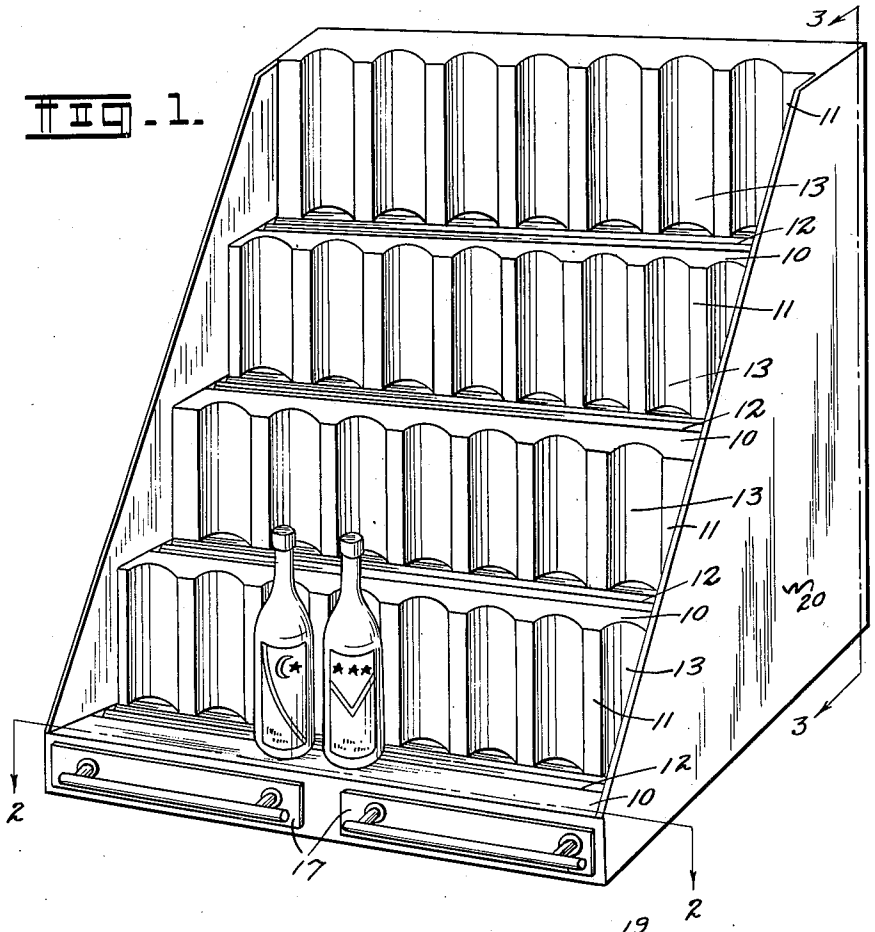
May 31, 1949. W. G. POISSANT 2,471,581

BOTTLE COOLING AND DISPLAY DEVICE

Filed Sept. 17, 1947 2 Sheets-Sheet 1

FIG. 1.



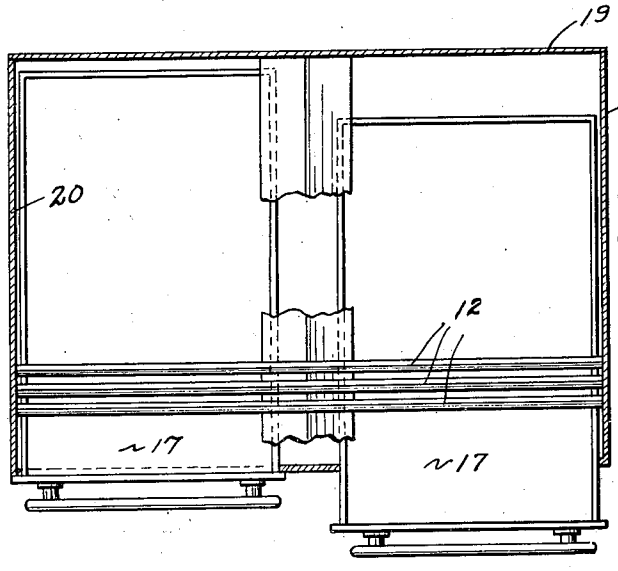


FIG. 2.

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Filed Sept. 17, 1947 2 Sheets-Sheet 2

FIG-3.

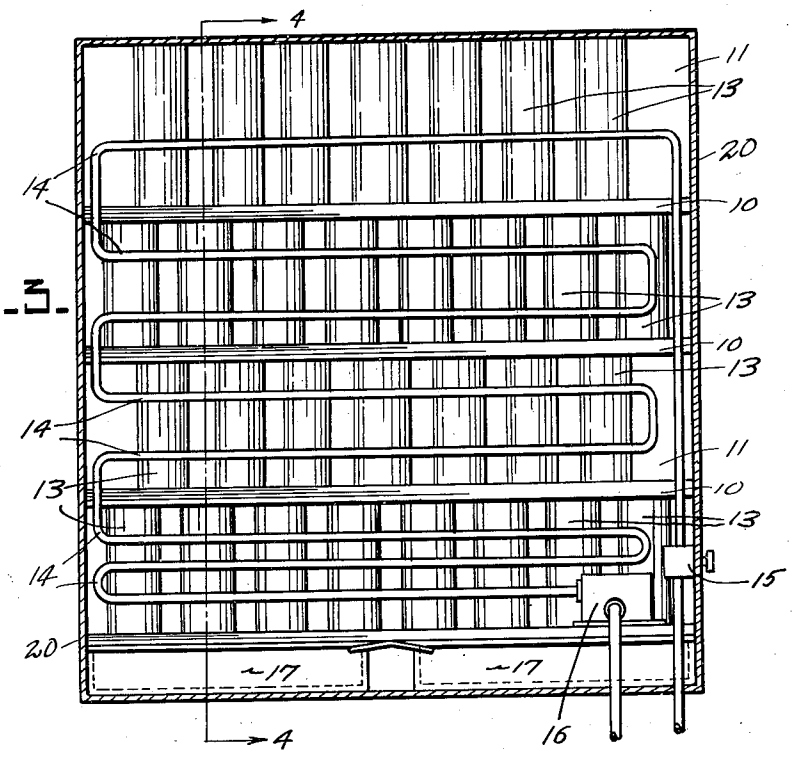
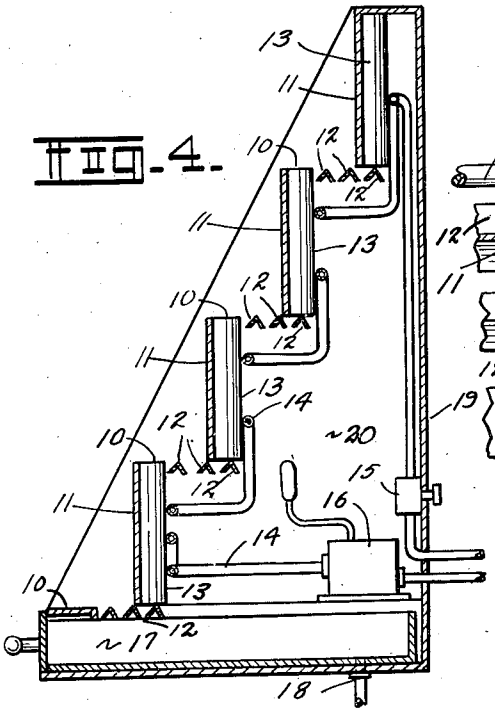


FIG-4.



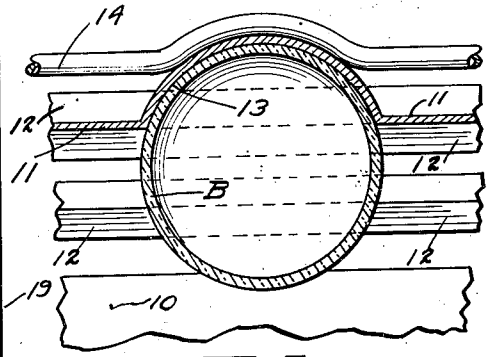


FIG-5.

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BOTTLE COOLING AND DISPLAY DEVICE

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Application September 17, 1947, Serial No. 774,580

5 Claims. (Cl. 62—89.6)

1

This invention relates to refrigerating and display apparatus and more particularly to apparatus devised for installation on the back bar of establishments serving various beverages such as liquor and the like.

The principal object of the invention is the provision of a combination liquor display and cooling device which will effectively cool a plurality of bottles of liquor positioned thereon and at the same time display the same advantageously.

A further object of the invention is the provision of a liquor cooling and display device arranged to position the bottles of liquor thereon in staggered relation to one another so that the progressive rows of bottles are visible one behind the other.

A still further object of the invention is the provision of a liquor cooling and display device having means formed therein for collecting condensate from bottles of liquor positioned thereon.

A still further object of the invention is the provision of a liquor cooling and display device incorporating novel cold wall bottle contacting plates for directly chilling bottles of liquor thereon.

A still further object of the invention is the provision of a liquor cooling and display device having several rows of bottle cooling plates shaped for direct contact with bottles positioned adjacent thereto and provided with refrigeration means arranged for various degrees of cooling of the several bottle contacting plates.

The liquor cooling and display device disclosed herein is particularly adapted for installation on the back bar of establishments serving various beverages such as liquor and the like. It is well known that it is customary to maintain a supply of various brands of liquors on the back bar of such establishments and that the customary practice is to simply set a plurality of the bottles of liquor on the flat back bar surface. The present device enables a greater number of bottles to be positioned on a given area of a back bar and at the same time positions each bottle in a location making it more readily accessible and at the same time in a position where it does not obscure the adjacent bottle.

The invention as disclosed herein contemplates the formation of a step-like display device, the steps of which are relatively shallow and the riser portions of which are provided with alternately spaced, curved and flat spacer sections, the curved sections being of the approximate radius of the exterior of a conventional liquor bottle so that a plurality of bottles of liquor may be positioned

2

on each of the steps of the device and each bottle partially nested against the spaced curved sections of the riser portions of the device. The successive rows of curved bottle receiving sections are staggered with respect to one another so that bottles positioned on the first step do not obscure bottles positioned on the second step, etc.

Each of the bottle contacting curved sections is directly cooled by the application to the rear surfaces thereof of appropriate refrigeration coils which are adapted to be connected with a suitable compressor through a controlling thermostat and a suitable expansion valve so that a desirable degree of cold is maintained on the bottle contacting curved sections of the device.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a perspective view of the liquor cooling and display device.

Figure 2 is a horizontal cross section taken on line 2—2 of Fig. 1.

Figure 3 is a vertical section taken on line 3—3 of Fig. 1.

Figure 4 is a vertical section taken on line 4—4 of Fig. 3.

Figure 5 is an enlarged detail of a portion of the device as illustrated in Figs. 1 and 4.

By referring to the drawings and Fig. 1 in particular it will be seen that a liquor cooling and display device has been disclosed which is of an ornamental nature and which is particularly adapted for the placement on the back bar of a liquor serving establishment. The device comprises a plurality of step-like racks, each of the steps having a floor 10 and a riser 11. Each of the floors 10 include a plurality of louvers 12 positioned below and immediately in front of the risers 11 and each of the risers 11 includes a plurality of depressed vertically standing arcuate sections 13 each of which is of a radius corresponding with that of a liquor bottle.

Still referring to Fig. 1 of the drawings it will be observed that the arcuate sections 13 are spaced by relatively narrow flat sections of the riser 11 so that liquor bottles positioned in registry with each of the upstanding arcuate sections 13 will

be spaced with respect to one another sufficiently to enable them to be readily grasped and removed from the display device. In Fig. 1 a pair of liquor bottles are shown positioned on the lowermost floor 10 in engagement with a pair of vertically standing arcuate sections 13 so that the contents of the liquor bottles may be effectively cooled by direct conduction therewith.

By referring to Figs. 3, 4 and 5 of the drawings it will be seen that cooling of the arcuate sections 13 of the risers 11 is achieved by the provision of a plurality of horizontally extending cooling coils 14 preferably arranged as disclosed in Figs. 3 and 4 of the drawings so that at least three horizontal coils extend across the back of the arcuate sections 13 of the lowermost step, two coils extend across the backs of each of the next two steps and one coil extends across the back of the uppermost step. Each of the refrigeration coils 14 are soldered or otherwise affixed to a suitable portion of the back wall of the arcuate sections 13 so that cold is conducted directly from the coil 14 to the vertically standing arcuate sections 13 thereby forming an effective cold wall construction in each of the same.

As shown in Figs. 3 and 4 of the drawings a thermostat 15, preferably of the type having an electrically actuated solenoid valve formed therein such as known in the art, is provided to control the return line from the refrigeration coils 14 and thereby make it possible to maintain a desired temperature in the liquor cooling and display device. An expansion valve 16 is also symbolically illustrated in communication with the refrigeration coils 14 so that an effective refrigeration action can be obtained by connecting the coils 14 to a compressor (not shown).

By referring to Figs. 1, 2 and 4 of the drawings it will be seen that a pair of drawer-like drip trays 17 are positioned in the base of the liquor cooling and display device and adapted to receive condensate drained thereinto by the louvers 12 forming portions of the floor 10 of each of the plurality of steps of the device. If desired, the trays 17 may be directly connected with a drain line as shown in Fig. 4 whereby an appropriate drain connection is indicated by the numeral 18. The plurality of step-like floors 10 and risers 11 are supported by a back wall 19 and a pair of side walls 20 which are preferably of generally triangular shape, as best illustrated in Figs. 1 and 4 of the drawings.

It will be obvious to those skilled in the art that if desired the side walls 20 may be of rectangular shape and a modification of the device is seen in that ventilating fans may be positioned one in each of the side walls 20, if desired. As fans are well known in the cooling art, a further disclosure of the same is not included herein.

By referring now to Fig. 5 of the drawings an enlarged detailed horizontal section of one of the arcuate sections 13 may be seen in connection with a bottle, indicated by the letter B. It will be observed that the curvature of the arcuate sections 13 corresponds with that of the bottle B so that a cold wall conduction is readily established between a substantial portion of the bottle B and the arcuate section 13. The relative positioning of the refrigeration coil 14 is also shown and it will be observed that it is preferably formed to correspond at least in some degree with the arcuate section 13 so as to insure a substantial contact between these two portions of the device.

In operation the liquor cooling and display device provides a convenient unit-like structure which may be positioned on the back bar of liquor serving establishments and each of the units forming an attractive display medium as well as means for adequately cooling the bottles of liquor positioned thereon. It will be seen that condensate normally forming on the arcuate sections 13 and on the bottles of liquor will be readily drained by the louvers 12 forming portions of the floor area 10 of the device upon which the bottles of liquor are directly positioned and that increased refrigeration capacity is provided for the lowermost row of bottles as these are customarily the ones most often used and the additional refrigeration capacity is therefore necessary. The brands less seldom used are positioned on the middle rows and the brands of liquor used only occasionally are positioned on the uppermost row, the different refrigeration requirements being anticipated in the formation and arrangement of the refrigeration coils 14 with respect to the plurality of arcuate sections 13 comprising each of the several rows of the device.

It will be observed by those skilled in the art that the device is of a size and shape rendering it particularly adaptable for installation on back bar equipments having limited shelf width and that the installation of the device upon such back bar equipments materially increases the capacity of the back bar areas of such equipments. The back 19 of the device as well as the side walls 20 and the base thereof beneath the trays 17 is preferably insulated so that relatively small compressor capacity is necessary to efficiently operate the device.

It will thus be seen that a simple and efficient cooling and display device has been disclosed which possesses the unique advantage of increasing the capacity of the back bar of liquor serving establishments effectively chilling the liquor so placed and providing for a more advantageous display of the same.

Having thus described my invention, what I claim is:

1. A liquor cooling and display device comprising a step-like construction, the vertically standing portions of which are provided with a plurality of cross sectionally arcuate, vertically standing recesses, each of which is of the approximate radius of a liquor bottle and means for refrigerating the said riser portions of the said device to form cold conducting walls with respect to bottles of liquor positioned against the vertically standing recesses thereof.

2. A liquor cooling and display device comprising a cabinet having an open front section and a plurality of shelves positioned therein, each in elevated relation to the other, risers spacing the said shelves vertically, each of the said risers having a plurality of vertically standing concave recesses formed therein, each of the said recesses having a radius corresponding with that of a liquor bottle, and refrigeration means in the said cabinet for directly cooling the said risers and hence bottles of liquor positioned against the vertically standing recesses thereof.

3. A liquor cooling and display device comprising a cabinet having an open front and top section having a plurality of vertically spaced shelves therein each of the said shelves being out of vertical plane with one another and riser portions connecting the said shelves, vertically standing concave recesses in each of the said risers for the reception of a plurality of bottles of liquor thereagainst, louvers forming portions of the said

shelves for receiving and directing condensate into the said cabinet and refrigeration means positioned in the said cabinet for directly cooling the said risers and hence bottles of liquor positioned thereagainst on the outside thereof.

4. A liquor cooler comprising a plurality of vertically positioned cold wall structures in step-like arrangement, each of the cold wall structures having a plurality of vertically standing concave recesses formed therein and each of the said plurality of recesses being of a radius comparable with that of a liquor bottle.

5. A liquor cooler comprising a plurality of vertically positioned cold wall structures in step-like arrangement, each of the cold wall structures having a plurality of vertically standing concave recesses formed therein and each of the said plurality of recesses being of a radius comparable with that of a liquor bottle, and floor means spacing each of the said plurality of cold wall structures, the said floor means including louvers forming a part thereof for receiving and draining condensate away from the said cold wall structures and liquor bottles positioned thereon.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,990,325	Hopkes	Feb. 5, 1935
2,279,484	Munshower	Apr. 14, 1942
2,327,631	Fibus	Aug. 24, 1943
2,464,605	Philipp	Mar. 15, 1949