Feb. 14, 1950 A. M. POHL ET AL 2,497,688

BEVERAGE SERVING-BAR UNIT

Filed June 19, 1946 2 Sheets-Sheet 1

Fig. 1.

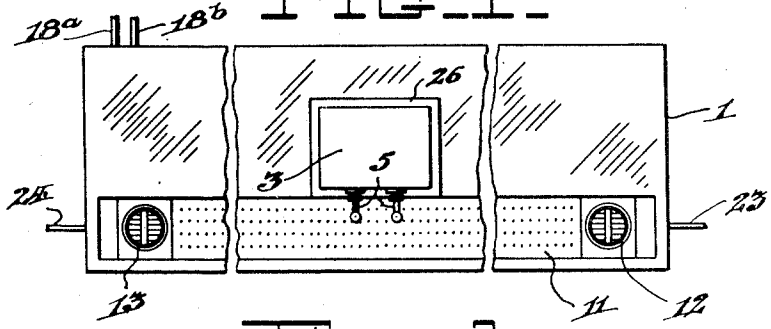


Fig. 2.

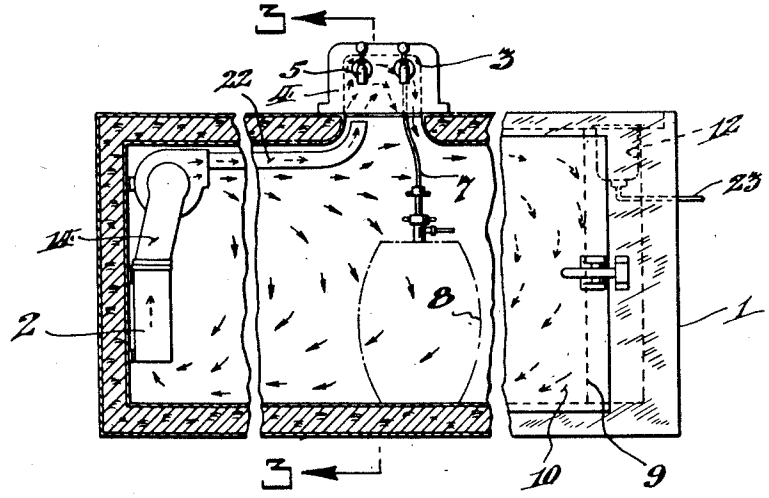
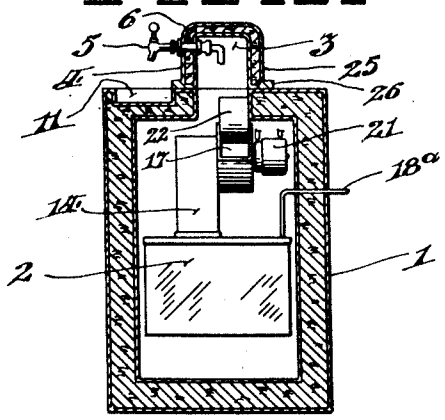


Fig. 3.



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FIG. 4.

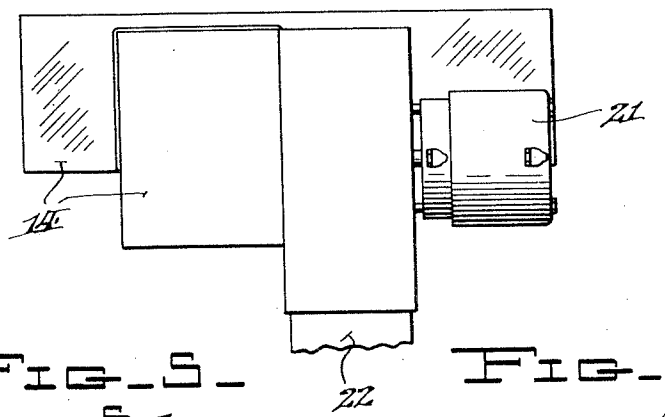


FIG. 5.

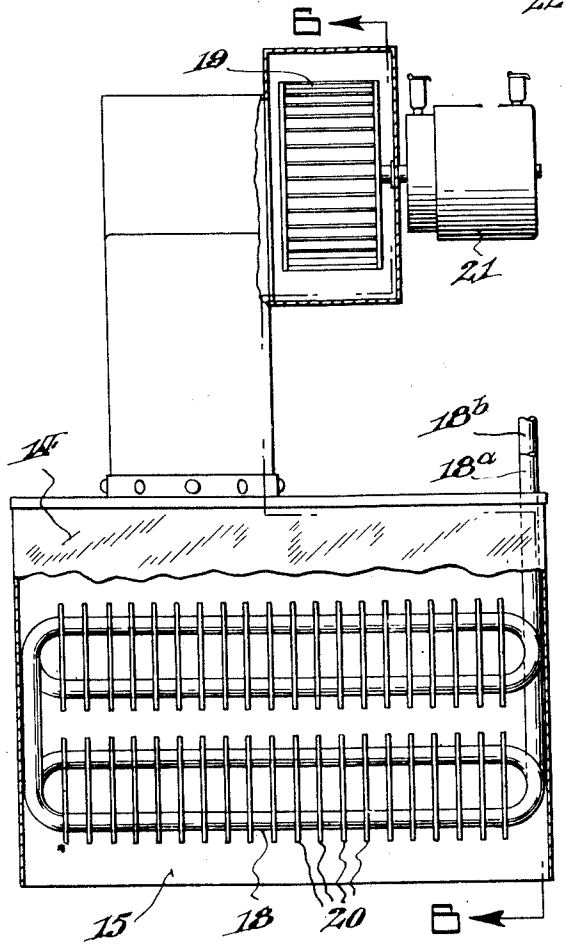
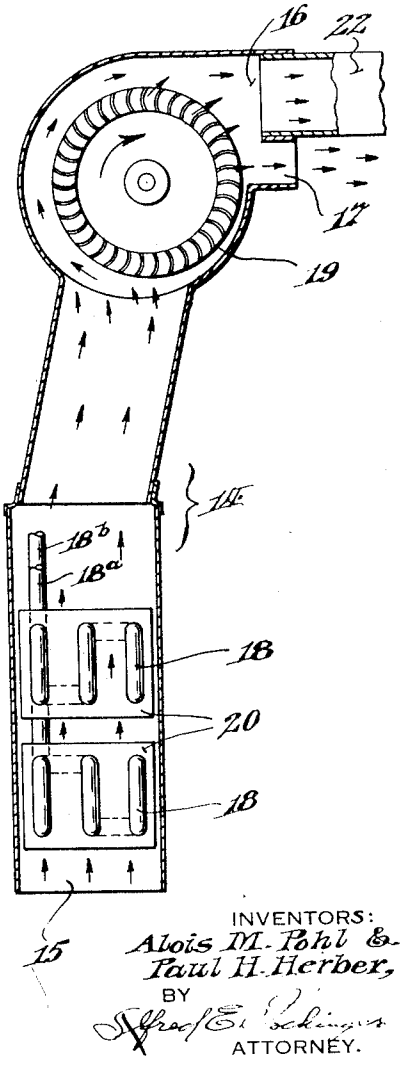


FIG. 6.



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BEVERAGE SERVING-BAR UNIT

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7 Claims. (Cl. 225—40)

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This invention generally relates to beverage serving-bar units, and to the beverage cooling systems of such and similar units.

One object of our invention is to provide a beverage serving-bar unit of unique design, which embodies a novel beverage cooling system having certain structural and functional features of advantage over the similar beverage cooling systems of the prior art.

Another object is to provide such a unit having a main serving-bar cabinet for accommodating therein a plurality of separate beverage containers, and an auxiliary intercommunicating chamber at its top, one wall of which chamber serves as a convenient mounting for the beverage dispensing faucets, and the interior of which chamber forms part of a beverage cooling system adapted to effect uniform and continuous cooling of the beverage within the dispensing faucets, as well as the beverage within those sections of the beverage conveying pipe lines or ducts connected with, and located directly adjacent to, the faucets.

Another object is to provide such a unit having a novel air cooling and circulating system adapted to maintain the air within the upper section of said main serving-bar cabinet and the air within said auxiliary intercommunicating chamber, at a relatively lower temperature than the air within the lower section of the cabinet.

A further object is to provide such a unit which is particularly adapted to cool and dispense beer from separate standard size barrels accommodated within the serving-bar cabinet of the unit.

An additional object is to provide a novel air cooling and circulating device for beverage serving-bar units and the like, which device is simple in construction, efficient in operation, and which is adapted to feed refrigerated air to the interior upper section of the unit in selective manner so as to simultaneously effect uniform and continuous cooling of the interior of the main serving-bar cabinet and such parts as the beverage conveying duct sections and dispensing faucets associated with an intercommunicating chamber located adjacent to, or above said serving-bar cabinet.

Further objects are, the provision of a unique beverage serving-bar unit which embodies a novel air cooling and air circulating system adapted to attain maximum beverage cooling efficiency at relatively low cost, and which unit is constructed and arranged to facilitate replenishment of the beverage supply without appreciably disturbing the effectiveness of the beverage cooling system.

With these and other objects in view, which

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will become more readily apparent from the following detailed description of one practical and illustrative embodiment of our improvements shown in the accompanying drawings, the invention comprises the unique beverage serving-bar unit, as well as the novel elements, features of construction and arrangement of parts in cooperative relationship, more particularly defined by the hereto appended claims.

In the drawings:

Figure 1 is a top plan view of one form of beverage serving-bar unit embodying our invention.

Fig. 2 is an enlarged partial front elevational view of the unit shown in Fig. 1, with parts of the unit omitted and others shown in section so as to disclose certain details of construction.

Fig. 3 is a vertical cross-sectional view, taken substantially as indicated by the arrows 3—3 on Fig. 2.

Fig. 4 is a top plan view of a novel air cooling and circulating device forming part of our invention.

Fig. 5 is a front elevational view of the device shown in Fig. 4, and

Fig. 6 is a vertical cross-sectional view of the device shown in Fig. 5, taken substantially as indicated by the arrows 6—6 on Fig. 5.

By referring more particularly to Figs. 1, 2 and 3 of the drawings, it will be noted that our novel beverage serving-bar unit comprises a main cabinet 1, having mounted therein an air-cooling and air-circulating device 2. Centrally located above the top wall of the cabinet 1, is an auxiliary thermally insulated intercommunicating chamber 3. The front wall 4 of the chamber 3 has exteriorly mounted thereagainst, in aligned relationship, a plurality of beverage dispensing faucets 5. The rear connecting ends or members 6 of the faucets 5 extend through the thermally insulated front wall 4 of the chamber 3 and project into the latter so as to permit connection thereto of separate standard type beverage conveying pipe lines or ducts 7, the ends of which are provided with the usual equipment for individual connection with a plurality of separate beverage containers, such as beer barrels 8, accommodated within the main cabinet 1.

The front wall of the main cabinet 1 is provided with openings or doorways 9, arranged to permit ready access to the interior of the cabinet from the front thereof at various locations, and hingedly secured doors 10 are mounted adjacent to the openings 9 for the purpose of closing the

latter to prevent escape of the refrigerated air from the unit when the latter is in operation.

Formed within the top section or wall of the unit 1, directly below the faucets 5, is a longitudinally extending draining depression or groove 11, at each end of which are located standard types of glass rinsing and draining devices or arrangements 12 and 13.

The air-cooling and air-circulating device 2 generally comprises a housing 14 having an inlet opening 15 at its bottom and two air outlet openings 16 and 17 at its top. Suitably mounted within the lower section of the housings 14 is an air-refrigerating coil 18, the two ends or inlet and outlet pipes 18ª and 18ᵇ of which extend through openings provided therefor in the housing 14, and through openings provided therefor in the rear thermally insulated wall of the cabinet 1. The outer ends of the inlet and outlet pipes 18ª and 18ᵇ of the coil 18, are connected to a standard or conventional type refrigeration device (not shown) adapted to effect circulation through the coil 18, of a refrigerating medium, in well known manner, so as to reduce the temperature of said coil to the predetermined point desired for effecting cooling of the air passing through and around said coil during operation of the unit. Rotatively mounted in the upper section of the housing 14 is a squirrel cage fan 19, having a shaft 20 which is operatively connected to motivating means, such as a motor 21, alignedly mounted with respect to the fan 19 on the outside of the housing wall, as clearly shown. The fan 19 is rotated by the motor in the direction indicated by the arrows in Fig. 6, so as to draw the air from the cabinet 1 into the housing 14 through the inlet opening 15 and discharge the same from the air outlet openings 16 and 17.

One end of an air duct or conveyor 22 is associated with the housing 14 at the outlet opening 16, and said duct is shaped and arranged so that its discharge end will direct refrigerated air generated by the device 2 directly into the auxiliary chamber 3 in such manner that the air will be forced to flow upwardly in said chamber against and around the rear connecting ends of the faucets 5, and those sections of the beverage conveying pipe lines or ducts 7 which are located within the chamber 3.

From Fig. 2 it will be clear that refrigerated air discharged from the outlet opening 17, of the device 2, first flows longitudinally along the upper interior section of the cabinet 1, and follows a downward path of travel so that it will impinge against, and flow around, the ducts 7 and the beverage containers or beer barrels 8, and then flows along the lower interior section of the cabinet 1, and is drawn into the inlet opening 15 at the lower end of the housing 14 of the device 2, substantially as indicated by the arrows in Fig. 2.

By discharging refrigerated air directly into the chamber 3, and so as to cause impingement thereof against the rear ends of the faucets 5 and the beverage conveying ducts 7 within the chamber, cooling is effected of the beverage or beer contained within the said faucets and duct sections at all times, that is, before, during, and after each operation of the faucets 5. This arrangement of the auxiliary chamber 3, and circulation of refrigerated air therethrough, provides an important advantage in serving-bar cabinets, and one which, to our knowledge, has not heretofore been attained. The inclusion of this feature in a beverage serving-bar unit is particularly desirable and advantageous in that the beverage in the faucets and adjacent conveying duct sections is thereby prevented from becoming flat or relatively warmer than the beverage in the other parts of the conveying system, in the event that the faucets are not operated for a certain length of time.

It is to be particularly noted that the provision of a plurality of air discharge openings at the top of the device 2, as indicated at 16 and 17, in conjunction with the air duct 22, makes it possible to effect selective feeding and circulation of refrigerated air along the upper interior section of the cabinet 1, as well as directly into an auxiliary chamber, such as that indicated at 3. In other words, with this arrangement, it is possible to selectively direct the refrigerated air generated by the device 2, exactly as required to attain maximum air circulating efficiency in a beverage serving-bar cabinet which comprises a main chamber within the cabinet and an auxiliary chamber arranged to serve a special purpose, as in the present instance.

In order to quickly cool the air drawn into the housing 14 through the inlet opening 15, the coil 18 is arranged to extend through, or has associated therewith, a multiplicity of radiator plates or fins 20, adapted to provide air contacting and cooling surfaces, as required, for most efficient air cooling results.

To effect thermal insulation of walls of the cabinet 1, and chamber 3, the space between the outer and inner shells of these walls may be filled with any lightweight insulating material suitable for this purpose, such as a conventional form of cork insulating material.

The glass rinsing and draining devices 12 and 13 are of a standard form of construction, adapted to become operative when an inverted glass is pressed downwardly against an interiorly located valve operating means so as to direct a spray of water into the interior of the glass. Each of these devices is adapted to have connected thereto a water feed line (not shown) and outlet pipes as indicated at 23 and 24.

If desired, the auxiliary chamber 3 can be provided in the form of a separate unit arranged to be mounted on the top of the cabinet 1. This unit may comprise an outer casting 25 of metal or plastic material, having a suitable bottom flange 26 adapted to serve as a portion which can be readily secured to the top wall of the cabinet 1 by any suitable connecting means. The space between the inner and outer walls of the chamber 3 is filled with a suitable thermal insulating material, such as cork or the like, the same as the thermally insulated wall sections of the cabinet 1.

Of course our improved beverage serving-bar unit and air cooling and circulating device therefor, as specifically shown and described, can be changed and modified in various ways by those skilled in this art, without departing from the invention herein disclosed and hereinafter more particularly defined by the claims.

We claim:

1. A beverage cooling and dispensing structure, comprising a thermally insulated serving-bar cabinet adapted to accommodate therein a plurality of separate beverage containers, a thermally insulated chamber centrally mounted on top of said cabinet in intercommunicating relation therewith and having a front multiple dispensing faucet receiving wall; a plurality of separate dispensing faucets mounted exteriorly

against said front chamber wall so that the connecting ends of said faucets project into said chamber; individual conduits arranged to convey the beverage from the containers interiorly of the cabinet and chamber to the faucets; and a unit disposed within the cabinet for refrigerating and circulating the air within said cabinet and chamber including a unit housing arranged to extend substantially from the upper to the lower wall of the cabinet and provided with an air inlet at its bottom and an air outlet at its top, an air-refrigerating coil and an air impeller within said housing, and an air duct arranged to effect flow of refrigerated air directly from the unit housing into said chamber.

2. A beverage cooling and dispensing structure, comprising a thermally insulated serving-bar cabinet adapted to accommodate therein a plurality of separate beverage containers, a thermally insulated chamber centrally mounted on top of said cabinet in intercommunicating relation therewith and having a front multiple dispensing faucet receiving wall; a plurality of separate dispensing faucets mounted exteriorly against said front chamber wall so that the connecting ends of said faucets project into said chamber; individual conduits arranged to convey the beverage from the containers interiorly of the cabinet and chamber to the faucets; and means disposed within the cabinet for refrigerating and circulating the air within said cabinet and chamber including an air-refrigerating coil, an air impeller, and a housing for said coil and impeller which housing extends substantially from the upper to the lower wall of said cabinet and is provided with an air inlet opening at its bottom, and two air outlet members at its top so arranged that one part of the refrigerated air is directed into the chamber and another part along the upper interior section of the cabinet.

3. A beer cooling and dispensing structure, comprising a thermally insulated serving-bar cabinet adapted to accommodate therein a plurality of beer barrels, a thermally insulated chamber centrally mounted on top of said cabinet in intercommunicating relation therewith and having a front multiple dispensing faucet receiving wall; a plurality of separate dispensing faucets mounted exteriorly against said front chamber wall so that the connecting ends of said faucets project into said chamber; individual conduits arranged to convey the beer from the beer barrels interiorly of the cabinet and chamber to the faucets; and a unit disposed within the said cabinet for refrigerating and circulating the air within the cabinet and chamber including a unit housing arranged to extend substantially from the upper to the lower wall of the cabinet and provided with an air inlet at its bottom and an air outlet at its top, an air-refrigerating coil and an air impeller within said housing, and an air duct arranged to effect flow of refrigerated air directly from the unit housing into said chamber.

4. A beer cooling and dispensing unit, comprising a thermally insulated serving-bar cabinet adapted to accommodate therein a plurality of beer barrels, a thermally insulated chamber centrally mounted on top of said cabinet in intercommunicating relation therewith and having a front multiple dispensing faucet receiving wall; a plurality of separate dispensing faucets mounted exteriorly against said front chamber wall so that the connecting ends of said faucets project into said chamber; individual conduits arranged

to convey the beer from the beer barrels interiorly of the cabinet and chamber to the faucets and means disposed within the cabinet for refrigerating and circulating the air within said cabinet and chamber including an air-refrigerating coil, an air impeller, and a housing for said coil and impeller which housing extends substantially from the upper to the lower wall of the cabinet and is provided with an air inlet opening at its bottom, and two air outlet members at its top so arranged that one part of the refrigerated air is directed into the chamber and another part along the upper interior section of the cabinet.

5. A beer cooling and dispensing structure, comprising a thermally insulated serving-bar cabinet adapted to accommodate therein a plurality of beer barrels, a thermally insulated chamber centrally mounted on top of said cabinet in intercommunicating relation therewith and having a front multiple dispensing faucet receiving wall; a plurality of separate dispensing faucets mounted exteriorly against said front chamber wall so that the connecting ends of said faucets project into said chamber; individual conduits arranged to convey the beer from the beer barrels interiorly of the cabinet and chamber to the faucets; and means disposed within the cabinet for refrigerating and circulating the air within said cabinet and chamber including an air-refrigerating coil, an air impeller, and a housing surrounding said coil and impeller which housing extends substantially from the upper to the lower wall of the cabinet and has an air inlet opening at its bottom and two adjacently arranged air-directing members associated with its upper section, one of which members is adapted to direct the flow of refrigerated air into said chamber, and the other to direct the flow of refrigerated air along the upper interior section of the cabinet.

6. An air cooling and circulating device for a beverage serving-bar cabinet and the like, comprising a housing adapted to be mounted within the cabinet so that it extends substantially from the upper to the lower walls of the latter and having an air inlet opening at its bottom and multiple air outlet means at its top, an air-refrigerating coil mounted in the lower section of said housing, a rotary air-impeller mounted in the upper section of said housing, motivating means for said air-impeller alignedly positioned relative to the latter and secured to a wall of said housing exteriorly thereof, and an air duct having one end thereof connected with the housing at said air outlet means and its other end adapted to be positioned at a predetermined location in the serving-bar cabinet so that a certain portion of the refrigerated air generated by said device is caused to flow through the duct directly to said location and the remainder of the refrigerated air is discharged from the other air outlet means.

7. An air cooling and circulating device for a beer serving-bar cabinet, comprising a housing adapted to be mounted within the cabinet so that it extends substantially from the upper to the lower walls of the latter and having an air inlet opening at its bottom and multiple air outlet means at its top, an air-refrigerating coil mounted in the lower section of said housing, a squirrel cage fan mounted in the upper section of said housing, a motor for driving the fan alignedly positioned relative to the latter and secured to a wall of the housing exteriorly thereof, and an air duct having one end thereof connected with

the housing at said air outlet means and its other end adapted to be positioned at a predetermined location in the serving-bar cabinet so that a certain portion of the refrigerated air generated by said device is caused to flow through the duct directly to said location and the remainder of the refrigerated air is discharged from the other air outlet means.

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