June 14, 1938. A. F. KLEMAN 2,120,865

BEVERAGE SAVING AND PIPE CLEANING DEVICE

Filed Oct. 18, 1935

FIG. 1

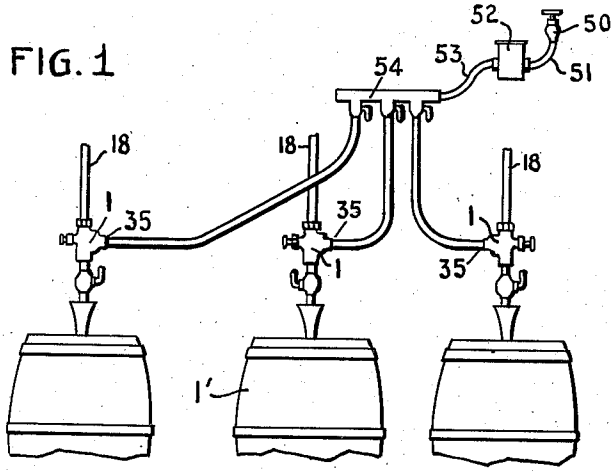


FIG. 2

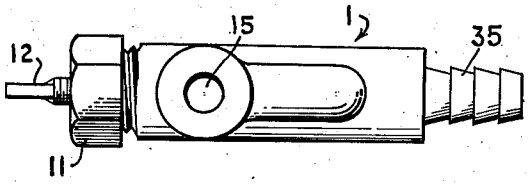


FIG. 3

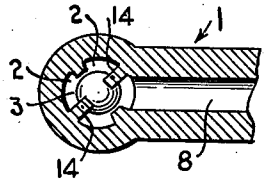


FIG. 5

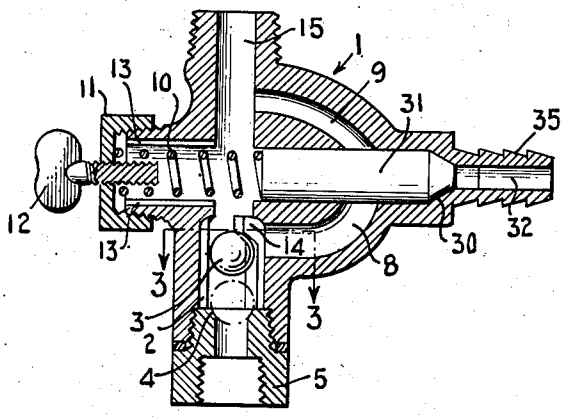
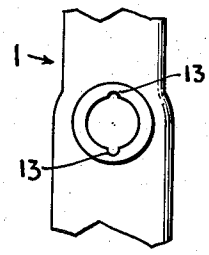


FIG. 4



ALBERT F. KLEMAN
INVENTOR

BY Victor J. Evans & Co.
ATTORNEYS

Patented June 14, 1938 2,120,865

UNITED STATES PATENT OFFICE

2,120,865

BEVERAGE SAVING AND PIPE CLEANING DEVICE

Albert F. Kleman, Dover, N. J.

Application October 18, 1935, Serial No. 45,549

2 Claims. (Cl. 225—12)

The present invention relates to a device for cleaning the coils and outlets of a beer and similar dispensing device stored under pressure.

The primary object of the invention is to construct an apparatus of this character so that all parts of the dispensing apparatus may be thoroughly flushed with water or other cleansing fluid without requiring the attendant to leave the vicinity of the discharge faucets such as the bar or dispensing counter and go to the cellar or other place where the vessels are situated in order to shut off the several vessels from the system of piping to be cleansed.

A further object of the invention is to provide an apparatus for cleaning the coils and outlets of a beverage dispensing device, utilizing water or a cleaning solution or a combination of the two which can be left in operation indefinitely without affecting the normal operation of the dispensing system.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawing which forms part of the application, with the understanding, however, that the improvement is capable of extended application and is not confined to the exact showing of the drawing nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claims.

In the drawing,

Figure 1 is an elevational view of the invention attached to a series of beverage containers,

Figure 2 is a top plan view of the device,

Figure 3 is a fragmentary sectional view taken on line 3—3 of Figure 5,

Figure 4 is a partial side view of the device with the cap and spring removed, and

Figure 5 is a vertical sectional view with parts in elevation.

Referring to the drawing for a more detailed description thereof, the numeral 1 indicates the body of the device which is in the form of a valve adapted to be attached to a beverage container 1' through the threaded connection 5. In Figure 1 of the drawing there is disclosed a series of containers since it is customary to store different kinds or qualities of beverages, therefore requiring separate storing containers and separate discharge means therefor in order to avoid intermingling. Each of the containers 1' is provided with the valve body 1 and conduits extend therefrom to a distributor header 54. The solution is supplied to the header 54 from the faucet 50 and the connection 51 which carries water into the container 52 carrying a cleansing solution. The mixed solution is carried into the header 54 from the container 52 by means of the connection 53.

The body 1 has a vertical passage 15 through which the beverage is dispensed from the container 1' and said passage is controlled by means of the ball-valve 3. A pair of lugs 14 carried by the body 1 limits the upward movement of the ball-valve 3, and during the dispensing of the beverage, the same passes through the slots 2 provided for this purpose, as shown in Figure 3 of the drawing, into the passage 15. The pressure of the beverage being dispensed raises the ball-valve 3 from its seat 4.

The line from the header 54 is connected to the body 1 at 35 and positioned within the body 1 and controlling the inlet 32, is a plunger valve 31 having a conically shaped end seated at 30. The opposite end of the plunger 31 is engaged by a coil spring 10 which is held in engagement therewith by means of the nut 11 threadedly engaging the body 1. The plunger 31 is moved longitudinally by the pressure of the solution and said plunger moves against the tension of the spring 10. For limiting and controlling the movement of the plunger 31 there is provided an adjusting screw 12 positioned within the nut 11 and the rear end of the plunger 31 will contact the screw 12 during its movement and by contact therewith, the movement of the plunger is limited. If desired to have the plunger move a greater distance, the screw 12 will be adjusted accordingly.

The passage 32 communicates with the passage 15 by means of a pair of semi-circular passages 8 and 9 and it is preferred that passage 8 be in advance of and larger than the passage 9 in order to force the ball-valve 3 down upon its seat 4 thereby automatically shutting off the flow of beverage from the container and holding the same until pressure is released from the faucet 50. This construction is clearly illustrated in Figure 5 of the drawing and in operation the solution entering the passage 32 will gradually urge the plunger 31 rearwardly against the tension of the spring 10, and since passage 8 will be opened ahead of passage 9, the solution will first enter passage 8 and the pressure thereof force the ball valve 3 against the seat 4. The passage 8 is also preferably made larger than passage 9 so as to permit the first portion of the solution to be disposed therein. It is understood that the beverage within the containers is always

under a certain pressure and in order to effect a proper operation of the cleaning device, the pressure of the cleaning solution entering the body 1 should be greater than the pressure within the container to which the body is attached. By limiting the movement of the plunger 31 through adjustment of the screw 12, the pressure of the cleaning solution entering the body 1 may be increased to compensate for the pressure within the beverage containers since the water pressure supplied by the faucet 50 may vary. A pair of longitudinal slots 13 permit the solution to pass the plunger 31 when it is moving back from its seat 30 so that the action thereof will not be retarded.

In the operation of the device water is supplied to the solution carrying container 52 from the faucet 50 and the mixed solution then enters the header 54 and is carried to each of the bodies 1. The pressure of the solution entering the passage 32 forces the plunger from its seat 30 against the tension of the spring 10 and since the passageway 8 is in advance of the passageway 9, the solution will first enter that passageway and the pressure thereof force and hold the ball-valve 3 downwardly upon its seat 4 thereby assuring that a mixture will not be obtained with the beverage in the container and said valve will be held on its seat until the pressure from the faucet 50 is released. The plunger 31 continues to move until its end abuts the screw 12 and the solution is then caused to enter the passageway 9 and upwardly into the passage 15 of the device and through the pipes 18 which lead to the coils and other parts used in the dispensing of the beverage. After the pipes and parts have been thoroughly cleansed, the faucet 50 is shut off and the release of the pressure permits the plunger 31 to move into its seat 30 thereby closing the passage 32.

From the above description it will be readily apparent that there is provided an apparatus for cleaning beverage dispensing devices which will not interfere with the normal use of such devices nor will it be necessary for the attendant to leave the vicinity of the discharge faucet to manually close the valves carried by the containers. Due to the arrangement of the ball-valve 3 and plunger valve 31, there is no danger of the cleaning solution entering the beverage container during the dispensing of the beverage or the cleaning operation.

I claim:

1. The combination of a plurality of storing containers, a plurality of beverage dispensing pipes connected thereto, a quadruple-ended three-way valve body positioned in each pipe and having one end adapted to be attached to a container, said valve body including an integral inlet for cleansing fluid and an outlet, a spring controlled plunger valve controlling said inlet, a passageway in the valve body connecting said inlet to said outlet, a ball valve in the valve body for controlling the flow of liquid through said valve body from the container and a source of fluid under pressure connectible to said inlet for cleaning the beverage dispensing pipe.

2. The combination of a plurality of storing containers, a plurality of beverage dispensing pipes connected thereto, a quadruple-ended three-way valve body positioned in each pipe and having one integral end adapted to be attached to a container, said valve body including an integral inlet and an integral outlet, said integral inlet adapted to be connected to a source of fluid under pressure for cleaning the beverage dispensing pipes, a spring-controlled plunger valve controlling the entrance of said fluid in said inlet, a passageway in the valve body for connecting said inlet to said outlet and a ball valve positioned in the end of said valve body attached to the container for preventing the entrance of said fluid within said container.

ALBERT F. KLEMAN.