

C. L. BASTIAN AND H. MATHISEN.

DISPENSING VALVE.

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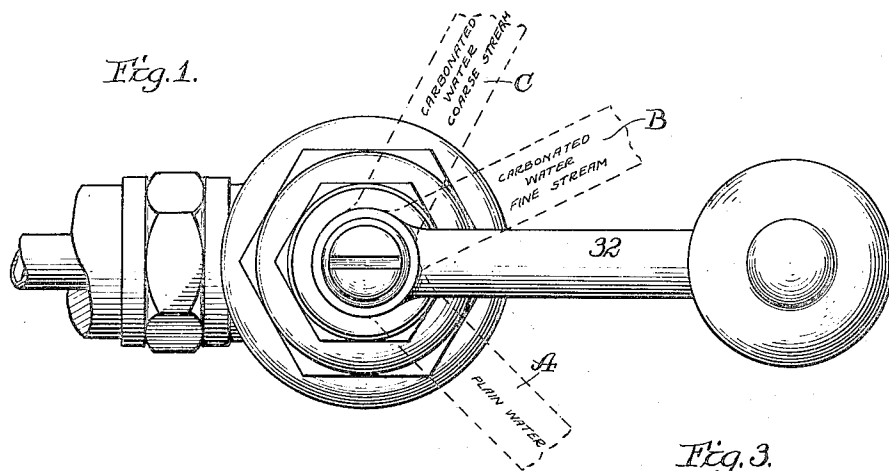


Fig. 3.

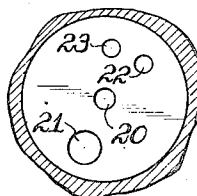


Fig. 2.

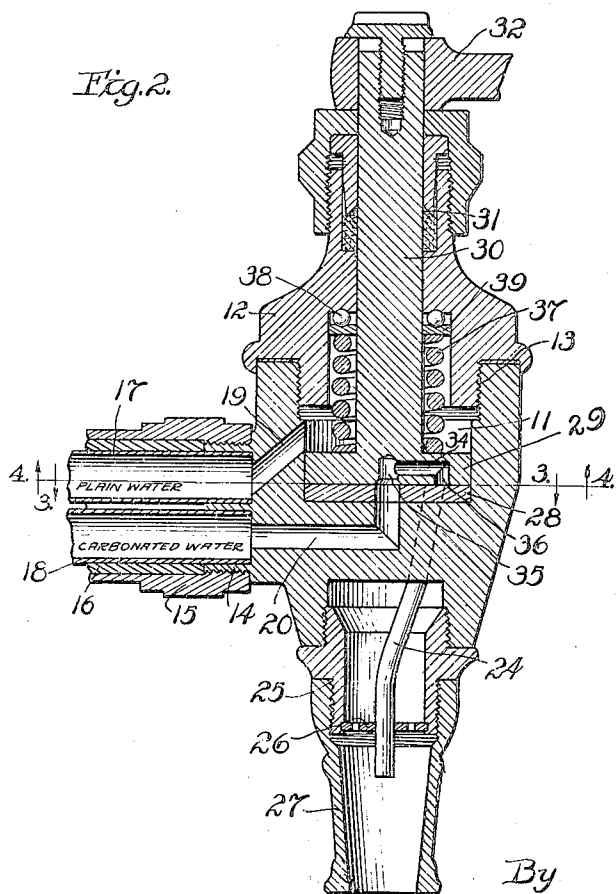
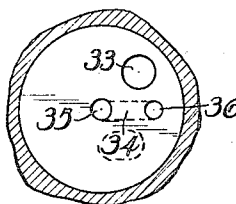


Fig. 4.



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# UNITED STATES PATENT OFFICE.

CHARLES L. BASTIAN AND HJALMAR MATHISEN, OF CHICAGO, ILLINOIS, ASSIGNORS  
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ILLINOIS.

## DISPENSING VALVE.

Application filed November 16, 1921. Serial No. 515,471.

### *To all whom it may concern:*

Be it known that we, CHARLES L. BASTIAN and HJALMAR MATHISEN, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dispensing Valves, of which the following is a specification.

This invention relates to dispensing devices for carbonated beverages and has particular reference to the dispensing valve. The primary object of the invention is to produce a simple valve which will supply plain water in a coarse stream, and carbonated water in either a coarse or fine stream.

Another object of the invention is to produce a valve structure in which a single movable valve member will control the flow of the two liquids and supply one of them in either a coarse or a fine stream, as desired.

Other objects will become apparent as the description is read in connection with the accompanying drawing showing a selected embodiment of the invention, and in which—

Fig. 1 is a plan view showing the different positions of the valve handle in dotted lines;

Fig. 2 is a vertical section view;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2, showing the arrangement of outlet ports in the valve casing; and

Fig. 4 is a transverse section on the line 4—4 of Fig. 2 showing the arrangement of ports in the valve.

Referring to the reference numerals on the drawing, 10 indicates the valve casing having a chamber 11 therein and being fitted at its upper end with a bonnet 12 screw-threaded thereto as indicated at 13. One side of the casing is provided with a threaded nipple 14 adapted to receive coupling 15 by which the valve is secured to a draft arm 16. Within the draft arm are arranged a pipe 17 for plain water, and a pipe 18 for carbonated water. The pipe 17 is connected with the chamber 11 by a passage 19, and the pipe 18 is connected with the chamber 11 by an angular passage 20 which enters the chamber at the center of its bottom. The bottom of the chamber is supplied with an outlet passage 21 for plain water and outlet passages 22 and 23 for carbonated water. The passage 22 is connected with

a jet nozzle 24 while the passages 21 and 23 communicate with the nipple 25 having a spray grating 26 and equipped at its lower end with a hard rubber nozzle 27. The object of the grating 26 is to break up the stream of either plain or carbonated water and make it fall from the nozzle 27 in a solid stream in the customary manner.

A valve gasket or packing 28 of leather or other suitable material is pressed tightly into the chamber, against the bottom of the chamber, and has passages forming continuations of the passages 21, 22 and 23. Seated on this gasket or packing is a rotary valve 29 having a stem 30 journaled in the bonnet 12 and equipped with a stuffing box 31 and an operating handle 32. The valve has a large passage 33 extending therethrough and adapted to align with the passage 21 to establish communication between the pipe 17 and the spray nozzle 27, and another passage 34 somewhat U-shaped in form, to establish communication between the passage 20 and the passages 22 and 23. One arm 35 of this U-shaped passage is co-axial with the disc and aligned with the passage 20, and the other arm 36 of this passage is substantially parallel to the arm 35 and communicates through the same side of the valve with the passages 22 and 23.

Normally, the position of the handle 32 shown in Fig. 1 corresponds to the position of the valve when all outlet passages are closed. By moving the handle to the dotted line position A, the passage 33 in the valve is aligned with the passage 21 in the valve casing, and plain water is allowed to pass freely from the pipe 17 through the passage 19 into the chamber 11, and thence through the valve and in the bottom of the casing to the spray nozzle 27. By moving the handle to the dotted line position B, in Fig. 1, the arm 36 of the passage 34 is aligned with the passage 22 in the bottom of the casing, and carbonated water can pass freely from the pipe 18 through the passage 20 to the passage 34 and the passage 22, to the spray nozzle 24. By placing the handle in the dotted line position C, the arm 36 of the passage 34 is aligned with the passage 23 in the valve casing, and carbonated water is supplied to the spray nozzle 27.

In order to hold the valve 29 properly seated on the gasket 28, we provide a spring

37 wound about the stem 30 and pressed between the bonnet and the valve disc; to eliminate friction as much as possible, the ball bearings 38 are interposed between the bonnet and a ball race 39 on top of the spring.

From the foregoing it will be obvious that we have produced a very simple construction whereby plain water may be supplied in a coarse stream, and carbonated water in either a coarse or a fine stream. This construction, moreover, practically eliminates all leakage common to the spring and check valves heretofore used. By putting all the ports under the control of a single rotary valve, we produce a very simple device which practically never gets out of order, or requires adjustment.

We are aware that changes in the form and proportion and arrangement of the parts of our invention may be made without departing from the spirit or sacrificing any of the advantages thereof, and we therefore reserve the right to make all such changes as fairly fall within the scope of the following claims.

We claim:

1. In a dispensing valve, the combination of a casing having a chamber therein, a valve member in said chamber, said casing having an inlet for one liquid above said valve member and an outlet for that liquid below said valve member, said valve member having a transverse passage for connecting said inlet and outlet, said casing having an inlet and an outlet for another liquid below said valve and said valve member having a return passage on its lower side for establishing communication between the last mentioned inlet and outlet.

2. In a device of the class described, a valve casing having a chamber therein, a rotary valve member in said chamber and seated against one end thereof, said casing having an inlet for plain water on one side of said valve member, and an inlet for carbonated water on the opposite side of said valve member, said chamber also having an outlet passage for plain water, and a plurality of outlet passages for carbonated water, said valve having a passage for establishing communication between the outlet and inlet passages for plain water, and a single passage adapted to establish communication between the inlet and each of the outlets for carbonated water.

3. In a device of the class described, a valve casing having a chamber therein, a plurality of inlets leading to said chamber, a spray nozzle connected with said casing, a jet nozzle connected with said casing, said casing having a plurality of outlet passages leading from said chamber to said spray nozzle, a single outlet passage leading from said chamber to said jet nozzle, and a single rotary valve in said chamber adapted

to control the flow of liquid from said inlet passages through the said outlet passages.

4. In a device of the class described, a valve chamber having separate inlets for plain and carbonated water, an outlet for plain water, and a plurality of outlets for carbonated water, and a single rotary member having a passage adapted to connect the inlet and outlet for plain water and another passage adapted to connect the inlet for carbonated water with either of the outlets for carbonated water.

5. In a device of the class described, a valve casing having a chamber therein, a valve disc in said chamber and seated against the bottom thereof, an inlet for liquid communicating with said chamber above said valve member, an inlet for liquid communicating with said chamber below said valve member, a plurality of outlets leading from beneath the valve member, said valve having passages adapted to establish communication between each of said inlet passages and the outlet passages.

6. In a device of the class described, a casing having a chamber therein, an inlet for plain water at one side of said chamber, an inlet for carbonated water through the bottom of said chamber at the center, an outlet for plain water leading from the bottom of said chamber, a plurality of outlets for carbonated water leading from the bottom of said chamber, and a single rotary valve seated against the bottom of said chamber having a passage adapted to establish communication between the inlet and outlet for plain water, and another passage adapted to establish communication between the inlet for carbonated water and each of the outlets for carbonated water.

7. In a device of the class described, a valve casing having a chamber therein, an inlet passage at one side for plain water, an inlet passage in the bottom at the center for carbonated water, an outlet passage for plain water in the bottom, and a plurality of outlet passages for carbonated water in the bottom, a valve seated against the bottom of said chamber, yielding means adapted to hold said valve against the bottom of said chamber, said valve having a transverse passage adapted to establish communication between the inlet and the outlet for plain water, and a passage open at the bottom of said valve only for establishing communication between the inlet for carbonated water and the outlets for carbonated water.

8. In a dispensing valve, the combination of a casing having a chamber therein, a passage for one liquid leading into the chamber at one side and out of the chamber at the other side and a passage for another liquid leading into and out of the chamber at the same side, and a valve member rotatably

mounted within said chamber and having ports for establishing communication through the above mentioned passages separately.

5 9. In a device of the class described, a valve casing having a chamber therein, a spray nozzle and a jet nozzle connected to said casing, a plurality of ports leading from said chamber to said spray nozzle, a

port leading from said chamber to said jet 10  
nozzle, a plurality of inlets leading to said  
chamber, and a single valve member adapt-  
ed to permit one liquid to flow through  
either the spray or the jet nozzle, and an-  
other liquid to flow through the spray noz- 15  
zle only.

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