

60/394,623 entitled "WINE RACK" filed Jul. 8, 2002, the disclosure of which is hereby incorporated by reference in its entirety.

Claims

What is claimed is:

1. A wine rack for attachment to a wall, comprising: a first frame element for attachment to the wall; a first support member having a fixed end and a free end, the fixed end of the first support member attached to the first frame element, the first support member extending substantially perpendicularly from the first frame element, the first support member having a recess portion for supporting a first portion of a wine bottle; a second frame element for attachment to a wall, the second frame element in a substantially parallel relationship with the first frame element; and a second support member having a fixed end and a free end, the fixed end of the second support member attached to the second frame element, the second support member extending substantially perpendicularly from the second frame element, the second support member having a recess portion for supporting a second portion of the wine bottle, the recess portion of the second support member being larger than the recess portion of the first support member, wherein the first and second support members are rods, the first and second support members being configured to support the wine bottle in a substantially parallel relation to the wall.
2. The wine rack of claim 1, wherein the first support member further comprises a second recess portion for supporting a first portion of a second wine bottle; and wherein the second support member further comprises a second recess portion for supporting a second portion of a second wine bottle.
3. The wine rack of claim 2, wherein the first support member further comprises a third recess portion for supporting a first portion of a third wine bottle; and wherein the second support member further comprises a third recess portion for supporting a second portion of a third wine bottle.
4. A wine rack for mounting on a wall surface, comprising: a first pair of support members including a first and a second support member configured to support at least a first and a second wine bottle in a first horizontal row and in a substantially parallel relation to the wall surface, the first support member having a first recess for supporting a portion of the first wine bottle and a second recess for supporting a portion of the second wine bottle, the second support member having a first recess for supporting a portion of the first wine bottle and a second recess for supporting a portion of the second wine bottle, wherein the first recess of the first support member is smaller than the first recess of the second support member, wherein the second recess of the first support member is smaller than the second recess of the second support member, wherein the second bottle is positionable proximate the wall surface, and wherein the label of the first wine bottle is visible to a person standing in front of the wine rack; and a second pair of support members including a third and a fourth support member configured to support at least a third and a fourth wine bottle in a second horizontal row and in a substantially parallel relation to the wall surface, the third support member having a first recess for supporting a portion of the third wine bottle and a second recess for supporting a portion of the fourth wine bottle, the fourth support member having a first recess for supporting a portion of the third wine bottle and a second recess for supporting a portion of the fourth wine bottle, wherein the first recess of the third support member is smaller than the first recess of the fourth support member, wherein the second recess of the third support member is smaller than the second recess of the fourth support member, wherein the fourth bottle is positionable proximate the wall surface, and wherein the label of the third wine bottle is visible to the person standing in front of the wine rack.
5. The wine rack of claim 4, wherein the first pair of support members extends perpendicularly relative to the wall surface.
6. The wine rack of claim 4, wherein the second pair of support members extends perpendicularly relative to the wall surface.

Description

FIELD OF THE INVENTION

The present invention relates, in general, to wine racks and wine racking devices.

BACKGROUND OF THE INVENTION

Conventionally, wine racks are used in wine cellars or other wine storage areas to store numerous bottles of wine in a desired area. In one example of a conventional wine rack 30 shown in FIG. 1, the bottles of wine are supported along the length of the bottle within a grid of generally rectangular cavities 32 stacked upon and next to each other, each rectangular cavity typically formed by pairs of parallel wood supports 34, 36 held in position by front and rear frame structures. In this example of a conventional wine rack, the wine rack is typically configured such that user places a bottle 38 of wine lengthwise within one of the rectangular cavities such that when the rack is full of wine bottles, only the top ends 40 (i.e., where the foil is wrapped around the top end) of the wine bottles 38 are generally visible when viewing the wine rack--and the labels on the wine bottle are not generally visible by the user. As such, in order to determine which type of wine (e.g., varietal/grape type, winery name, vintage/year, etc.) is stored in a particular cavity 32 of such a wine rack, the user may need to remove the bottle from the wine rack in order to view the label on the bottle.

As recognized by the present inventor, what is needed is a wine rack that provides storage for numerous wine bottles while permitting the user to view the label of the bottle of wine as the wine bottle rests in the wine rack.

It is against this background that various embodiments of the present invention were developed.

SUMMARY OF THE INVENTION

In light of the above and according to one broad aspect of one embodiment of the invention, disclosed herein is a wine rack that permits a user to view the wine labels on the bottles as the bottles sit in the rack. Various configurations of wine racks may be formed using embodiments of the present invention.

According to one broad aspect of one embodiment of the present invention, disclosed herein is a wine rack for attachment to a wall or other surface. In one example, the wine rack may include a first frame element for attachment to the wall; a first support member extending perpendicularly from the first frame element, the first support member having a recess portion for supporting a first portion of a wine bottle (i.e., a portion of the neck); a second frame element for attachment to a wall; and a second support member extending perpendicularly from the second frame element, the second support member having a recess portion for supporting a second portion of a wine bottle (i.e., a portion of the body of the bottle). When the wine bottle is placed in the rack, the label of the wine bottle may be seen and read by person standing in front of the wine rack.

In one embodiment, the first support member may include a second recess portion for supporting a first portion of a second wine bottle. The second support member may include a second recess portion for supporting a second portion of the second wine bottle. In another example, the first support member may include a third recess portion for supporting a first portion of a third wine bottle, and the second support member may include a third recess portion for supporting a second portion of a third wine bottle. The first and second support members may be formed from steel rods. In one example, the first and second frame elements may be positioned in a parallel relation to each other. The recess portion of the support members may take many different shapes such as U-shaped, V-shaped or other shapes.

According to another broad aspect of another embodiment of the invention, disclosed herein is a wine rack for mounting on a wall or other surface, the wine rack including at least a first and second pair of support members. In one embodiment, the first pair of support members may support at least a first and a second wine bottle in a substantially parallel relation to the wall, wherein the second bottle is positionable proximate the wall, and wherein the label of the first wine bottle is visible to a person standing in front of the wine rack. The second pair of support members may support at least a third and a fourth wine bottle in a substantially parallel relation to the wall, wherein the fourth bottle is positionable proximate the wall, and wherein the

FIG. 7 illustrates an example of a support member for supporting a portion of a body of a wine bottle, in accordance with an embodiment of the present invention.

FIG. 8 illustrates another embodiment of a support member of FIG. 6, for supporting the neck portions of two bottles of wine, in accordance with an embodiment of the present invention.

FIG. 9 illustrates an example of a support member of FIG. 7, for supporting the body portions of two bottles of wine, in accordance with an embodiment of the present invention.

FIG. 10 illustrates another example of a support member of FIG. 6, for supporting the neck portions of three bottles of wine, in accordance with an embodiment of the present invention.

FIG. 11 illustrates another example of a support member of FIG. 7, for supporting the body portions of three bottles of wine, in accordance with an embodiment of the present invention.

FIG. 12 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 13 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 14 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 15 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 16 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 17 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 18 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 19 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 20 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 21 illustrates another embodiment of a support member, in accordance with an embodiment of the present invention.

FIG. 22 illustrates a wine rack wherein the frame elements are attached at an angle to the wall or surface, in accordance with an embodiment of the present invention.

FIG. 23 illustrates a wine rack wherein the frame elements are interconnected, in accordance with an embodiment of the present invention.

FIG. 24 illustrates a wine rack wherein the support members are connected to a support surface in lieu of frame elements, in accordance with an embodiment of the present invention.

FIG. 25 illustrates a wine rack wherein the frame elements are connected to a ceiling, in accordance with an embodiment of the present invention.

such that the label 70 of the front bottle may be visible to a person standing in front of the wine rack. A portion of the label of the rear bottle of the bottom row may be visible to a person standing in front of the wine rack as well. While FIG. 3 illustrates 3 rows in the rack 50, it is understood that the number of rows in the wine rack is a matter of choice and can be greater or less than 3 rows, as desired.

FIG. 4 illustrates an example of a wine rack 50 that may be formed using embodiments of the present invention. As shown in FIG. 4, three sets 80 of frame elements 52, 54 are attached in parallel to a wall 56 wherein each pair 80 of frame elements 52, 54 has fourteen pairs of support members extending therefrom, thereby providing a 42 bottle wine rack if each pair of support members supports a single bottle. As described above, the example of FIG. 4 may also be designed to support two or three wine bottles per pair of support members, thereby increasing the capacity of the example of FIG. 4 to 84 wine bottles or 126 wine bottles, depending upon the particular implementation.

FIG. 5 illustrates an example of a frame element or strip (52 or 54) having a plurality of holes 82 adapted to receive a support member rod 60, 62, and a plurality of holes 84 for receiving a fastener 86 (not shown) to fasten the frame element 52, 54 to a surface such as a wall. In one example, the frame elements 52, 54 may be made from oil pickled ASTM A500 rectangular steel framework pieces.

For example, for each frame element or strip 52, 54, there may be six pre-drilled points 84 for fasteners 86 which are used to secure the frame element to a surface such as a wall. In one example, each fastener 86 may be selected so as to support approximately twenty pounds, primarily in shear or vertical force. The top fastener of a frame element 52, 54 typically experiences the greatest amount of horizontal force tending to pull the frame element from the wall or other surface, and accordingly, during installation, the top fastener of the frame element should be secured solidly between the frame element and the wall or other surface.

Different fasteners 86 may be used to secure the frame elements to a surface (i.e., a wall) and may vary based on the type of surface that the frame element is being attached. Although various fasteners or securing means 86 may be used to attach a frame element 52, 54 to a surface such as a wall, number 10 woodscrews, two inches long, along with spiral inserts or toggle bolts may be used with surfaces such as wood or drywall. For surfaces such as concrete or stucco over concrete, tapcons such as 3/16 inch.times.13/4 or 21/4 may be used, for example.

Also, while the first and second frame elements 52, 54 are shown as attaching to a wall, it is understood that they may be attached to some structure other than a wall or may be provided with legs to be supported from the floor, or may be supported from a ceiling.

As shown in the examples of FIGS. 2 and 6 11, the rows of a wine rack 50 may include a first and second support member 60, 62. Depending on the configuration of the support members, each row can support one, two, three or more bottles of wine. A first support member 60 may be used to support a portion of the neck 66 of the wine bottle, and a second support member 62 may be used to support a portion of the body 68 of the wine bottle. These support members can take different shapes, as shown and described herein.

In one example and as shown in FIGS. 2 and 6, the first support member 60 is fixed on one end 90 to a portion of the first frame element 52, and the first support member is free on the other end 92. The first support member 60 has a recess or downwardly curved indentation 94 adapted to receive or support a portion of the neck 66 of the wine bottle, as shown in FIG. 6.

In one example, the second support member 62 is, on one end 100, fixed to the second frame element 54, and has a free end 102. In FIG. 7, the second support member 62 has a recess or downwardly curved indentation 104 adapted for receiving or supporting a portion of the body portion 68 of the bottle. As shown in the example of FIGS. 2, 6 and 7, the recess 104 of the second support member 62 may be larger than the recess 94 of the first support member 60.

The first and second support members 60, 62 are positioned relative to one another along the frame elements 52, 54 such that a wine bottle 64 can be rested or positioned to rest on the respective recesses 94, 104 of the first and second support members 60, 62. In one example, the first and second support members 60, 62 are welded to the respective frame elements 52, 54 such that the support members extend perpendicularly from the frame elements.

take various shapes as shown in FIGS. 12-21. FIGS. 12-21 illustrate various different shapes that can be used when forming the support members 60 or 62 and the recesses (94 or 104) therein and may be used for supporting either a portion of the neck 66 or body 68 of a wine bottle 64. It is understood that these are by way of example only.

In FIG. 12, the support member (60 or 62) has a pair of recesses (94 or 104) that are defined by flat or straight sidewalls 110 and a flat or straight lower portion 112. In FIG. 13, each recess 94, 104 is defined by a circular or oval shape, while in FIG. 14 each recess 94, 104 is defined by straight sidewalls 114 that form an obtuse angle relative to the lower portion 116. In FIG. 15, each recess 94, 104 has straight sidewalls 118 and a curved lower portion 120, while in FIG. 16, each recess 94, 104 has angled sidewalls 122 and a curved lower portion 124. In FIG. 17, each recess 94, 104 is generally curved and between recesses, an upwardly curved portion connects 126 the first recess to the second recess. In FIG. 18, the portion 128 between the recesses is shaped so as to prevent a bottle from moving from the first recess to the second recess, and in this example, the height of the intermediate portion 128 is lower than the height of the end portions 130 of the support member.

In FIG. 19, each recess 94, 104 is defined by a first slanted or angled sidewall 132 joined to a flat lower portion 134 joined to a straight sidewall 136, while in FIG. 20, each recess 94, 104 has a front curved sidewall 138 and a curved lower portion 140 which joins to a straight rear sidewall 142. In both FIGS. 19 and 20, the front sidewall 132, 138 of each recess assists in placement of the bottle within the recess 94, 104. In FIG. 21, the recesses 94, 104 are generally V-shaped.

Embodiments of the present invention can be utilized to support wine bottles of differing sizes, including standard sized wine bottles of 750 ml, magnum sized wine bottles of 1.5 liters, and half bottles of 375 ml. Other wine bottle sizes may be supported utilizing embodiments of the present invention as well. For instance, 375 ml bottles are typically nine and a half inches long, and therefore ten to eleven inches per row can be allocated in a layout. For 750 ml bottles, which are typically twelve inches long, thirteen to fourteen inches per row may be allocated. For magnum 1.5 liter bottles which are typically fourteen inches long, fifteen to sixteen inches per row may be allocated.

As an example of a layout for a wine rack 50 for supporting standard 750 ml bottles on a wall 56 that is eleven and a half feet long, eleven and a half feet (which is 132 inches) divided by thirteen inches per row yields 10.15. This means that ten sets 80 of racks may be utilized with approximately one inch extra on each end of each rack. Starting from the left side of the wall, a frame element 54 may be coupled with a support member 62 for supporting the larger end of the wine bottle should be placed a minimum of three inches from the end of the wall, and the next frame element 52 adapted for receiving the support member 60 (for supporting the neck of the bottle) should be placed seven and a half inches from the frame element 54 for a standard 750 ml bottle. For a 375 ml bottle, the distance may be six inches from the first strip; and for a 1.5 liter bottle, the distance may be ten inches from the first strip. For the second set 80 of frame elements positioned on the wall, a frame element 54 of this second set may be placed five and a half to six and a half inches for a standard 750 ml bottle from the frame element 52 of the first set of frame elements, for example (and for a 375 ml bottle, four to five inches from the frame element 52 of the first set 80 of frame elements; and for a 1.5 liter bottle, the distance may be five to six inches from the frame element 52 of the first set of frame elements). In this example, these dimensions are referenced from the center of a frame element to the center of the next frame element.

While FIG. 2 illustrates the frame elements 52, 54 aligned vertically with respect to the wall 56 or other surface, a wine rack 50 may be formed wherein the frame elements 52, 54 may be positioned in non-vertical orientations. FIG. 22 illustrates another embodiment wherein the frame elements 52, 54 are mounted to a surface 56 at an angle.

Further, in place of first and second frame elements 52, 54 as shown in FIG. 2, a wine rack 50 may be formed using a single unitary frame element 150 having a first and second portion 52, 54 for respectively receiving the first support member 60 and the second support member 62, as shown in FIG. 23, or a surface 152 may be used as shown in FIG. 24 for receiving securably the first and second support members 60, 62 of a row of a wine rack in accordance with embodiments of the present invention. The surface 152 may be integral to a wall 56 or may attach to a wall 56.

