April 11, 1939. H. A. FELDBUSH 2,153,980

BREW COOLING APPARATUS

Filed May 20, 1938 2 Sheets-Sheet 1

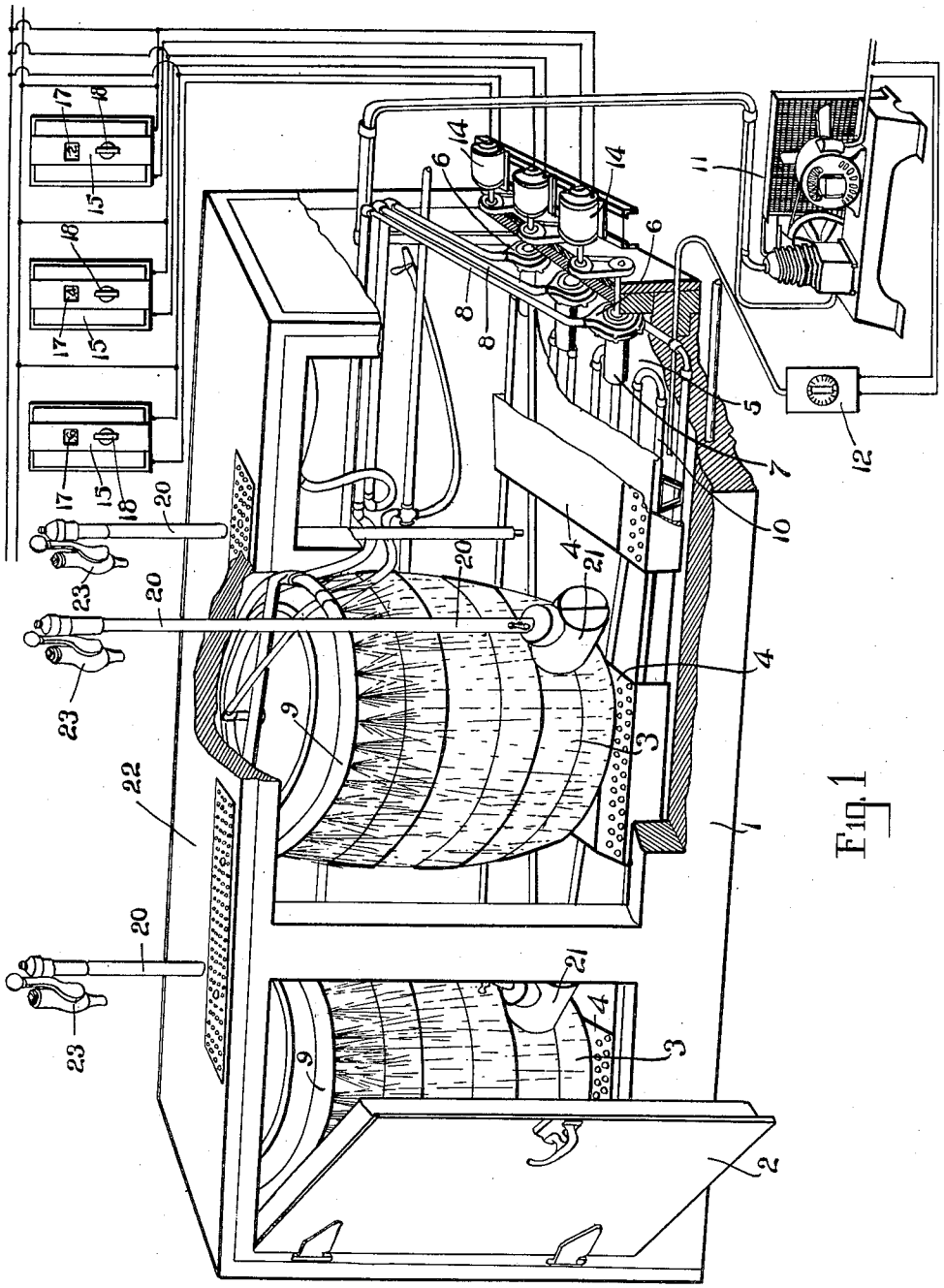


Fig. 1

HARRY A. FELDBUSH
INVENTOR

BY Robe Meyer
ATTORNEY

April 11, 1939. H. A. FELDBUSH 2,153,980

BREW COOLING APPARATUS

Filed May 20, 1938 2 Sheets-Sheet 2

Fig. 3

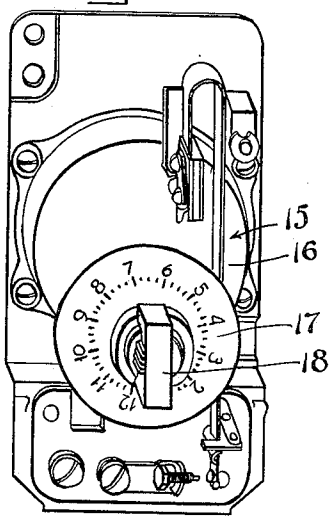


Fig. 2

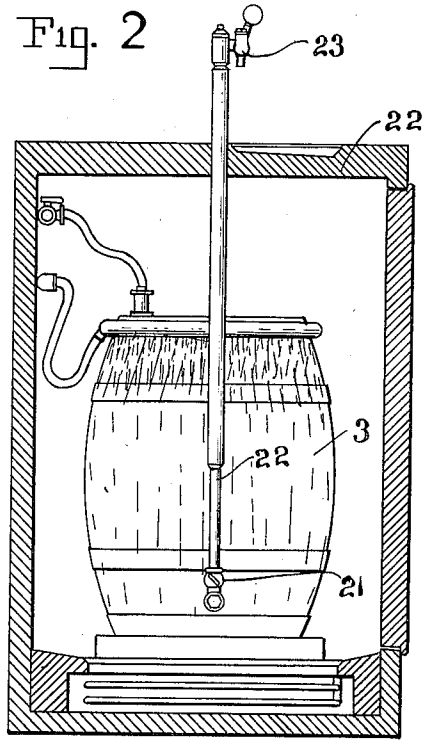
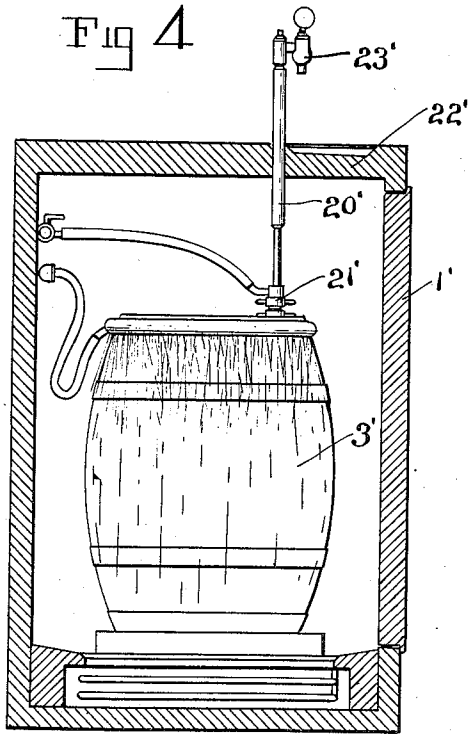


Fig 4



HARRY A. FELDBUSH
INVENTOR
BY Robt Neuyen
ATTORNEY

Patented Apr. 11, 1939 2,153,980

UNITED STATES PATENT OFFICE

2,153,980

BREW COOLING APPARATUS

Harry A. Feldbush, Short Hills, N. J., assignor to Worthington Pump and Machinery Corporation, Harrison, N. J., a corporation of Delaware

Application May 20, 1938, Serial No. 208,999

2 Claims. (Cl. 62—7)

This invention relates to the cooling and dispensing of beer and similar brew, and more particularly to a method and apparatus for use in barrooms, taverns, restaurants and like places, for cooling and dispensing beer, ale, or other similar brews for consumption.

The present invention relates to an apparatus similar in many respects to the apparatus disclosed in the application of S. R. Hirsch, Serial Number 124,092, embodying the advantageous improvements of such apparatus of cooling the brew in the original transportation container thereof by placing the container in a cabinet and showering cooling liquid over the outside of the container. This leaves the interior of the container free from any coils or other apparatus and permits the use of the usual or ordinary type of containers now in use, without alterations thereto.

The present invention differs, however, from the apparatus of the Hirsch application in the method of controlling the showering of the cooling liquid over the containers.

It has been found that with a given temperature of the cooling liquid, the approximate temperature of the brew when placed in the cooling apparatus, and taking into consideration the heat conductivity of the material of which the transportation container is made, an accurate time schedule may be worked out whereby the time interval of showering of the cooling liquid over the transportation container to bring the brew to the desired temperature may be determined for the various conditions met with.

It is therefore an object of the present invention to provide, in a brew cooling and dispensing apparatus as specified, the combination with the cooling of the brew by the showering of a cooling liquid over the container, of manually set, automatic means whereby the time interval of the showering may be controlled and the showering of the cooling liquid automatically cut off after the expiration of a predetermined interval of time, and restarted at the will of the operator.

With these and other objects in view, as may appear from the accompanying specification, the invention consists of various features of construction and combination of parts, which will be first described in connection with the accompanying drawings, showing a brew cooling apparatus embodying the invention, and the features forming the invention will be specifically pointed out in the claims.

In the drawings:

Figure 1 is a perspective view of a brew cooling and dispensing apparatus constructed in accordance with the present invention and having parts thereof broken away.

Figure 2 is a vertical section through the dispensing apparatus.

Figure 3 is a perspective view of the manually set, automatically operated, time interval controlling mechanism.

Figure 4 is a vertical section through a slightly modified construction of apparatus.

Referring more particularly to the drawings, the improved beer cooling and dispensing apparatus includes a cabinet 1 which preferably is made of insulated walls for the purpose of facilitating the chilling of the interior of the cabinet and maintaining the interior cold. The cabinet 1 has any desired number of doors 2 therein, opening into the cabinet to permit placing of kegs, barrels, or transportation containers for brew as shown at 3 within the cabinet. The cabinet may have platforms 4 therein on which the transportation containers 3 are placed for holding them above the bottom of the cabinet. A sump 5 is formed in the bottom of the cabinet 1 for receiving and retaining a chilling or cooling liquid which is showered over the outside of the transportation containers 3 for chilling the brew therein.

The cooling liquid is drawn from the sump 5 by a small pump 6, the suction inlet 7 of which extends into the sump. There is a pump 6 provided for each transportation container which the cabinet 1 will hold. In Figure 1 of the drawings the cabinet 1 is shown as being adapted to receive or accommodate 3 transportation containers and consequently there are three cooling liquid pumps 6. The cooling liquid pump 6 draws the cooling liquid from the sump 5 and pumps it through suitable piping or connections 8 to the shower rings 9, which are movably mounted in such position as to shower the cooling liquid downwardly over the outside of the transportation containers so that the liquid returns to the sump 5. A refrigerating coil 10 is mounted in the sump 5 and a suitable refrigerating compressor structure 11 is provided for circulating the refrigerant through the coil 10 to chill the cooling liquid in the sump. A thermal control device 12 is provided which may be manually set to control operation of the refrigerating compressor unit 11 so as to maintain the cooling liquid at the desired temperature. It is necessary and desirable to provide this manually set, automatically controlled device 12 so as to regulate the temperature of the cooling liquid, because the transportation containers for brew

commonly in use are made of different materials having different heat transfer qualities. For instance, the transportation containers for brew are made of wood, sheet iron or aluminum, each of which has different heat transfer coefficients so that it will take longer to chill the beer in, say, a wooden container than in a sheet iron container, or in an aluminum container. Therefore it will be desirable to provide means for regulating the temperature of the cooling liquid which may be set to conform to the conditions.

The pumps 6 are each operated by their respective electric motors 14, and these electric motors have connected in their energizing circuits "Timeostats" 15. The "Timeostats" 15 are electrical circuit controlling mechanisms in which the circuit is closed manually and opened by a clock mechanism 16, comprising a dial 17 and a thumb button 18. So that, by setting the dial 17 through the medium of the thumb button 18 the electrical circuit will be broken, upon the lapse of an interval of time indicated by the setting of the dial, to break the circuit through the electric motor. Thus, when a transportation container for brew is placed in the cabinet 1, the "Timeostat" 15, which is connected in the circuit of the motor 14, which operates the cooling liquid pump for the respective station in which the transportation container is placed, is operated manually to close the circuit through the motor and to set the dial 17.

In Figure 1 of the drawings the "Timeostat" at the left is set for a six hour interval, so that upon the lapse of six hours from the starting of the motor 14, the "Timeostat" 15 will operate to deenergize the motor and cut off the showering of the cooling liquid over the respective transportation container.

These "Timeostats" are standard equipment, as are also the manually set thermal control devices 12, and both may be purchased on the open market.

In Figures 1 and 2 of the drawings the transportation container 3 has a draught tube 20 connected thereto by means of an external connection 21, opening into the transportation container near the bottom thereof. The draught tube 20 extends upwardly through the top 22 of the cabinet which forms the bar, and has a faucet 23 connected directly thereto by means of which the brew may be dispensed. This provides a short, straight draught tube, and the coincident advantages as before set out in the Hirsch application hereinbefore referred to. While Figures 1 and 2 of the drawings show the draught rod extending outside of the transportation container for its entire length, utilizing what is known as a "Golden Gate" tapping bung, it is to be understood that the invention is equally applicable with transportation containers having what is commercially known as the "Peerless" type of tapping bung, and such modification is shown in Figure 4 of the drawings.

In this modified form shown in Figure 4 the construction and operation of the cooling mechanism is identical with that shown in Figures 1 and 2, the only difference being in the draught rod and its connection with the transportation container.

The transportation container 3' has the "Peerless" type tapping bung 21' extending through the top thereof, and the draught rod 20' extends downwardly through this bung fitting 21' and the transportation container 3' as is usual in the use of "Peerless" type fittings. The draught rod 20' extends upwardly through the top 22' of the cabinet 1' and has a faucet 23' thereon.

If it is so desired the thermal control device 12 may be eliminated and an approved type of expansion valve (not shown) employed in lieu thereof for controlling operation of the refrigerating compressor structure 11, and the entire control of the chilling of the brew in the container may be had through the control of the operation of the pumps 6 by the "Timeostats" 15 without departing from the spirit of the present invention.

It will be understood that the invention is not to be limited to the specific construction or arrangement of parts shown but that they may be widely modified within the invention defined by the claims.

What is claimed is:

1. A method of cooling brew beverage which consists in setting up in dispensing position a transportation container having such beverage therein, showering cooling liquid over the outside of the container for a time interval determined by the initial temperature and the desired final low temperature of the beverage and the heat conductivity of the walls of the container and thereby bringing the beverage to said desired low dispensing temperature, and repeating the showering of the cooling liquid after the lapse of predetermined time intervals or when the brew at the point of dispensing rises above said desired low temperature.

2. In a brew beverage cooling apparatus, in combination with a transportation container having brew beverage therein, a shower member for showering a cooling liquid over said container, means for delivering cooling liquid to said shower member, time clock means for controlling the delivery of cooling liquid to said showering member, said time clock means being adjustable whereby it may be set for allowing the showering of cooling liquid over the outside of said container for a time interval determined by the initial temperature and the desired final low dispensing temperature of the beverage and the heat conductivity of the walls of the container for bringing the beverage to said desired low dispensing temperature, said time clock means further adjustable to permit repeated showering of the cooling liquid over the container for time intervals varying from the first mentioned time interval.

HARRY A. FELDBUSH.