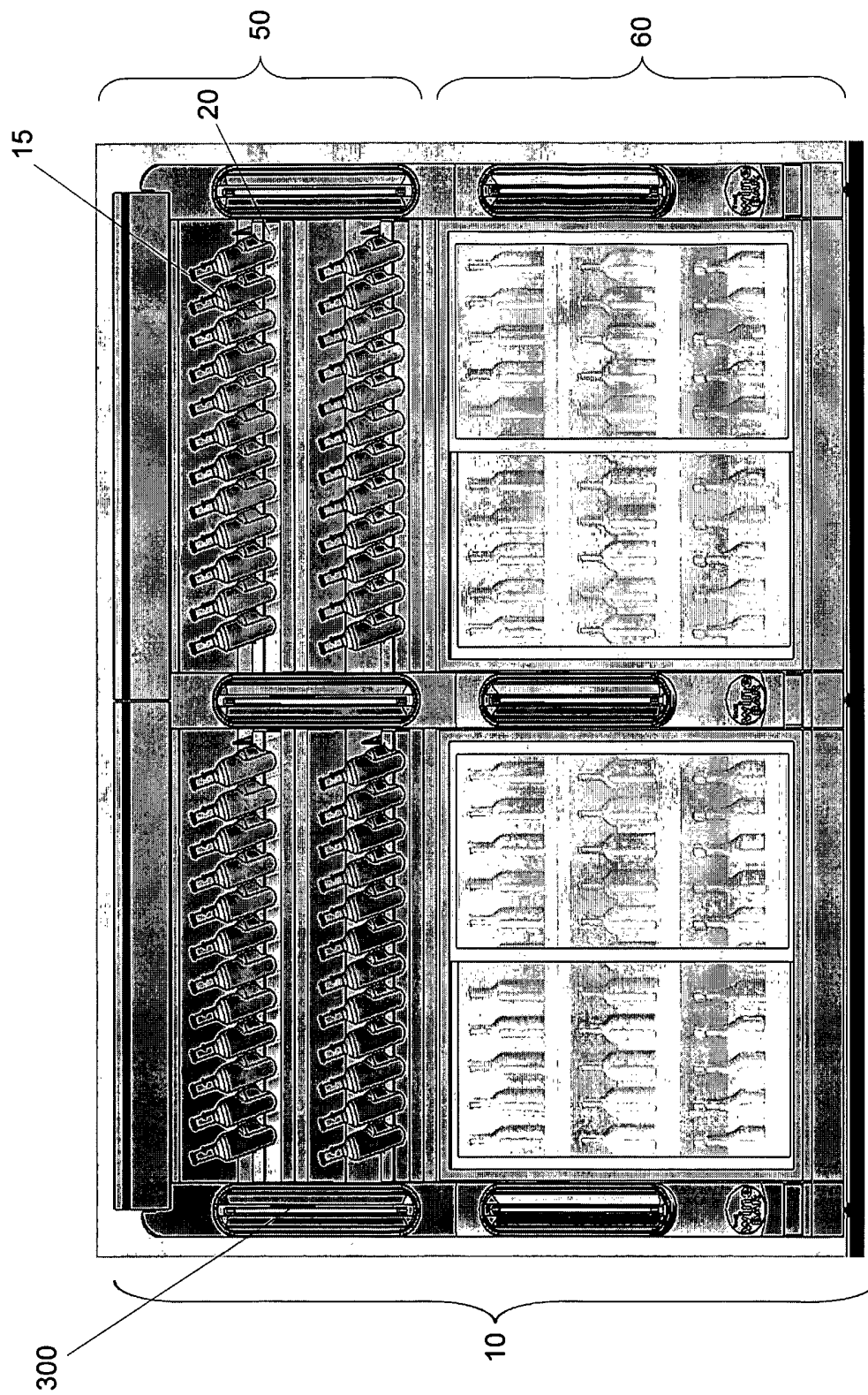


Fig. 1

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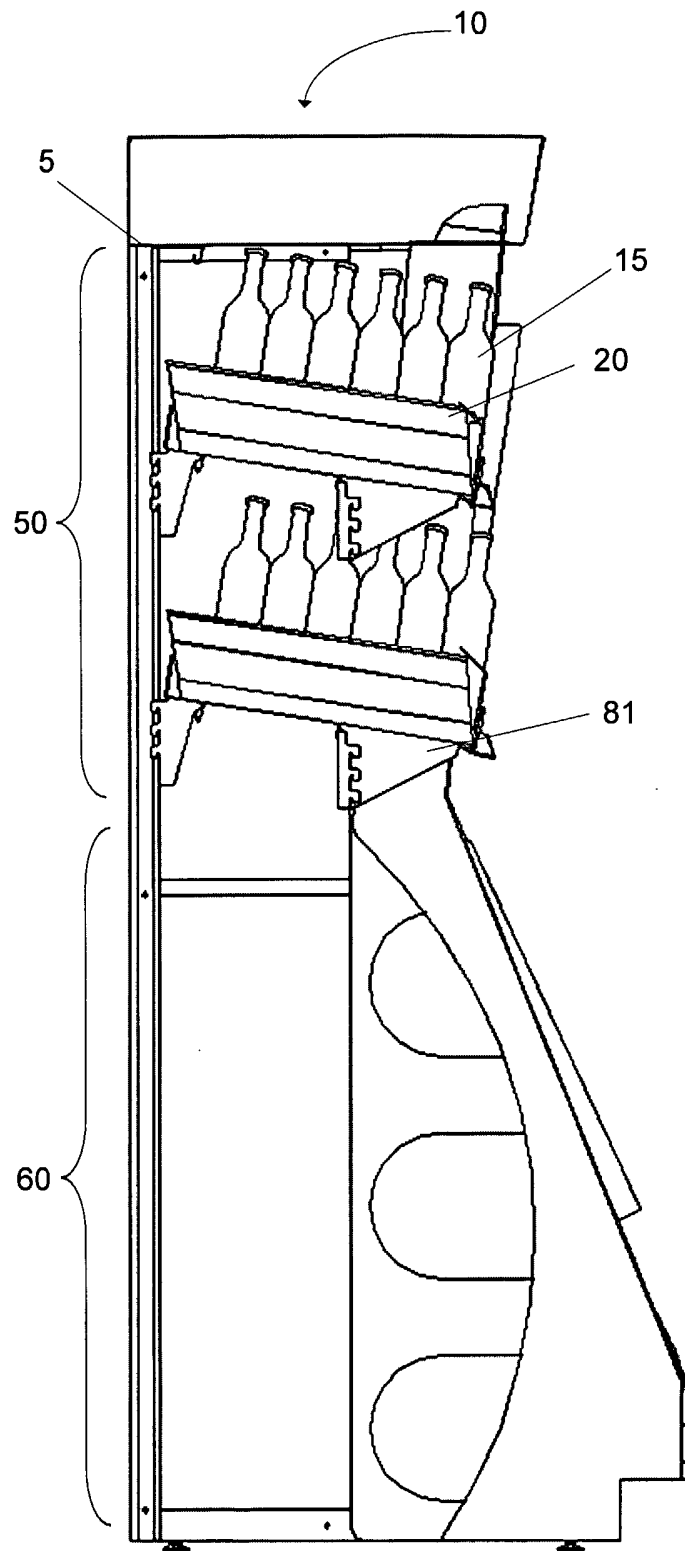


Fig. 2A

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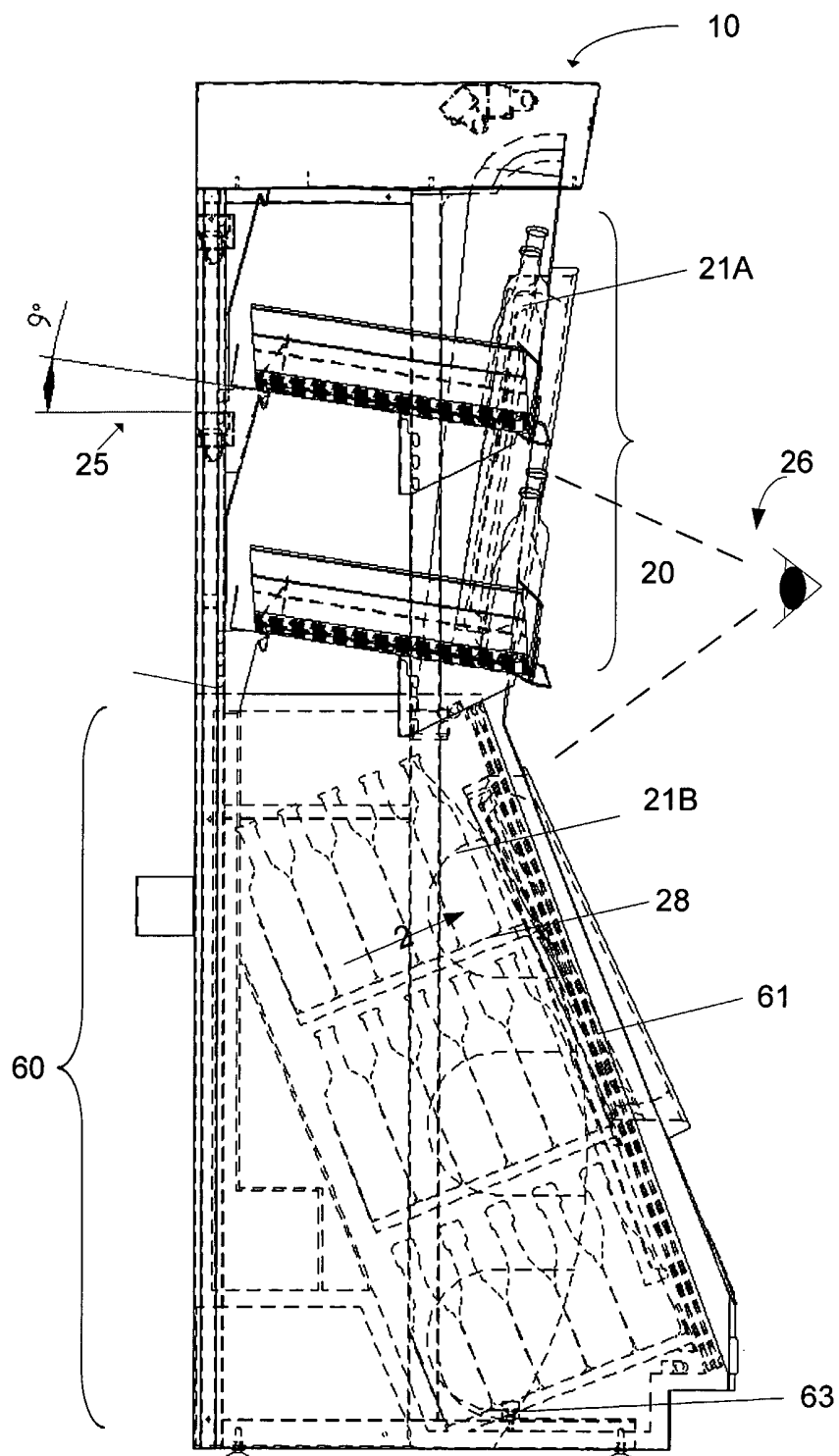
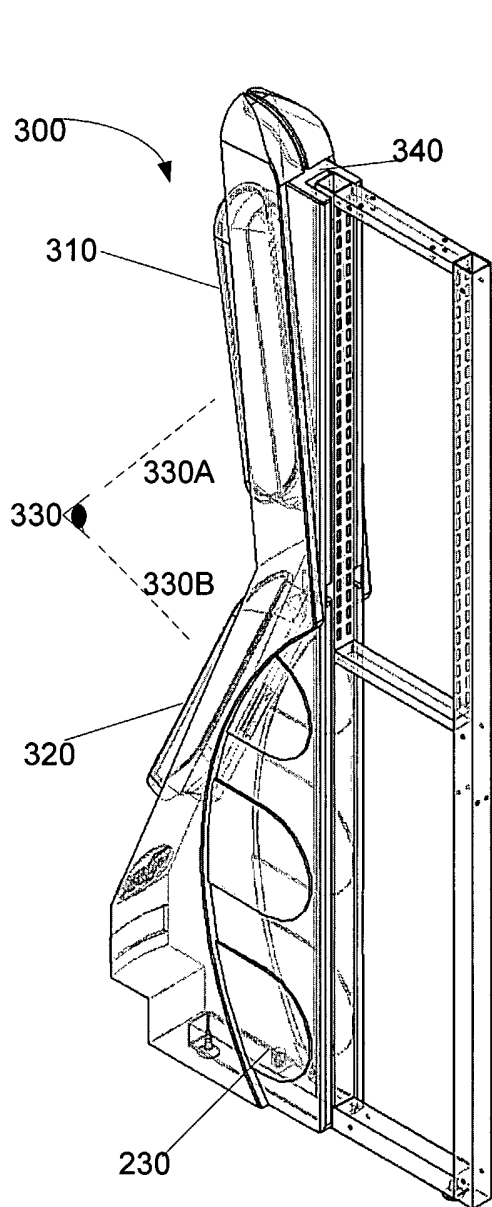
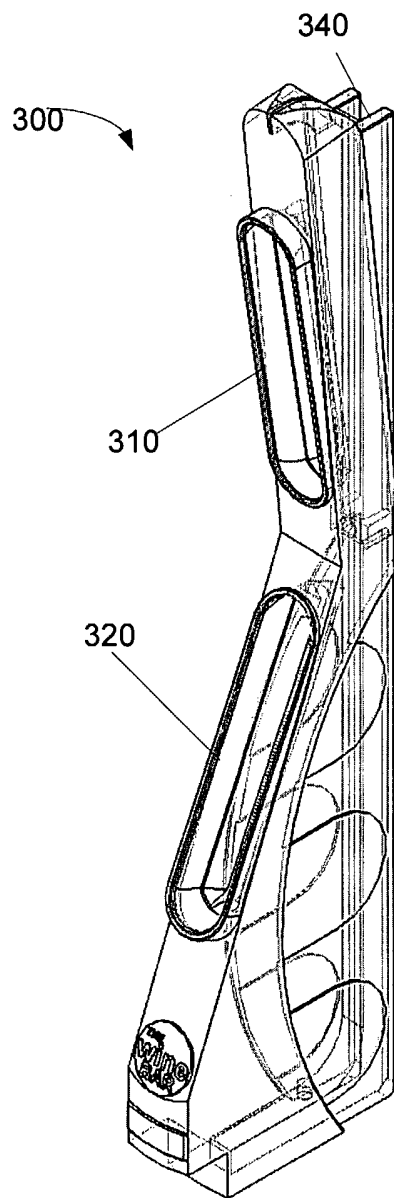


Fig. 2B

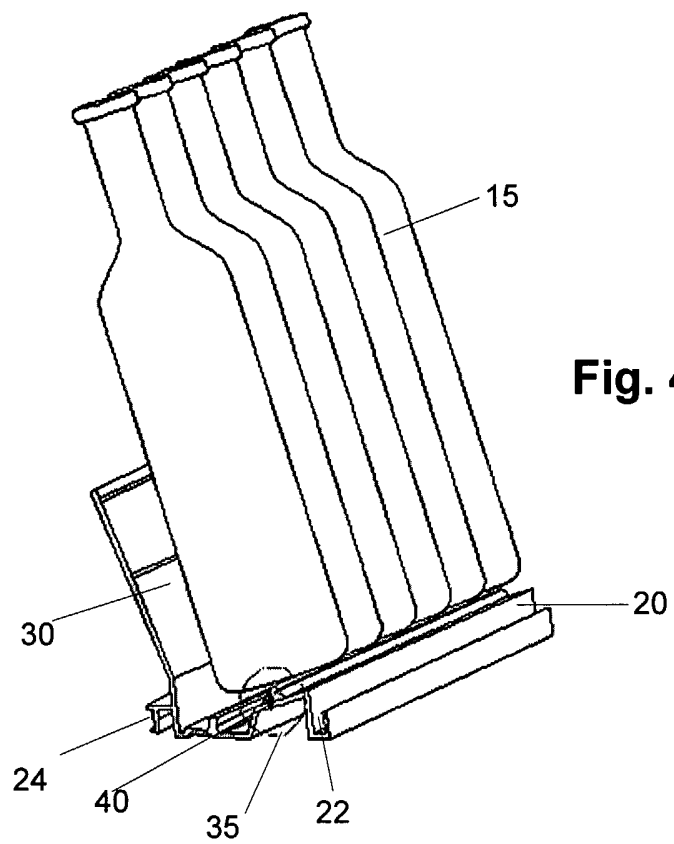


**Fig. 3A**

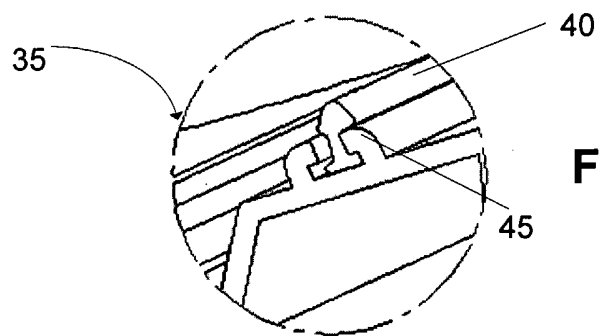


**Fig. 3B**

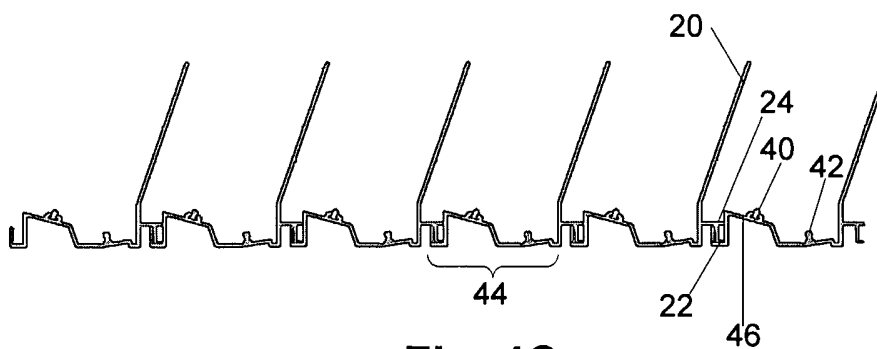
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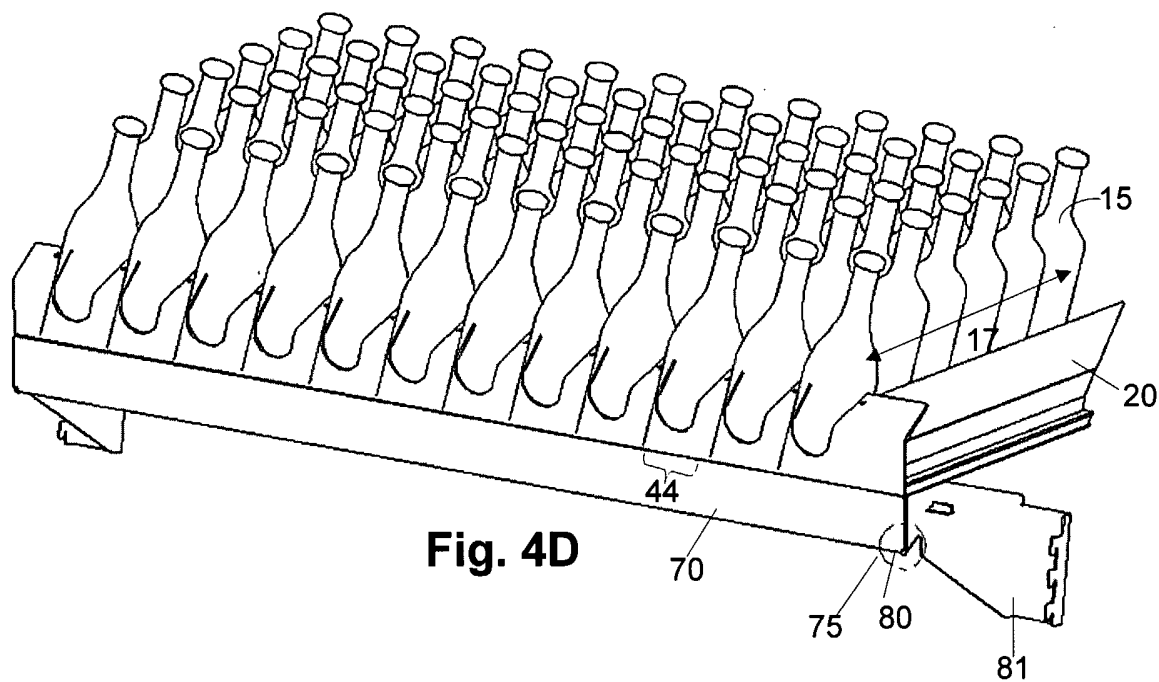
**Fig. 4A**



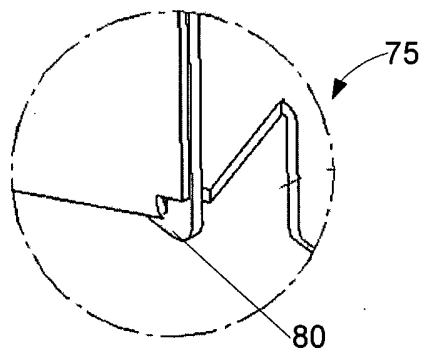
**Fig. 4B**



**Fig. 4C**

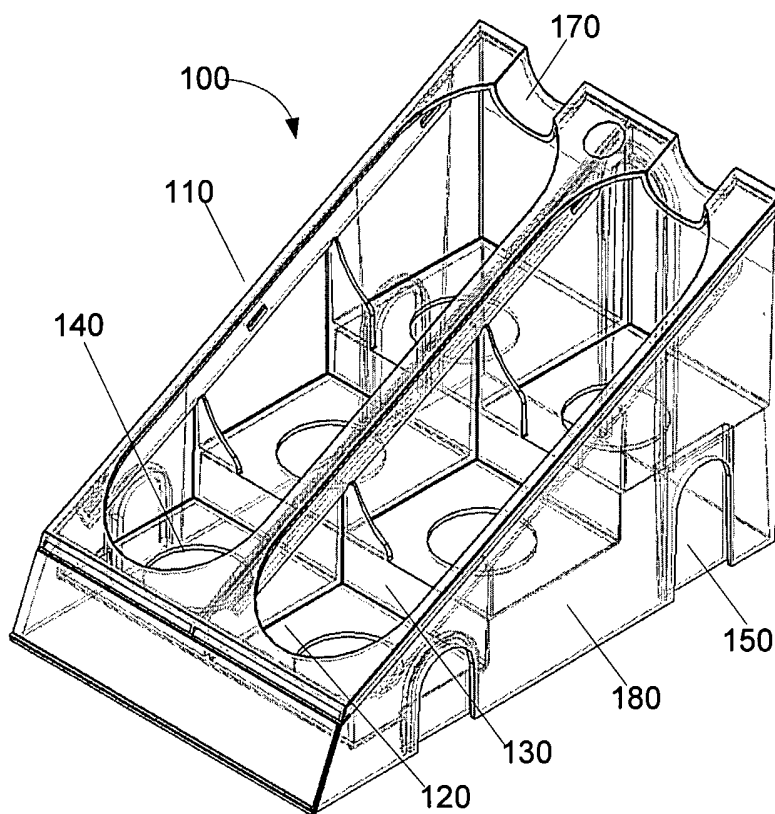


**Fig. 4D**

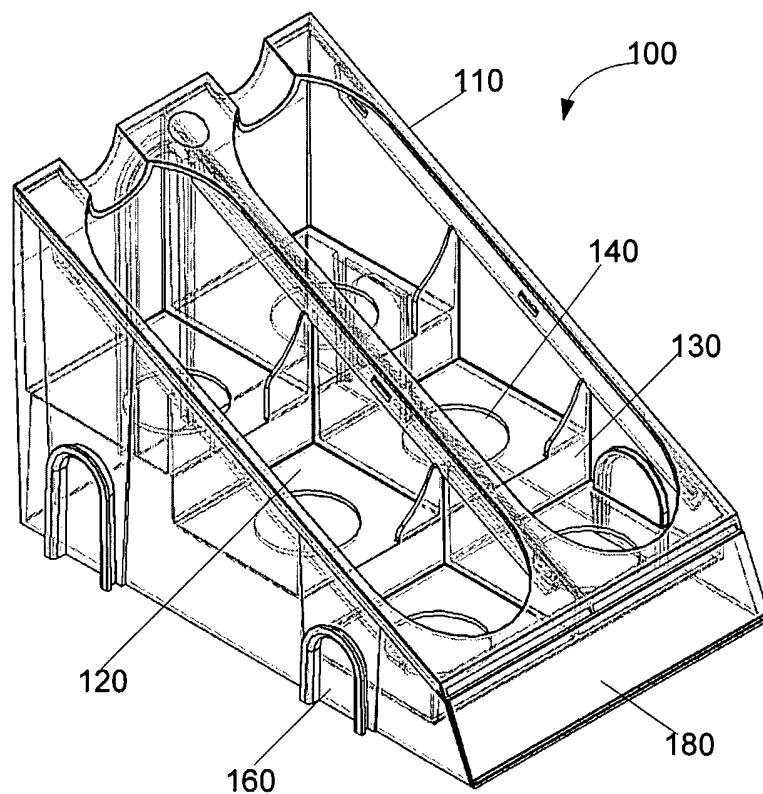


**Fig. 4E**

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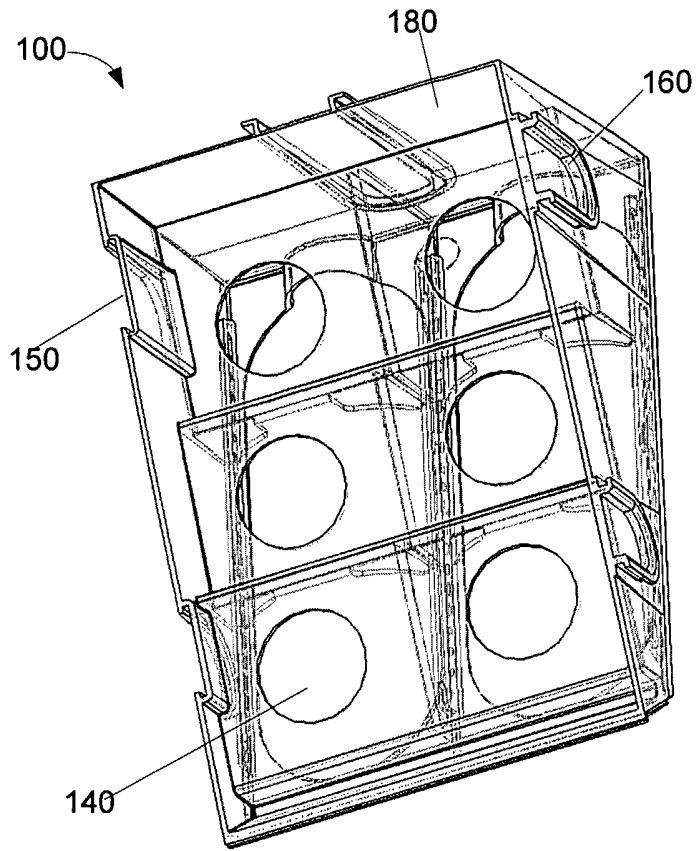


**Fig. 5A**

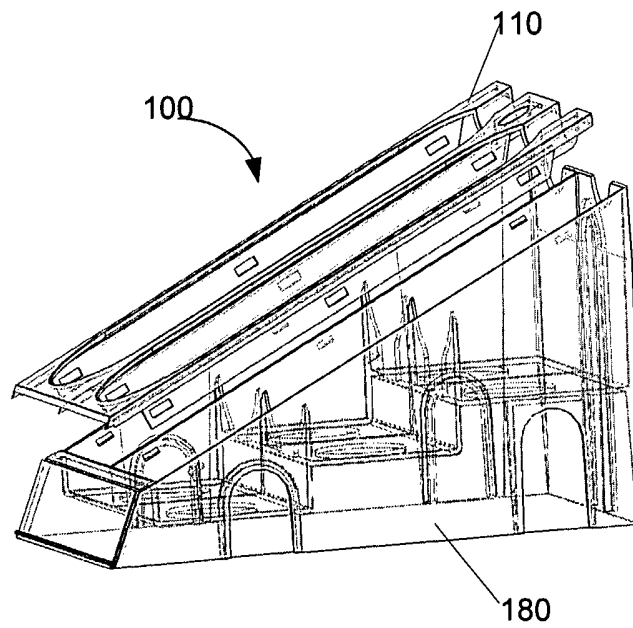


**Fig. 5B**

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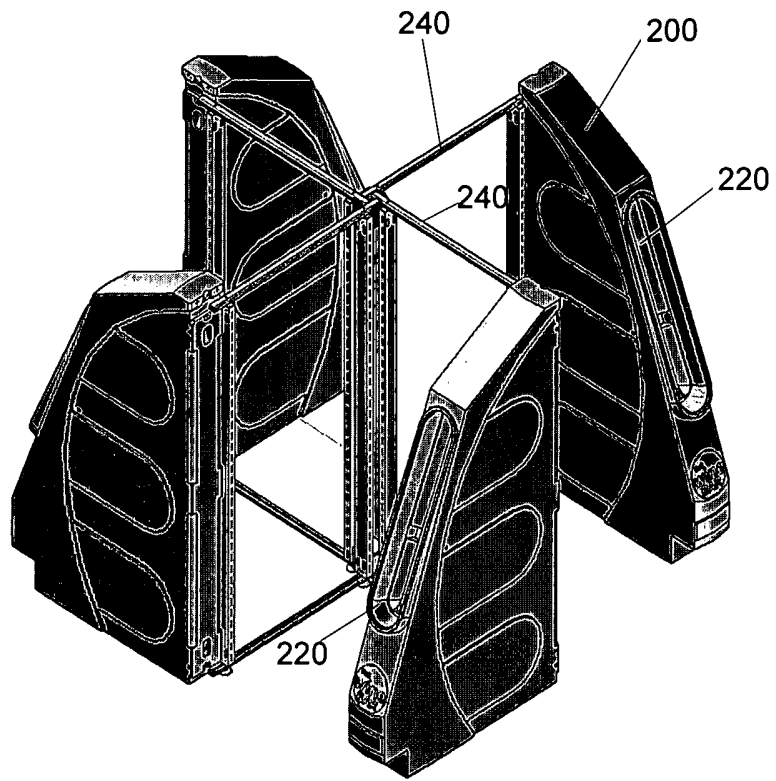
**Fig. 5C**



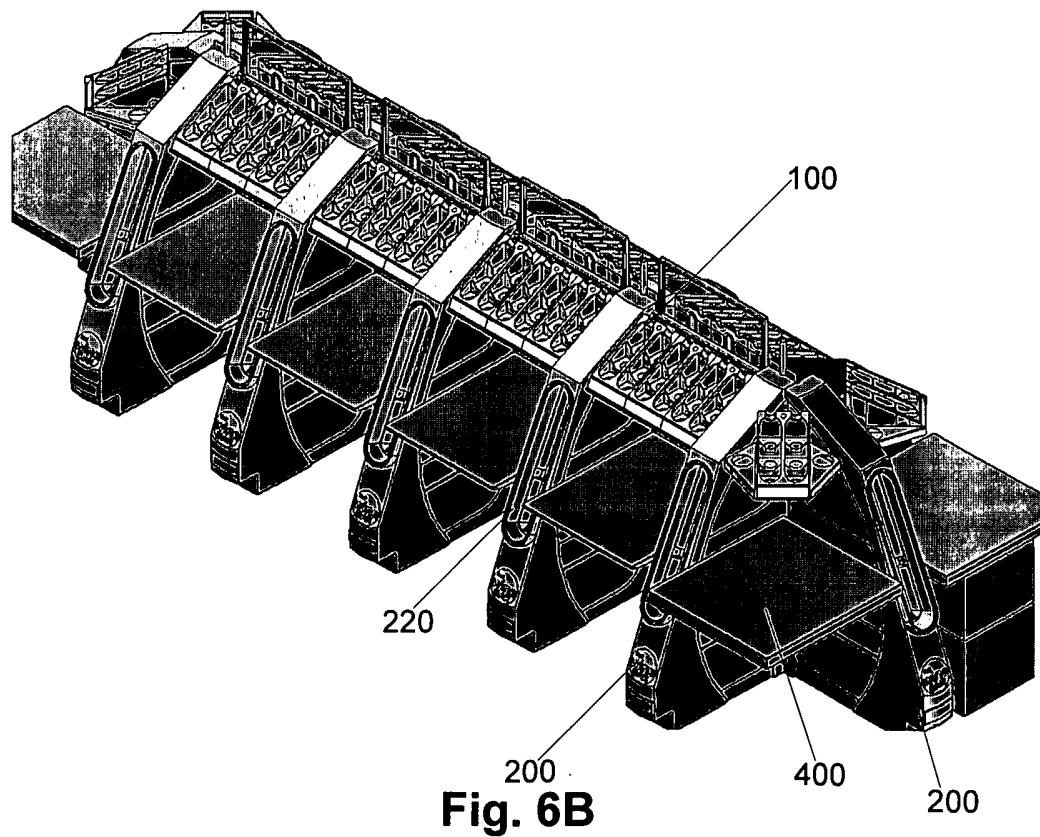
**Fig. 5D**



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**Fig. 6A**



**Fig. 6B**

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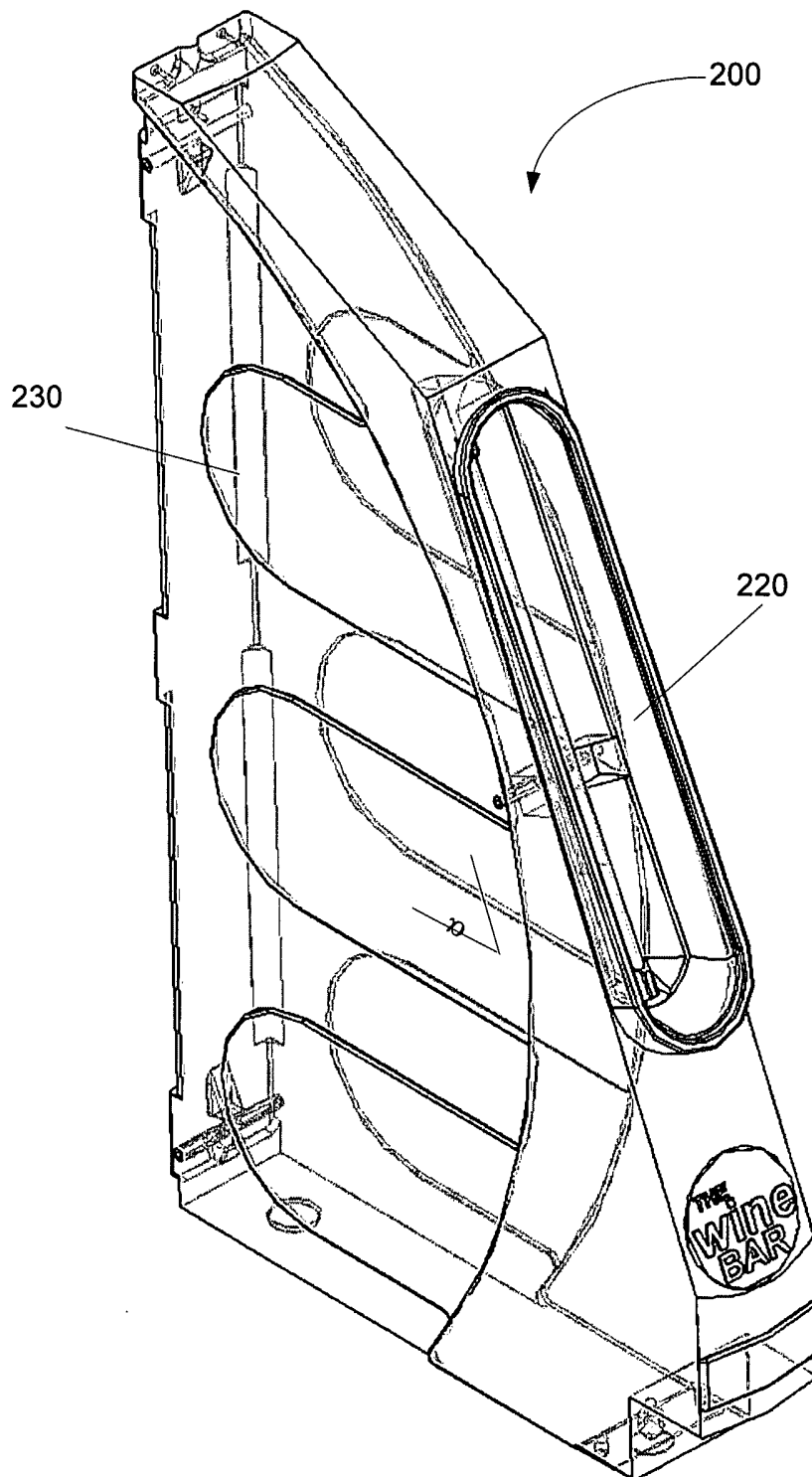


Fig. 6C

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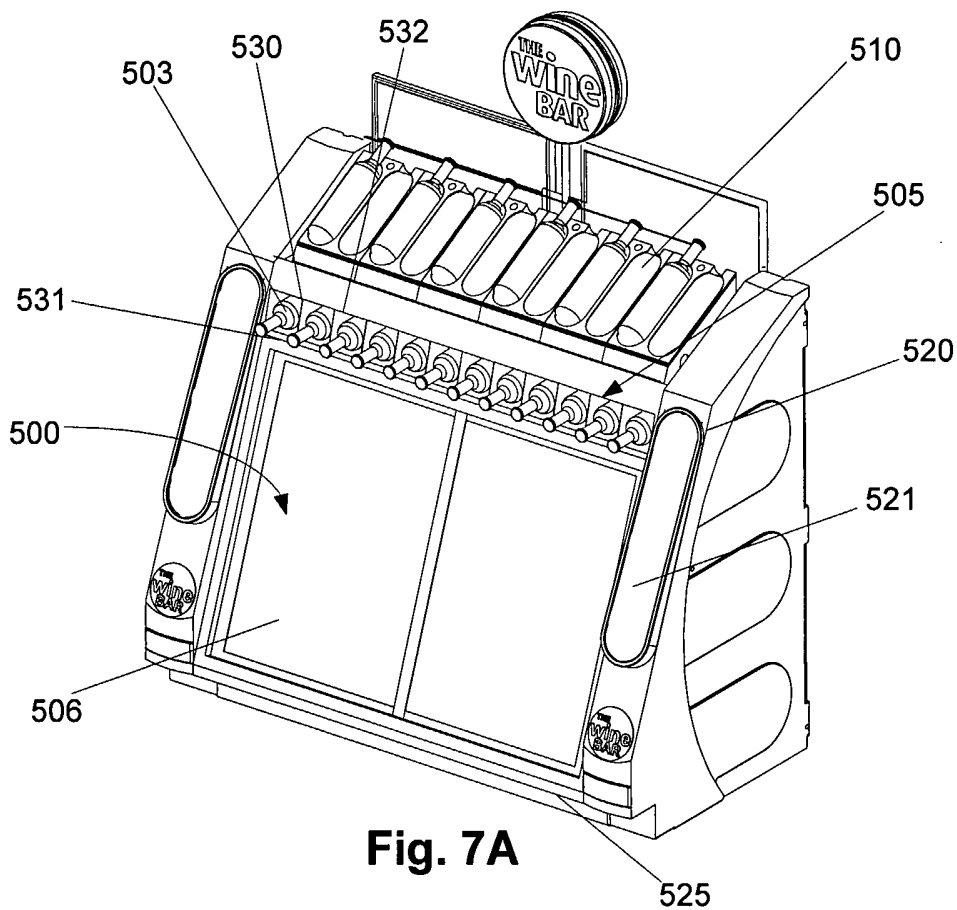


Fig. 7A

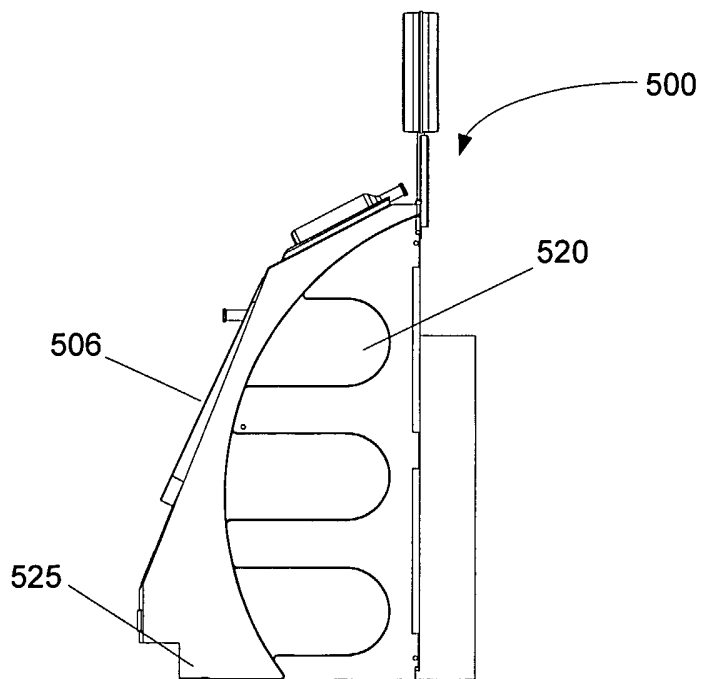


Fig. 7B

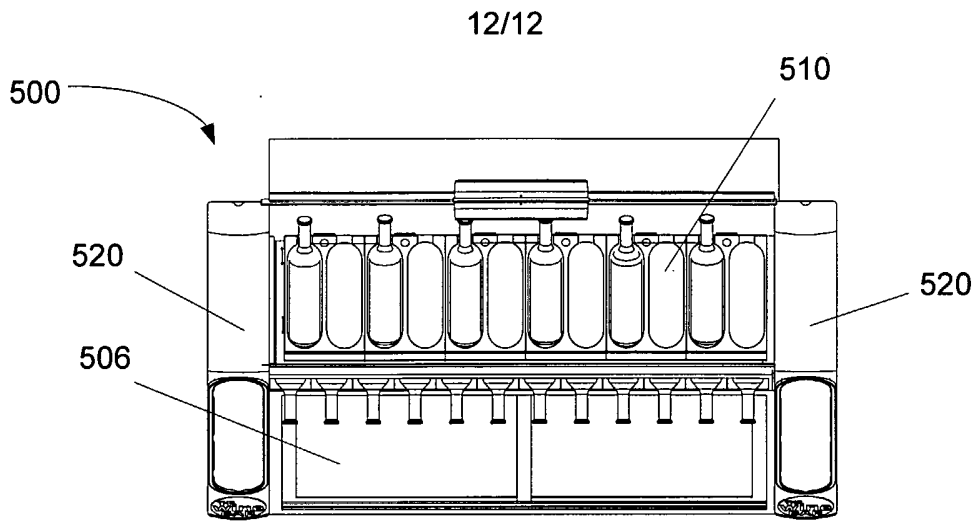


Fig. 7C

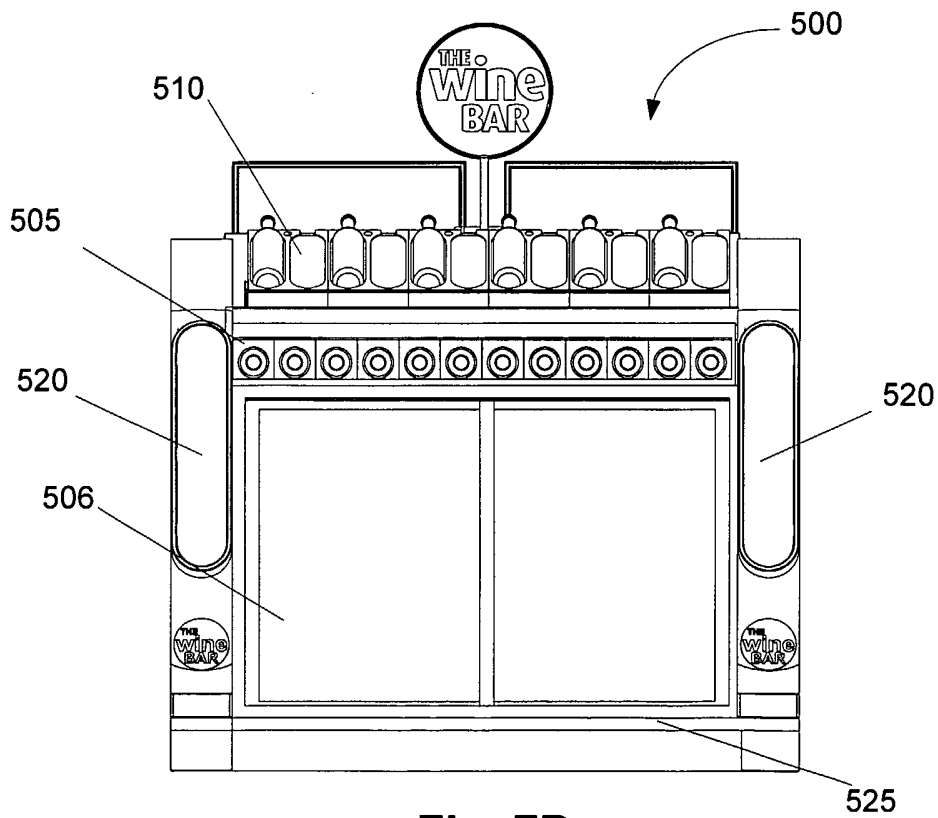


Fig. 7D

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2005/001173

A. CLASSIFICATION OF SUBJECT MATTER		
Int. Cl. <sup>7</sup> : A47F 3/00, 3/14, 5/12, 7/28		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI, A47F 3/00, 3/14, 5/12, 7/28, 3/08, 3/04 F25D 23/00/IC key words SHEL+, ANGL+, ANGUL+, SLOP+, RAMP+, DISPLAY+, SHOW+, SIGHT+, SEE+, VISIB+, SHOP+, SELL+, DISPENS+		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 3632043 A (CORDES) 7 April 1988 Whole document (fig 3,7,9,18,21)	1-26
X	US 6302282 B (GAY et al.) 16 October 2001 Whole document	1-26
X	DE 20006342 U (RAOUL ROUSSO GMBH) 20 July 2000. Whole document (fig 1,3)	1-26
X	Derwent Abstract Accession no: 2000-240325/21, Class P27, JP 2000051026 A (KANEBO LTD) Abstract (fig 1,3)	27-37
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 24 August 2005	Date of mailing of the international search report 30 AUG 2005	
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer  <b>SARAVANAMUTHU PONNAMPALAM</b> Telephone No : (02) 6283	

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2005/001173

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 3513198 A (LINDE AG) 16 October 1986 Whole document ( fig 1,2)	38-45
X	DE 3701936 A (LINDE AG) 4 August 1988 Whole document (fig 1,3, 6)	38-45
X	Derwent Abstract Accession no: 98-535170/46, Class P25 P27, JP 10234532 A (SANYO ELECTRIC CO LTD) 8 September 1998 Abstract (fig 1,5)	38-45

INTERNATIONAL SEARCH REPORT  
Information on patent family members

International application No.  
**PCT/AU2005/001173**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member
DE 3632043	
US 6302282	US 2002027115
DE 20006342	
JP 2000051026	
DE 3513198	
DE 3701936	
JP 10234532	

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX