Dec. 29, 1936. H. J. SANDELL 2,065,949

BEER COOLING AND DISPENSING SYSTEM

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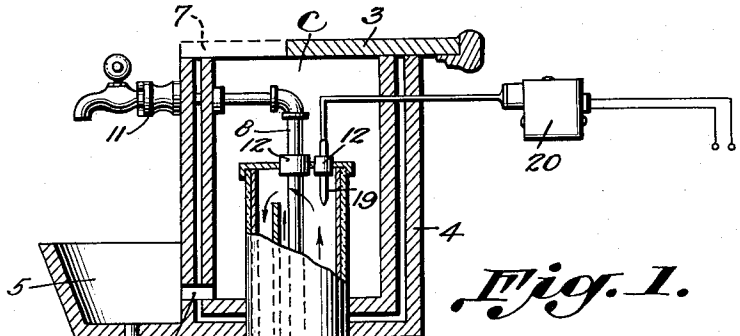


Fig. 1.

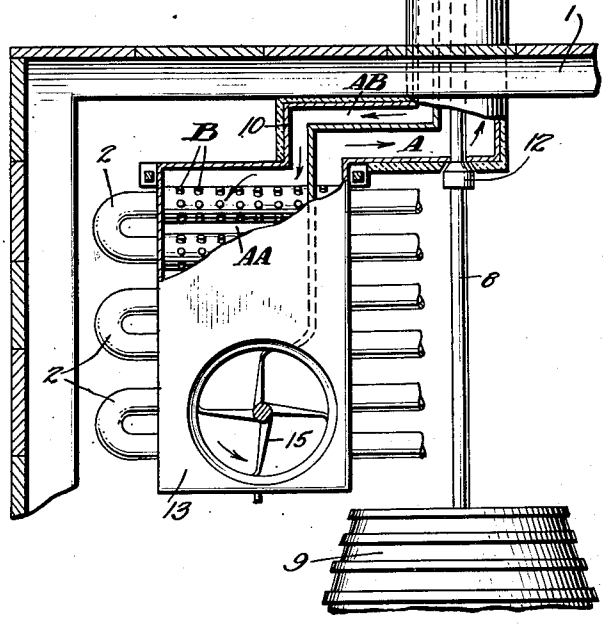
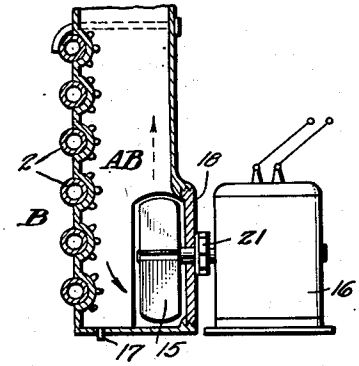


Fig. 2.



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BEER COOLING AND DISPENSING SYSTEM

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5 Claims. (Cl. 62—102)

The invention relates to a beer cooling and dispensing system, and has for its object to simplify and improve the efficiency of drawing beer from a storage refrigerator at one point and a dispensing outlet at another.

The chief object of the invention is to provide a combination of devices adapted to contain an enclosed circulating and cooling medium, for the purpose of maintaining a uniform low temperature along a dispensing pipe contained therein.

Explanation:

In beer cooling and dispensing, the beer storage refrigerator is usually placed in the basement or some other convenient place that requires considerable piping and a coil to carry the beer and cool it from the storage refrigerator to the counter dispensing coil box. When this system is used, the beer leaves the cold refrigerator and runs exposed, then enters the iced coil, but due to the different and uneven temperatures along the line of draught the beer cannot be drawn or controlled at the faucet without considerable waste.

It is of course understood that beer is a very sensitive product to an uneven temperature, either of a warm or cold nature.

My invention provides an extremely simple and efficient means whereby the coil is eliminated, the temperature can always be kept even all along the line of draught, the beer can be drawn without waste and with its natural flavor. The degree of temperature in the system can be regulated by the speed of the motor, which is either controlled manually by a switch on the counter or a thermostat installed in the upper part of the stack.

Referring to the drawing:

Fig. 1 is a vertical section with some parts shown in full and with some parts broken away illustrating my invention.

Fig. 2 is a cross section of the temperature exchanger, the fan or blower, cooling and outlet chambers and the motor.

Referring first to the illustration of Fig. 1, the numeral 1 indicates a portion of an ordinary beer storage box or refrigerator equipped with refrigerating coils 2. The numeral 3 indicates a portion of a counter or bar. Numeral 4 indicates a counter dispensing cooler box, provided with a drip pan 5, which is equipped with a drain pipe to take care of any waste that may occur. Numeral 7 is a bar drainer. Numeral 8 indicates a dispensing tube or pipe which runs from the beer barrel located in the refrigerator, up through an insulated conductor pipe or stack 10, to dispensing faucet 11. The means of providing pressure to force the beer from barrel 9 to faucet 11 through pipe 8 might be either air from an air compressor or gas from a drum. Stack 10 is provided with suitable gaskets or closure means 12, where the dispensing pipe 8 enters and leaves stack 10 to prevent leakage of enclosed circulating and cooling medium. Insulated stack 10 is the cooler connector between the temperature exchanger 13 and dispensing faucet 11, stack 10 contains two passage ways or ducts A and AB. Passage A is the cooling medium outlet which contains dispensing pipe 8. AB is the return passage, the two passages being connected near the dispensing outlet. Numeral 14 indicates an insulated casing of stack 10. Numeral 13 indicates a temperature exchanger or closed casing having a cooling chamber AA internally arranged with fins or lugs B, the latter are the means I provide to exchange or transfer a low temperature from the refrigerating coils 2 to the enclosed circulating and cooling medium, an outlet chamber A containing a fan or blower 15 which is the means for forcing a continuous circulation of the cooling medium, numeral 15 may be driven by any means available, I have shown it driven by a small electric motor attached thereto, both chambers having their respective inlet AB and outlet A passages to connect to like passages in stack 10 so as to afford a continuous passage for the circulation of the enclosed cooling medium from the temperature exchanger 13 through the stack 10 and back to the temperature exchanger. As is evident, when the enclosed fan or blower 15 is rotated by motor 16 the enclosed cooling medium will be forced through the stack 10 and constantly maintaining a low uniform temperature along dispensing pipe 8. Numeral 17 is an opening I provide as an outlet means for stack 10 and temperature exchanger 13. Numeral 16 is a small motor which drives the fan or blower. The motor can be either controlled manually by a switch on the counter, or automatically controlled by a thermostat switch 20 which is controlled by thermal bulb 19 installed in or at the upper part of the stack 10, thus providing the means of controlling the degree of temperature of the cooling and circulating medium. Numeral 21 is a closure means around the combined motor and blower shaft. The cover plate 18 is purposely left off in Fig. 1 to show the fan or blower.

It will be understood that the device as described herein as the preferred form is capable of modifications within the scope of the invention disclosed and claimed.

For example, the so called stack might be extended horizontally to connect with a refrigera-

tor on the same floor or level, the temperature exchanger might be located in the counter dispensing box 4 with the double passage stack 10 extended to a source of beer supply. The means for connecting stack 10 with temperature exchanger 12 may be rigid as I have shown or flexible, using hose to connect the respective passages to the respective chambers. Ice could be used to refrigerate with if desired.

What I claim is:

1. In a beer cooling and dispensing system, a closed casing or temperature exchanger comprising a cooling chamber, an outlet chamber, and a passage connecting said chambers, a double passage stack connected to said chambers and extending from a source of beer supply to a dispensing outlet, said stack having an interconnecting passage near the dispensing outlet, a dispensing pipe extending through said stack, a refrigerant coil adjacent said temperature exchanger, said temperature exchanger having fins thereon contained within said cooling chamber, and a fan or blower enclosed within said temperature exchanger.

2. In a beer cooling and dispensing system a closed casing or temperature exchanger comprising a cooling chamber, an outlet chamber, and a passage connecting said chambers, a double passage stack connected to said chambers, means forming an interconnecting passage near the opposite or closed end of said stack, a dispensing pipe extending through said stack, a refrigerant coil closely adjacent said temperature exchanger, said temperature exchanger having fins thereon contained within said cooling chamber, a power driven fan or blower enclosed within said temperature exchanger for circulating a cooling medium through said system, and a temperature control means attached to said stack for controlling the operation of said fan.

3. In a beer cooling and dispensing system, a closed casing or temperature exchanger comprising a cooling chamber, an outlet chamber, and a passage connecting said chambers, a double passage stack connected to said chambers, said stack having an interconnecting passage near the opposite or closed end, a plurality of dispensing pipes extending through said stack, a refrigerating means adjacent said temperature exchanger, said temperature exchanger having fins thereon contained within said cooling chamber, and a fan or blower enclosed within said temperature exchanger.

4. In a liquid cooling and dispensing system, a closed casing or temperature exchanger comprising a cooling chamber, an outlet chamber, and dividing wall means containing one or more passages between said chambers, a double passage stack connected to said chambers, means forming interconnecting passage near the closed end of said stack, a dispensing pipe extending through said stack, a refrigerating means adjacent said temperature exchanger, said temperature exchanger having heat exchange means thereon contained within said cooling chamber, and a fan or blower enclosed within said temperature exchanger.

5. In a gas tight liquid conducting system, a closed casing or temperature exchanger having heat exchange means contained therein, a double passage extended stack connected to said casing as to form a closed substantially gas tight circulating system, a dispensing pipe extending through said stack, a fan or blower enclosed within said casing, means to rotate said fan or blower, means of tight connections at points of entry and exit of said pipe and the fan or blower shaft, means to refrigerate said casing.

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