

[54] **WINE STORAGE CABINET ASSEMBLY**
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[51] **Int. Cl.**..... A47b 77/08
[58] **Field of Search** 312/236, 36, 128; 211/75, 211/76, 105, 74; 220/102

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[57] **ABSTRACT**

A refrigerated housing is disclosed for housing wine bottles including a plurality of bins positioned above a refrigeration unit with the bins so located as to permit cool air passage upwardly of housing to cool the bottles therein. The bins are defined by panels positioned at a 60° angle with respect to the horizontal. In the preferred embodiment the bins are 12½ inches wide and the housing is 2½ bins wide.

1 Claim, 3 Drawing Figures

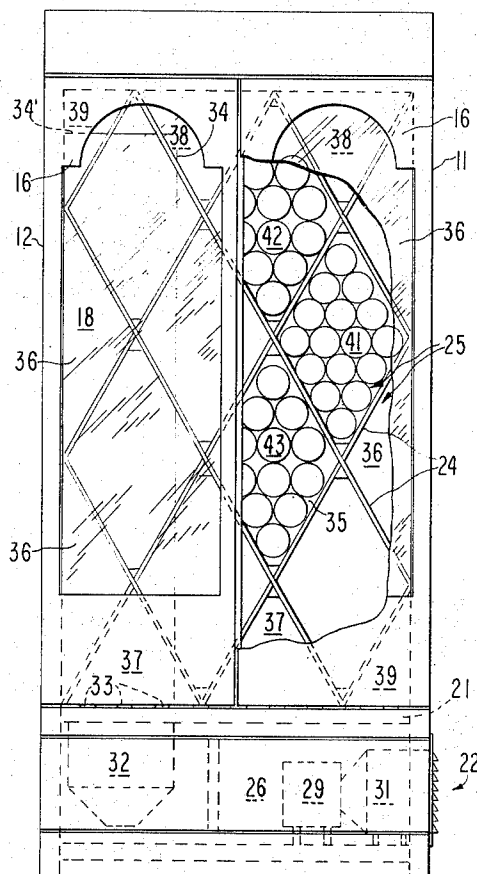


FIG. 1

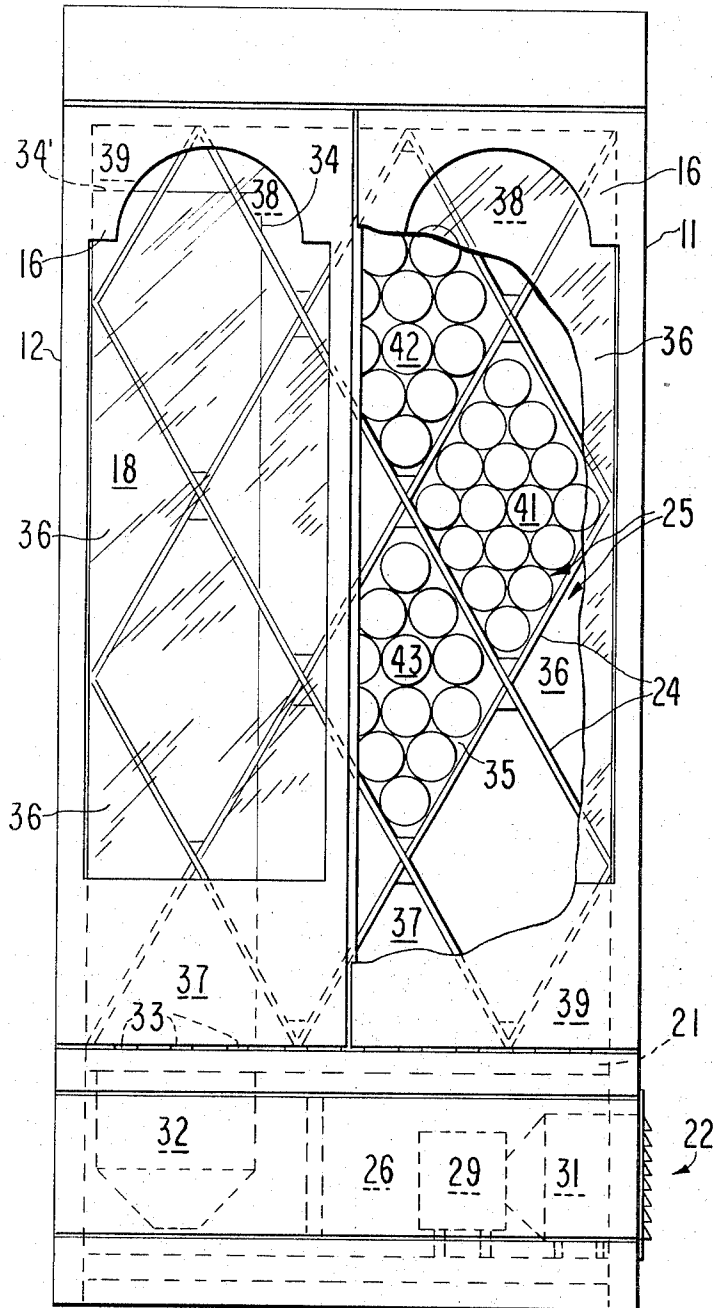


FIG. 2

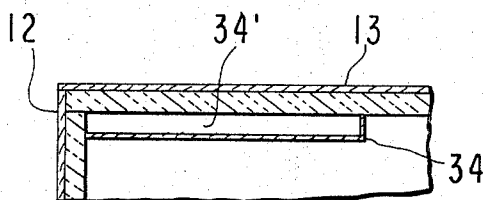
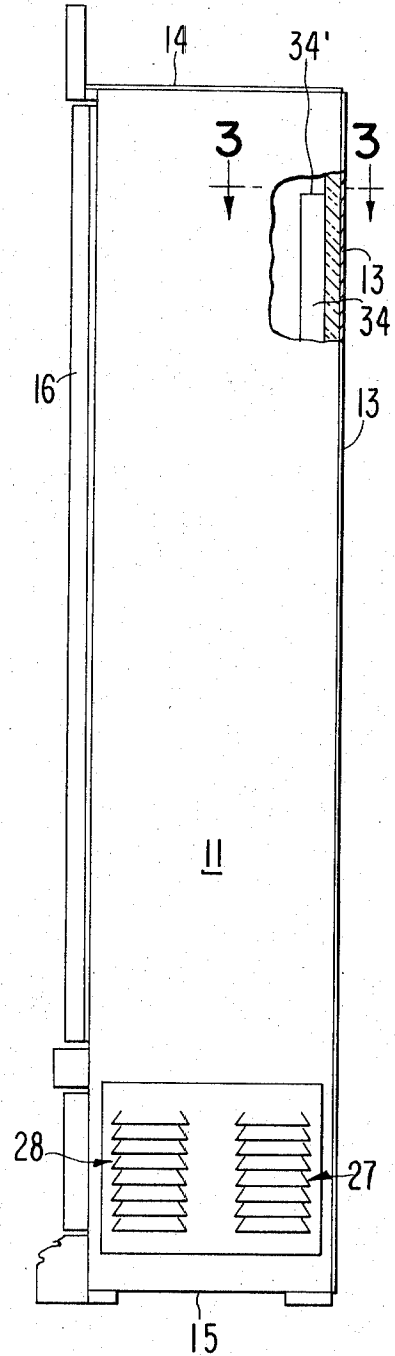


FIG. 3

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WINE STORAGE CABINET ASSEMBLY

BACKGROUND OF INVENTION

The present invention relates in general to a refrigerated wine cabinet.

Since wine should be stored at lower than room temperature, a number of storage units have been designed to store reasonably small quantities of wine in bottles, typically for home storage. These units have been bulky and inefficient and constructed for inefficient use of the space available.

The object of the present invention is to provide a wine storage and refrigeration unit which is efficient and functional and which stores the maximum amount of wine.

Broadly stated the present invention, to be described in greater detail below, is directed to a wine cabinet or wine refrigeration unit having a housing made up of side, back, top and bottom walls and including a pair of doors closing in the front thereof. A refrigeration unit is located in the bottom of the housing and means are provided for directing cool air from the unit upwardly around wine bottles stored thereabove with a warm air return located at the top of the unit for recycling the air.

With the construction of the present invention a temperature gradient is provided vertically of the housing so that wine bottles stored at the top are maintained at a slightly higher temperature than the bottles stored at the bottom. This is advantageous since it is preferred to store red wines at a slightly higher temperature than white wines.

In accordance with another aspect of the present invention the housing is subdivided into a plurality of bins for holding wine bottles and with panels defining the sides of the bins making an angle of 60° with the horizontal. It has been found that with a 60° panel the maximum number of bottles can be stored in the housing, even taking into consideration that, typically, bottles of different diameters are used for different wines.

In accordance with still another aspect of the present invention a bin width of 12 1/2 inch is used with bin panels making the 60° angle with the horizontal whereby the maximum number of wine bottles can be stored of a number of different bottle sizes.

In accordance with still another aspect of the present invention the housing is made 2 1/2 bins in width where the bins are 12 1/2 inch wide on their interior surfaces which make a 60° angle with the horizontal. With this construction all of the space in the housing is most efficiently utilized.

These and other features and advantages will become more apparent upon a perusal of the following specification taken in conjunction with the accompanying drawings wherein similar characters of reference refer to similar structures in each of the several views.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevational view, partially broken away showing the present invention.

FIG. 2 is a side elevational view, partially broken away, showing the present invention.

FIG. 3 is a sectional view of a portion of the structure shown in FIG. 2 taken along line 3—3 in the direction of the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

While many aspects of the present invention apply to housing or storage of large quantities of wine, the invention is particularly applicable to a wine storage housing for domestic use, and accordingly the invention will be described with reference to such a housing.

Referring now to the drawings, there is shown a self-contained refrigerated housing having a pair of upright sidewalls 11 and 12 secured to a backwall 13 and top and bottomwalls 14 and 15 respectively. A pair of doors 16 is secured to the front of the housing providing access for insertion and removal of wine bottles. Typically, these doors 16 are hinged on the housing and each includes a window 18 formed by a double pane of glass.

Walls constructed of an outside one-half wood sheet provided with 1 1/4 inch thick insulation on the interior surface in turn covered with a hard plastic surface such as Formica have proved highly desirable as insulated walls.

Below the doors 16 the housing is divided by a partition 21 for containing a refrigeration unit 22, and above the partition 21 the housing is divided by a plurality of intersecting panels 24 into a plurality of bins 25 as described in greater detail below.

Within the refrigeration unit 22 are provided a compressor 26 located along the back at one side of the housing adjacent a condenser cooling air inlet 27 and a warm air exit 28, a fan 29, a condenser 31 and an evaporator unit 32 through which the cooling air is passed upwardly through apertures 33 into the housing for the bottles. A warm air return duct 34 having an opening 34' near the top of the cabinet is provided for returning the circulating air from the top of the interior of the cabinet back to the refrigeration unit.

The rack forming the bins 25 is fabricated as a separate self supporting unit inserted into the housing, and it has been found that half inch panels 24 forming the bins provides adequate support for the wine bottles.

As shown, panels 24 make a 60° angle with the horizontal to provide the maximum capacity for holding a wide variety of bottle sizes. With this 60° angle the housing is subdivided into large diamond shaped bins with top and bottom 60° angles and side angles of 120°. By selecting the height of the wine rack equal to the height of 2 1/2 bins and the width of the wine rack into the width of 2 1/2 bins, eight full size bins 35 are provided along with four vertically divided half bins 36, four horizontally divided half bins, two 37 projecting upwardly at the bottom of the rack and two 38 projecting downwardly at the top of the rack and two corner quarter bins 39.

The configuration of these bins and their size is selected for optimum storage of different size bottles. Typically, Bordeaux bottles are 2 7/8 inch in diameter, Rhine bottles are 3 inches in diameter, Burgundy bottles are 3 1/8 inch in diameter and champagne bottles are 3 1/2 inch in diameter. By selecting the distance between the center line of one bin to the center line of the adjacent bin as approximately 13 1/4 inch, the lateral dimension of each of the diamond shaped bins becomes approximately 12 1/2 inch. A full size bin holds 16 Bordeaux bottles as schematically illustrated in bin 41, 12 Rhine bottles as schematically illustrated in bin 42, 12

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Burgundy bottles as shown in bin 43 or 9 champagne bottles. The half and quarter bins are useful where less than a full case of a particular type exists. One wine cellar housing as illustrated is 77 inches high and 36 inches wide.

A wine cellar in accordance with this construction will hold a good variety of wine bottles such as seven cases plus four bottles of Bordeaux, six cases plus four bottles of Burgundy and 6 bottles of champagne.

What is claimed is:

1. A wine storage cabinet assembly for efficiently storing wine bottles having a variety of bottle diameter dimensions comprising:

a housing defining side, top, bottom and back walls, a pair of doors for closing the front of said housing,

a plurality of dividers dividing said housing into a plurality of bins for horizontal storage of containers and spaced from said doors and said back wall to pass refrigerating air upwardly therein,

a refrigeration unit located at the bottom of said housing, means for introducing cool air from said

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refrigeration unit at the bottom of said bins for passage at least up past the front and back of said bins,

a warm air return duct with an opening adjacent the top of said housing for conveying warm air from the top of said housing back to said refrigeration unit,

said cool air introducing means and said warm air return establishing a temperature gradient in said housing,

said dividers including panels inclined at 60° to the horizontal and intersecting to define bins diamond shaped in cross section,

wherein said panels are provided with braces located above and below the intersections of said panels so that said panels are integrally connected thereat, and

said assembly having a width of two and one half diamond shaped bins where the open dimension of said diamond shaped bins is substantially 12 ½ inch.

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