

June 28, 1938.

F. H. TWEED

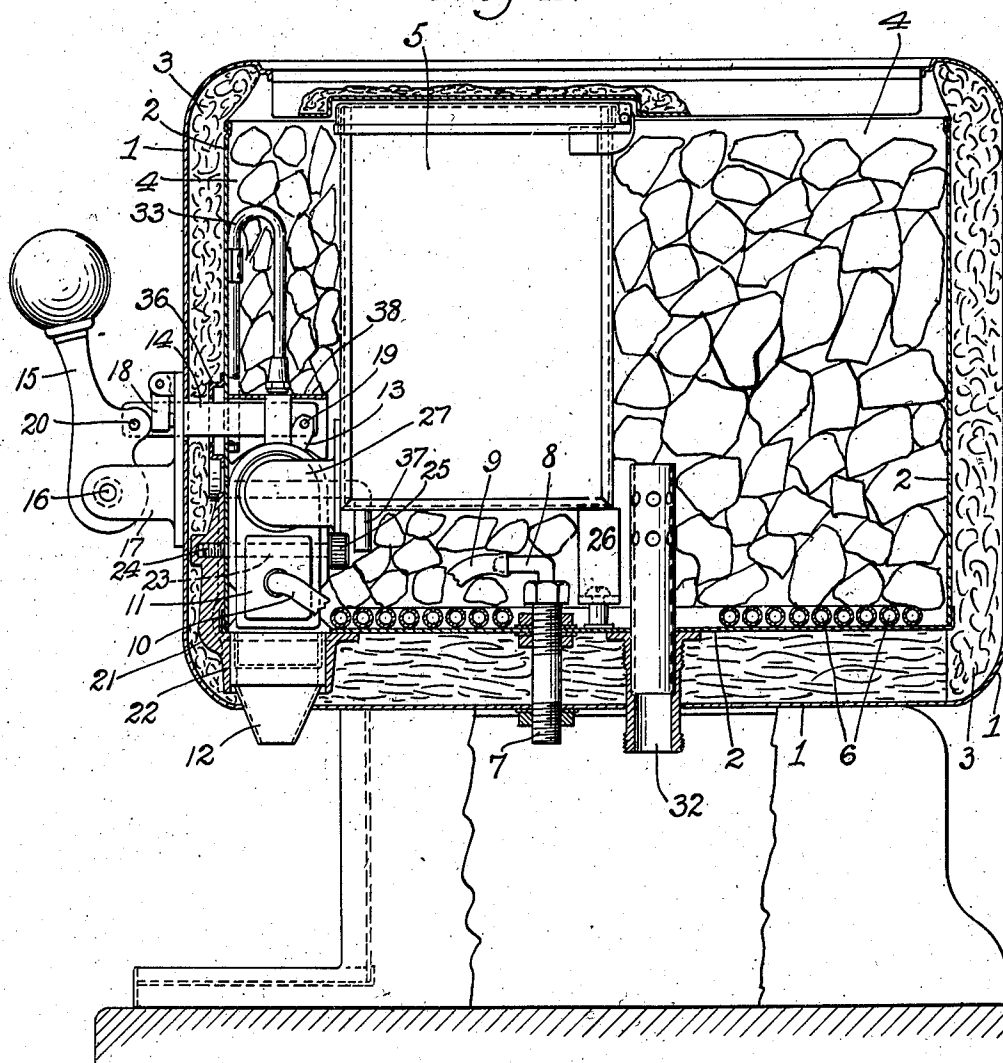
2,121,841

DISPENSER FOR CARBONATED DRINKS

Filed May 23, 1935

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Fig. 1.



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Fig. 2.

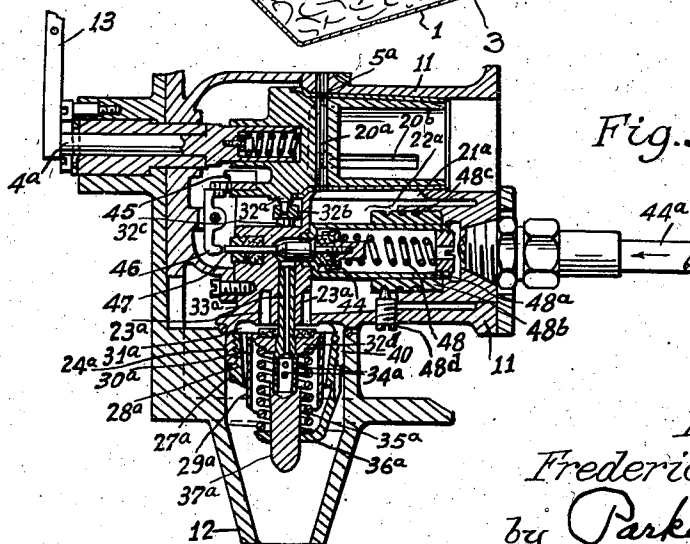
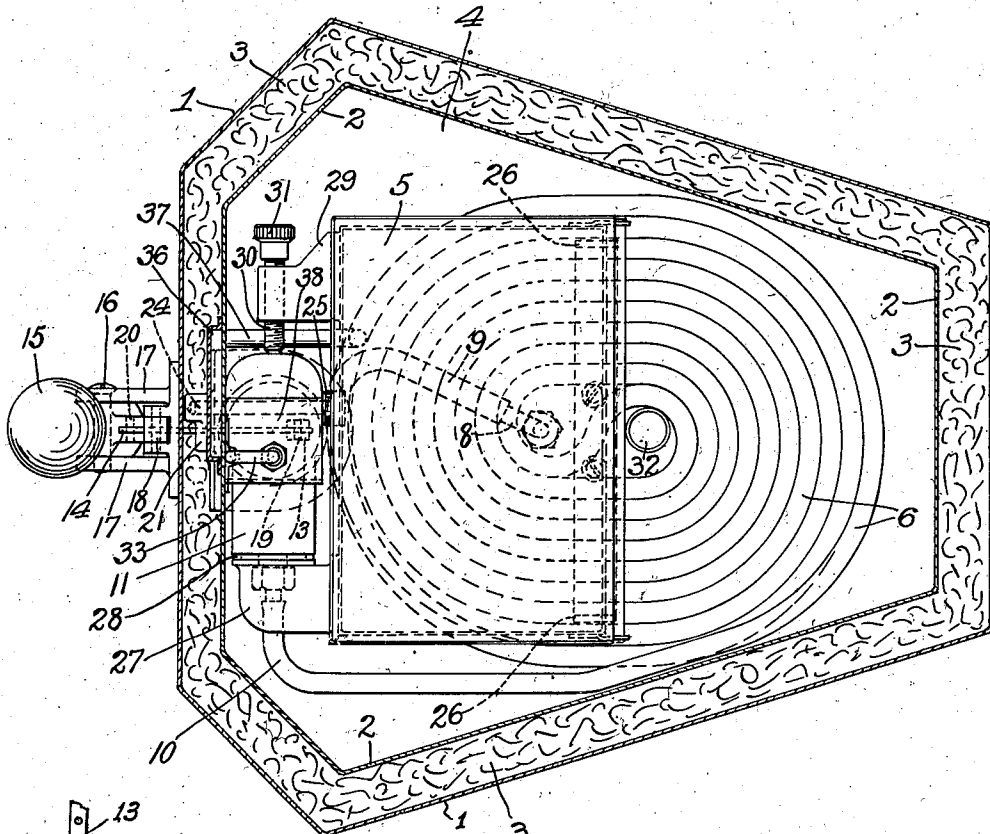


Fig. 3.

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UNITED STATES PATENT OFFICE

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DISPENSER FOR CARBONATED DRINKS

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tion of Illinois

Application May 23, 1935, Serial No. 22,995

11 Claims. (Cl. 225-28)

This invention relates to dispensers for carbonated drinks and has for an object to provide a new and improved device of this description.

The invention has as a further object to provide a dispenser for carbonated drinks which shall be small in size, and which shall have all the features of a large dispenser, such as a mixing device for mixing the syrup and the carbonated water, controlled by the draft arm, syrup container, cooling coil and ice container.

The invention has as a further object to provide a dispenser of the kind described which can be placed on the soda fountain counter.

The invention has other objects which will be more particularly pointed out in the accompanying description.

Referring now to the drawings, Fig. 1 is a vertical sectional view through one form of the dispenser embodying the invention; and

Fig. 2 is a plan view of the dispenser illustrated in Fig. 2;

Fig. 3 is a sectional view through the mixing chamber.

Like numerals refer to like parts throughout the several figures.

Referring now to the drawings, I have illustrated a dispenser consisting of an outer casing 1 and an inner casing 2 separated by a space, which space is filled with some heat insulating material 3. Within the inner casing 2 is an ice chamber 4 and a syrup container 5 located in the ice chamber, and preferably arranged so that it may have ice on all sides thereof. Located in the ice chamber is a cooling coil 6, through which the carbonated water passes. There is an inlet 7 for the carbonated water, which inlet is connected by the connecting member 8 with the end 9 of the cooling coil. The other end 10 of this cooling coil is connected to the mixing chamber 11, in which are located the parts for mixing the syrup and the carbonated water and causing it to be discharged through the dispenser nozzle 12. This mixing chamber may be of any suitable form, such as that, for example, described in my prior application Serial No. 737,320.

The connecting member 13 is connected by a connecting piece 14 with a handle 15 on the outside of the device, the handle 15 being pivoted at 16 to a support 17, attached to the outside casing. There is a stop 18, connected with the connecting member 14, which stops the movement of the handle. The connecting member 13 of the draft arm is pivotally connected with the connecting piece 14 by the pivot 19 and this connecting piece 14 is connected by the pivot 20 with

the handle 15. Attached to the inner casing 2 is a strengthening member 21 which has a portion extending along the bottom of the casing 2 and has an annular hollow part 22, through which the beverage is discharged and which receives the dispenser nozzle 12.

The mixing chamber 11 is attached to the inside of the inner casing 2, which forms the ice chamber, the attachment being made by means of a fastening device 23, which has a screw-threaded end 24 which enters the threaded opening in the strengthening member 21. This fastening member 23 preferably has a knurled head 25 so that it may easily and quickly be removed to disassemble the parts.

The syrup container 5 is mounted in the ice chamber and is supported at the rear by the support 26. The syrup container 5 is provided with a discharge member 27, which connects with the mixing chamber 11 so as to discharge syrup in the mixing chamber. This discharge member 27 is pivotally connected with the dispenser by a swivel joint 28. Connected with the syrup container on the side of the mixing chamber opposite to that in which the discharge member 27 is located is a projecting member 29, having a threaded opening, through which passes a clamping screw 30 having a knurled head 31. This clamping screw engages the mixing chamber and when tightened up, it and the projecting part 29 and the discharge member 27 connect the front end of the syrup container with the mixing chamber so as to hold the parts in proper relation.

It will be noted that the mixing chamber is mounted close to the bottom so as to make it possible to have a syrup container, to get the desired amount of syrup necessary for practical dispensing.

When it is desired to empty the syrup container the stop 18 is moved up out of the path of the handle 15. The handle can then be moved backward to a greater extent than under normal operation and this opens up to a greater extent the discharge of the syrup container and permits the syrup to quickly run out. This is particularly useful for washing and cleaning the syrup container and the mixing chamber and associated parts.

There is a drain pipe 32 for discharging the water produced by the melting of the ice in the ice receptacle. There is an air vent 33 leading from the compartment in the mixing chamber, where the syrup is deposited from the syrup receptacle when the handle 15 is operated, which permits the air to escape so as to let the syrup

flow in. The air vent has its end bent downwardly to about the level of the top of the drain pipe 32, which projects upwardly into the ice chamber. If the drain pipe becomes stopped, the water accumulates in the ice chamber until it rises above the mouth of the air vent. This prevents the escape of the air and stops the flow of the syrup into the mixing chamber, and makes it impossible to draw a mixed drink from the dispenser when the handle 15 is moved. The operator is thus apprised of the fact that the drain pipe is stopped and can take the necessary steps to clean it out.

The connecting piece 14 passes through the inside wall and the outside wall or shell and hence there must be an opening on both of these walls for this purpose. Means are provided which will prevent water from passing out through these openings in the event the drain should become stopped. To prevent this waste water from running into the heat insulating material and also from following the connecting piece 14 to the outside of the device, I provide a housing 36, which seals the opening in the wall 2 and which is arranged to catch any overflow water. This housing is provided with a drain 37 to permit the water to be discharged into the ice chamber. There is also a shield 38 for the members 13 and 14, arranged to shield them from the ice in the ice chamber.

Referring now to the mixing chamber, the connecting member 13 actuated by the handle 15 is connected with the shaft 4a so as to rotate it when the handle is moved. Connected with this shaft is a cam 32a which, when the handle 15 is rocked, engages the member 32b on the top of the pins 32c. These pins engage the valve 32d, see Fig. 3. The cam 32a presses them downwardly so as to open the valve 32d to let the syrup into the nozzle through the openings 23a. When the valve 32d is opened, the syrup from the syrup receptacle passes into the chamber 31a through openings 23a which communicate with chamber 22a, and into the space 30a and then down into the lower part of the nozzle. The cylinder 29a is closed at the top and the charged water passes down into it through the pipe 33a, passing out through the openings 34a. A spring 35a surrounds the lower end of the pipe 33a, its lower end being supported on the member 36a. This spring returns the valve 32d to its closed position when the pins 32c are released by the cam 32a by turning the handle back. The member 37a passes through this member 36a, as shown in Fig. 3. At the upper part of the mixing chamber 11 is a connection 20a which communicates with the outside atmosphere, discharging atmospheric air into the chamber 22a to insure the proper discharge of the syrup therein.

When the part 15 is moved to open the valve 32d, the cylindrical part 5a is moved so as to move the openings 20b and 21a out of register and close off the admission of the syrup into the chamber 22a. In this position, the air passage 20a in the part 5a communicates with the member 33 and hence with the outside atmosphere. The rotation of the valve operating member 4a to open the valve 32d also opens the valve 44 which admits the soda water from the pipe 44a into the passageway 33a and out through the openings 34a so as to mingle with the syrup. The soda water valve 44 is opened by a cam 45 which engages a pivoted arm 46, one end of which engages the stem 47 of the valve 44 so as to open said valve. A spring 48 returns the valve, when the

handle 15 is moved, back to its initial position. The spring and valve are mounted in a cylindrical holder 48a which has one end projecting into a sleeve 48b provided on its exterior with a series of grooves 48c extending there around. A screw 48d passes through the wall of the member 11 and has its end projecting into one of these grooves so as to hold the parts in position. When the syrup, by opening the valve 32d, passes from the openings 23a into the chamber 31a and passes down into the space 30a, its movement is slowed down and the space between the edge of the part 27a and the part 24a is comparatively small so that the same amount of syrup will be discharged each time. There is also an air passage 40 up through the nozzle to the top of the chamber 31a so that air can enter this chamber, thus permitting the proper flow of the syrup therefrom.

The syrup passes from the tank 5 through the connection 27 into the cylindrical part 5a which has a port 20b arranged by the movement of the handle, to be brought into register with the port 21a so as to discharge syrup into the measuring chamber 22a. When the handle is turned to admit the soda water, the ports 20b and 21a are moved out of register so that no more syrup can enter the measuring chamber 22a and hence this measuring chamber measures the quantity of syrup to be mixed with the soda water for each glass of the liquid.

I claim:

1. A dispenser for carbonated drinks comprising a container for ice, a syrup receptacle for syrup, a cooling coil through which carbonated water passes, a mixing chamber in which the syrup and carbonated water are mixed, said mixing chamber located within the ice container, a discharge device for discharging the mixed syrup and carbonated water, a handle on the outside of the container for controlling the discharge of the syrup and carbonated water, and means separate from said handle and said discharge device for fastening the mixing chamber to the inside of the wall of the ice chamber.

2. A dispenser for carbonated drinks comprising a container for ice, a syrup receptacle for syrup, a cooling coil through which carbonated water passes, a mixing chamber in which the syrup and carbonated water are mixed, said mixing chamber located within the ice container, a discharge device for discharging the mixed syrup and carbonated water, a handle on the outside of the container for controlling the discharge of the syrup and carbonated water, and means separate from said handle and said discharge device for fastening the mixing chamber to the inside of the wall of the ice chamber at the bottom thereof.

3. A dispenser for carbonated drinks comprising a cooling container, a syrup receptacle for syrup located within said container, a mixing chamber supported in said container, and means for discharging the carbonated drink from said mixing chamber, and supporting means separate from said discharging means for supporting said syrup receptacle on said mixing chamber.

4. A dispenser for carbonated drinks comprising a cooling container, a syrup receptacle for syrup located within said container, a mixing chamber supported in said container, two separated supporting members connected with said syrup receptacle, said supporting members being connected with said mixing chamber, the two

separated supporting members and the mixing chamber being in alignment.

5 5. A dispenser for carbonated drinks comprising a cooling container, a syrup receptacle for syrup located within said container, a mixing
10 chamber supported in said container, two separated supporting members connected with said syrup receptacle, said supporting members being
15 connected with said mixing chamber, the mixing chamber being intermediate said two supporting members.

6. A dispenser for carbonated drinks comprising a cooling container, a syrup receptacle for
15 syrup located within said container, a mixing chamber supported in said container, two separated supporting members connected with said syrup receptacle, said supporting members being
20 connected with said mixing chamber, one of said supporting members forming the connection between the syrup receptacle and the mixing chamber through which the syrup passes.

7. A dispenser for carbonated drinks comprising a container, a syrup receptacle for syrup
25 within said container, a cooling device through which carbonated water passes, a mixing chamber, into which the syrup and carbonated water are delivered and mixed, and located within the
30 container, a handle on the outside of said container and pivotally connected therewith, a longitudinally movable connecting member extending through the walls of said container, an operating member which, when moved, causes the
35 mixed drink to be discharged from the container, said connecting member being connected with said operating member.

8. A dispenser for carbonated drinks comprising a container, a syrup receptacle for syrup
40 within said container, a cooling device through which carbonated water passes, a mixing chamber, into which the syrup and carbonated water are delivered and mixed, and located within the
45 container, a handle on the outside of said container and pivotally connected therewith, a connecting member extending through the walls of said container, an operating member which, when moved, causes the mixed drink to be discharged from the container, said connecting
50 member being connected with said operating member, and a housing for catching any over-

flow water when water in the container rises to a predetermined height.

9. A dispenser for carbonated drinks comprising a container, a syrup receptacle for syrup
5 within said container, a cooling coil through which carbonated water passes, a mixing chamber, into which the syrup and carbonated water are delivered and mixed, and located within the
10 container, a handle on the outside of said container and pivotally connected therewith, a connecting member extending through the walls of said container, an operating member which, when
15 moved, causes the mixed drink to be discharged from the container, said connecting member being connected with said operating member, and a stop for said handle to limit its backward
20 movement during the mixing and discharging of drinks, said stop adapted to be moved out of the way, so as to permit a further backward movement of the handle to empty the syrup con-
25 tainer.

10. A dispenser for carbonated drinks comprising a container for ice, said container having an
25 inner casing, a syrup receptacle for syrup, a cooling device through which carbonated water passes, a mixing chamber in which the syrup and carbonated water are mixed, said mixing
30 chamber located within the ice container, a strengthening member attached to the outside of the inner casing and a fastening device connected with the mixing chamber and said
35 strengthening member, for fastening the mixing chamber into position.

11. A dispenser for carbonated drinks comprising a cooling container, said container hav-
35 ing an inner casing, a syrup receptacle for syrup, a cooling coil through which carbonated water passes, a mixing chamber in which the syrup and carbonated water are mixed, said mixing
40 chamber located within the ice container, a strengthening member attached to the outside of the inner casing and a fastening device connected with the mixing chamber and said
45 strengthening member, for fastening the mixing chamber into position, said strengthening member having a portion which extends under the
50 mixing chamber and to which is connected a discharge nozzle through which the beverage is discharged.

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