

No. 664,824.

Patented Dec. 25, 1900.

G. SCHMIDT.

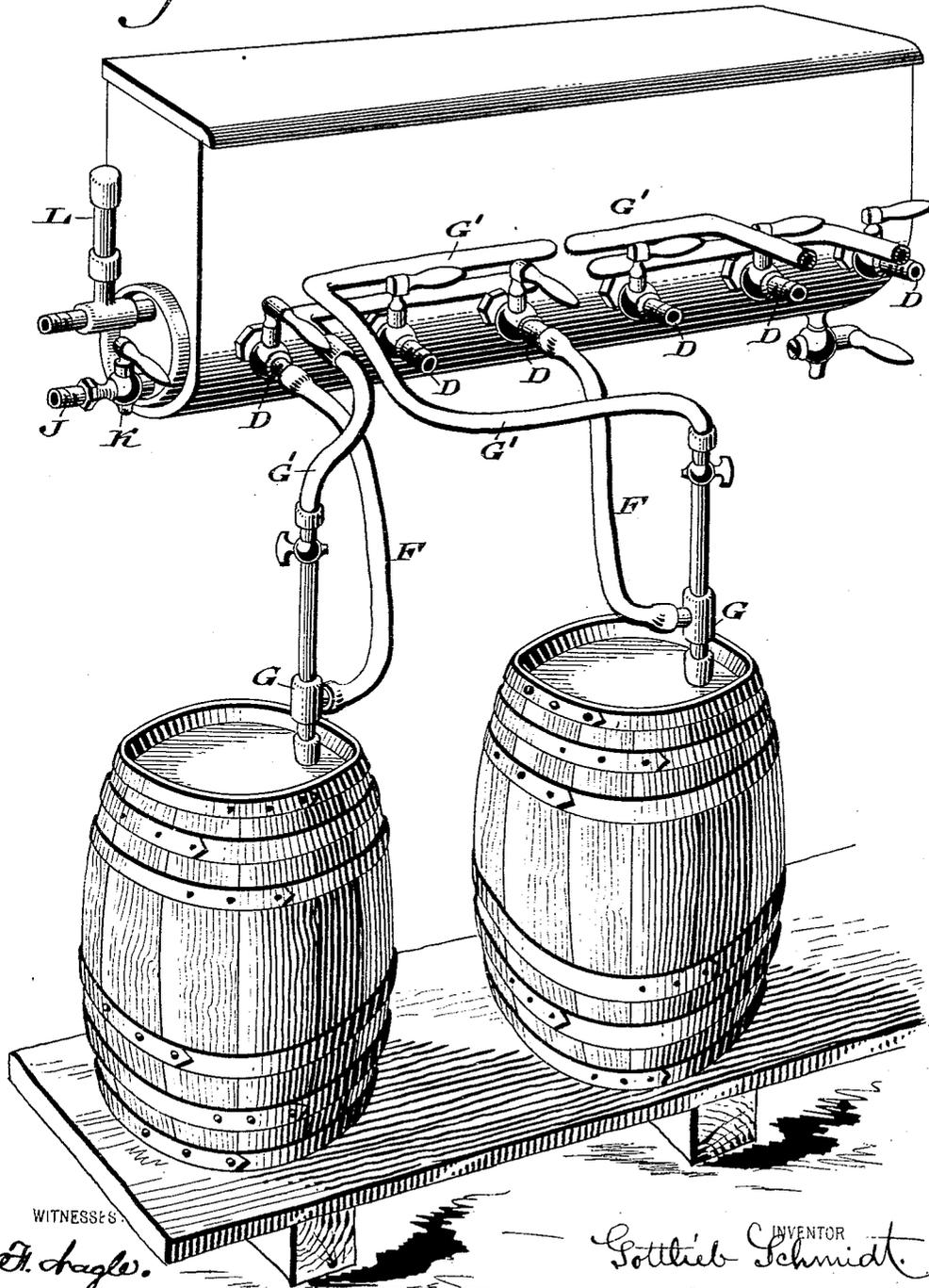
COLD AIR PRESSURE APPARATUS FOR BEER OR OTHER FLUIDS.

(Application filed Dec. 30, 1897. Renewed Oct. 30, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES

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2 Sheets—Sheet 2.

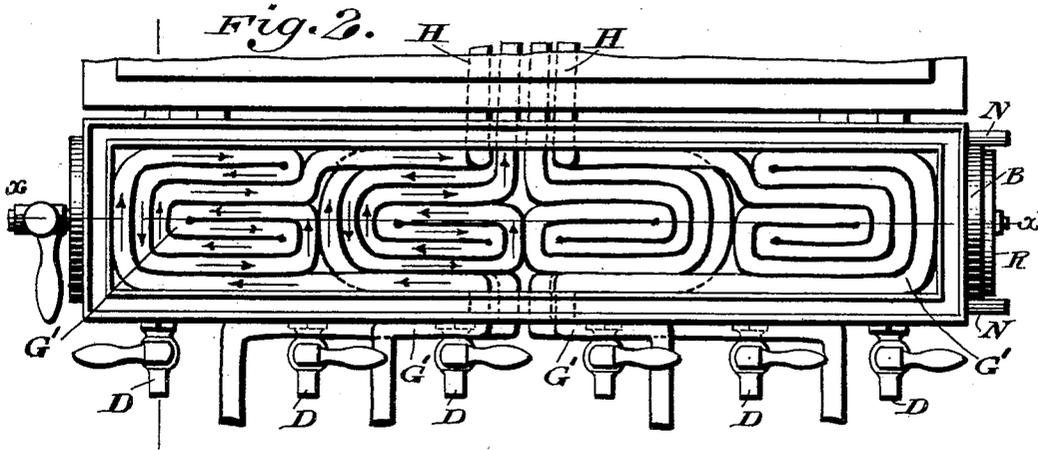


Fig. 3.

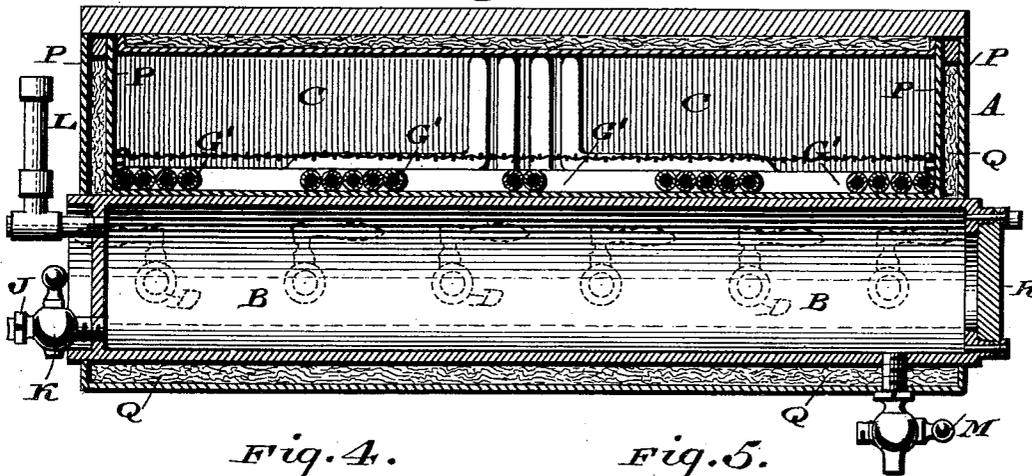


Fig. 4.

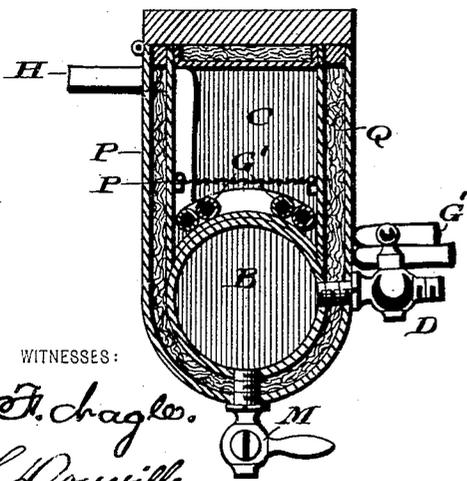
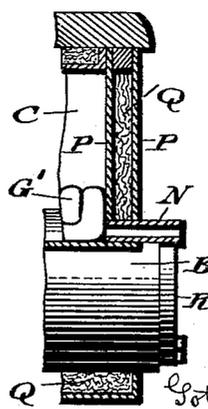


Fig. 5.



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# UNITED STATES PATENT OFFICE.

GOTTLIEB SCHMIDT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO HARRY E. BELL AND EMMA SCHMIDT, OF SAME PLACE.

COLD-AIR-PRESSURE APPARATUS FOR BEER OR OTHER FLUIDS.

SPECIFICATION forming part of Letters Patent No. 664,824, dated December 25, 1900.

Application filed December 30, 1897. Renewed October 30, 1900. Serial No. 34,963. (No model.)

To all whom it may concern:

Be it known that I, GOTTLIEB SCHMIDT, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Cold-Air-Pressure Apparatus for Beer or other Fluids, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an apparatus involving an air-chamber and a refrigerator adapted more particularly for cooling beer or other fluid, wherein cold air will be directed under pressure to said fluid where it is to be dispensed, the construction and operation of the parts thereof being hereinafter set forth, and the novel features thereof pointed out in the claims.

Figure 1 represents a perspective view of a cold-air-pressure apparatus embodying my invention. Fig. 2 represents a top or plan view thereof. Fig. 3 represents a vertical section on line *x x*, Fig. 2. Fig. 4 represents a transverse section thereof. Fig. 5 represents a partial vertical section and partial side elevation of one end of the apparatus.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a box or casing within which is the air-receiving cylinder or chamber B, above which in said casing A is the space C, forming an ice-storage chest, the ice or refrigerant being superimposed upon or placed over the chamber B, so that the latter will be effectively cooled. Said casing passes around the bottom of the air-chamber and up the sides of the same and also along the sides of the ice-chest, its top being provided with a lid, thus effectively inclosing the parts within the casing, while the bottom of the casing supports said air-chamber.

D designates a number of pipes which pass through the front wall of the casing A and are connected with the air-chamber B and are in communication therewith, said pipes being provided with spigots or cocks to which are secured the flexible pipes F, whose lower ends are attached to the taps G, which enter barrels or kegs containing beer or other fluid to be cooled and subjected to pressure, said

taps having also secured to them the flexible pipes G', the latter being connected with the cooling-pipes in the ice-receiving chest C, the same being coiled, staggered, or otherwise constructed, so as to increase their cooling-surfaces, portions of said pipes after being within the ice-chamber passing upwardly within the chest to the top thereof, so as to further increase said cooling-surface, and then out of said casing, where they join the outlet branches H, which extend to the faucets or spigots at the bar or other place where the beer or fluid is to be dispensed.

The portions of the return-pipes G' within the ice-chests or casing A are supported on the chamber B, which, being of the form of a cylinder, is well able to sustain the same and prevents them from being broken down should ice or other objects fall on them.

The chamber B has connected with it the pipe J, which leads into the same from a pump or other air-pressure device and is provided with a cock K, whereby air may be cut off when so desired.

L designates a safety-valve and regulator which is also connected with the chamber B and is adapted for maintaining a uniform pressure within said chamber and to relieve the same when excessive, so that the pump or air-pressure device may be constantly running day and night without danger of bursting said chamber or connecting-pipes or otherwise injuring the apparatus.

M designates a cock connected with the chamber B in the lower side thereof for the purpose of cleansing said chamber when so required for the discharge of slime or froth that may have accidentally backed up or accumulated in said barrel from said chamber.

The casing A is provided with a drip-pipe N for the discharge of the water of the melted ice, it being noticed that said pipe is on the base of the cooling-chest and virtually above the air-chamber. The bottom wall of said chest conforms with and closes tightly against the upper wall of the air-chamber, so that the water of melted ice cannot pass beneath said chamber and lodge in the bottom of the casing; but, on the contrary, it is removed from said air-chamber. The cooling-chest and conveying-pipes are readily accessible when the

lid is opened for cleansing purposes. Ordinarily the exterior of the air-chamber does not require to be cleansed, as it is not exposed to the water of the melted ice.

5 The operation is as follows: The chamber C is supplied with ice or other refrigerant and the various pipes connected with their operating mechanisms, the taps being inserted in the barrels or kegs, as usual in such cases.  
 10 The pump or pressure apparatus is then started, whereby air is forced into the chamber B and from thence by the pipes F through the taps G into the barrels or kegs containing the beer, &c. Now as the chamber B is  
 15 cooled by the action of the ice or refrigerant in the chest C it is evident that the air is cooled in the former and in such condition is forced into the barrel or keg, thus assisting to cool the fluid therein and also serving to  
 20 freshen the fluid, whereby when the faucets or cocks at the bar are opened the fluid will be discharged from the barrels or kegs through the taps G and pipes G' H to the place where it is to be dispensed. The casing A is formed  
 25 with double walls, as at P, within which is the packing Q, of heat-non-conducting material, whereby the effectiveness of the cooling or refrigerating chamber C will be guarded against the action of the higher temperature outside  
 30 of said casing. It will also be seen that by the present construction of parts a cold-storage box, as heretofore employed for receiving the barrels, kegs, &c., is dispensed with, a feature otherwise dangerous to health and  
 35 disagreeable in its nature. Besides this, less ice or refrigerant is required than heretofore, the economy of which will be appreciated.

40 Either end of the chamber B is provided with a head R, which is removable therefrom, whereby access may be had to the interior of said chamber when so required. It will also be seen that in the bottom of the ice-chamber is a gauze or open-work piece thereon to trap shavings, sawdust, &c., on the ice; but should  
 45 the ice imposed thereon bend down the same the top of the cylinder B and the pipes G, superimposed on the latter, act as the bottom of said chamber to sustain the ice, the cooling action of which being direct on said pipes and  
 50 chamber.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

55 1. A casing, an air-chamber in the lower portion thereof, a cooling-chest having a curved base conforming to said air-chamber, supply and discharge cocks connected with said chamber, a fluid-conveying pipe in said cooling-chest and conforming to said base, inlet  
 60 and outlet branches connected with said pipe, said casing extending continuously along the sides of said cooling-chest and under and around said air-chamber, and non-conducting material intermediate of said casing, chamber

and chest, the bottom of said casing surrounding the bottom of said air-chamber and supporting the same and the bottom of said cooling-chest closing against the top of said air-chamber.

2. The combination of a casing, an air-chamber in the lower portion thereof, a cooling-chest in the upper portion thereof, having a curved base conforming to said chamber, supply and discharge cocks connected with the latter, a fluid-conveying pipe in the base  
 75 of said cooling-chest, said pipe being folded upon itself in substantially parallel loops, and inlet and outlet branches connected with said pipe, the inlet branch entering said cooling-chest at the bottom thereof, and said outlet  
 80 branch rising from said bottom in said chest, extending vertically and leaving the latter at the top thereof.

3. A casing, an air-chamber in the lower portion thereof, a curved cooling-chest in the upper  
 85 portion thereof, a drip-pipe connected with said chest, the base of said chest closing against the upper portion of the wall of the air-chamber and conforming therewith thereby preventing the water from passing under  
 90 said chest and chamber into the bottom of the casing, a tap, a connection thereto from the discharge-cock of said air-chamber, and a pipe leading from said tap through the lower portion of said cooling-chest, said casing surrounding  
 95 said air-chamber and cooling-chest, non-conducting material adjacent said chest and chamber, and an insulated cover for said casing.

4. The combination of a casing, an air-chamber in the lower portion thereof, a cooling-chest having a curved base in the upper  
 100 portion thereof, air supply and discharge cocks connected with said chamber, a tap, a connection therefrom to said discharge-cock, a pipe leading from said tap through the lower portion of said cooling-chest and coiled to conform to the base thereof, and a cover for said casing, the latter surrounding said air-chamber and cooling-chest and having non-conducting  
 105 material adjacent thereto.

5. The combination of a casing, an air-chamber in the lower portion thereof, a cooling-chest in the upper portion thereof, air supply and discharge cocks connected with  
 115 said chamber, a tap, a connection therefrom to said discharge-cock, a pipe leading from said tap through the lower portion of said cooling-chest, a screen in the latter above said pipes, and a cover for said casing, the latter  
 120 surrounding said air-chamber and cooling-chest and having non-conducting material adjacent thereto.

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Witnesses:

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