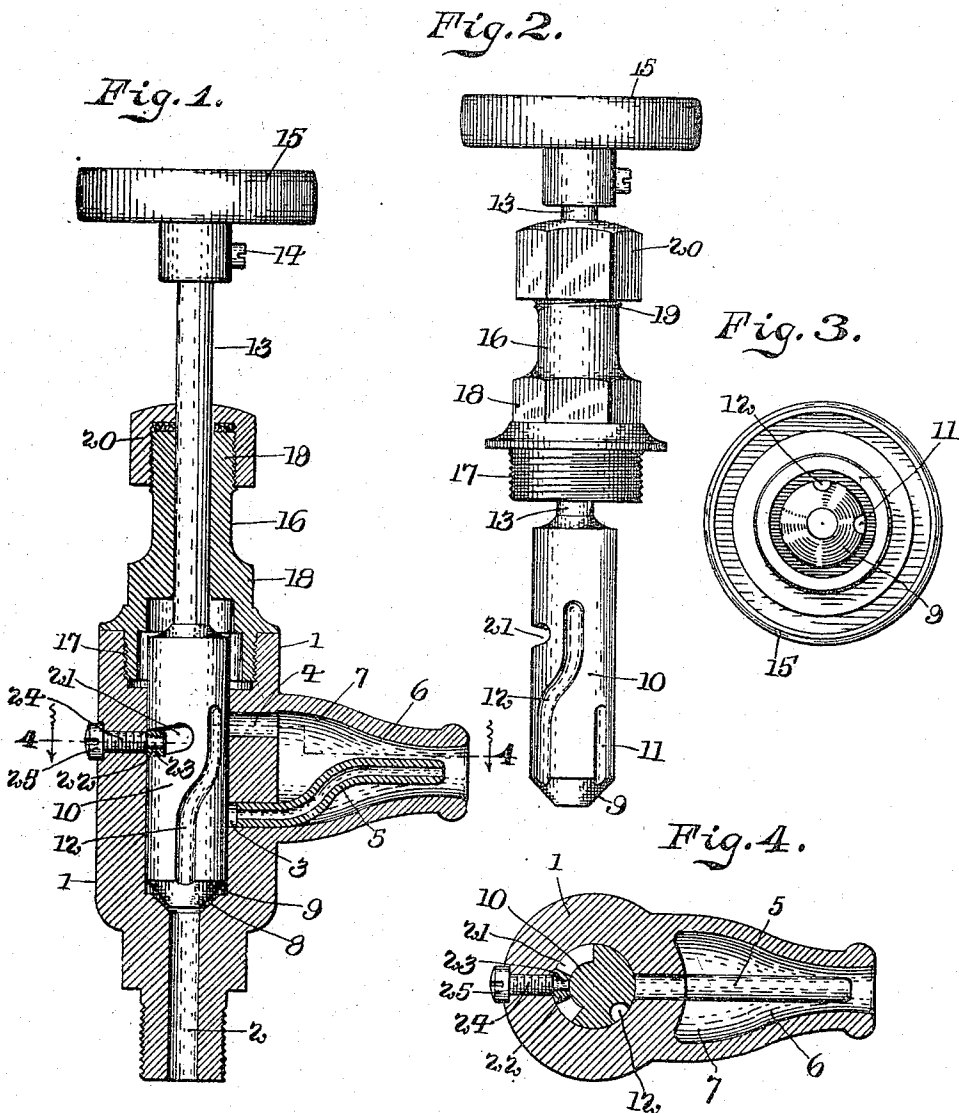


W. E. LA RUE.
SODA FOUNTAIN DRAFT COCK.
APPLICATION FILED AUG. 23, 1915.

1,208,709.

Patented Dec. 12, 1916.



Witnesses

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UNITED STATES PATENT OFFICE.

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SODA-FOUNTAIN DRAFT-COCK.

1,208,709.

Specification of Letters Patent.

Patented Dec. 12, 1916.

Application filed August 23, 1915. Serial No. 46,992.

To all whom it may concern:

Be it known that I, WILLIS E. LA RUE, a citizen of the United States, residing at Indianapolis, Marion county, and State of Indiana, have invented and discovered certain new and useful Improvements in Soda-Fountain Draft-Cocks, of which the following is a specification.

My invention relates to soda fountain draft-cocks and its object is to provide a leak proof cock having all the contacting parts of the valve mechanism made of metal, thereby avoiding the use of leather or rubber gaskets and to provide a simple and easily assembled construction of draft-cock and one that may be quickly operated for obtaining either a concentrated small jet of liquid or a large volume thereof, for the purpose of quickly filling a glass. With these objects and others in view, my invention is embodied in preferable form in the device hereinafter described and illustrated in the accompanying drawings.

In these drawings, Figure 1 is a longitudinal section through the draft-cock, Fig. 2, a side view in elevation of the valve and the valve supporting and stuffing box sleeve removed from the valve chamber casing, Fig. 3 an end view of the valve, and Fig. 4 a cross section on the line 4—4 of Fig. 1.

Referring to the drawings, 1 designates the valve chamber casing and 2 a threaded inlet nipple extending therefrom and adapted to communicate with a source of supply of aerated or carbonated liquid under pressure. Formed in the bottom of the valve chamber are two outlet ports 3 and 4 spaced apart longitudinally from the inlet opening. The port 3 nearest the inlet communicates with a tube 5 which terminates in a jet discharge nozzle and is adapted to permit of a passage of a concentrated small stream of liquid of considerable force through the same. The tube 5 extends through a larger discharge tube 6, which is in communication at its upper end with the port 4 and which is provided at said upper end with an enlarged bell-shaped portion 7 into which the liquid is adapted to be discharged from port 4 and by means of which tube and chamber a larger volume of liquid is adapted to be discharged into the glass so as to enable the latter to be quickly filled, preliminarily to the mixing action by the small jet.

In the chamber are mounted rotatable and longitudinally protractable and retractable valve means adapted to have direct contact with the inlet seat and to open and close the inlet in its longitudinal movement and to control communication between said inlet and the ports 3 and 4 in the rotatable movement of the valve. To this end the inlet end of the chamber where it meets the inlet passageway is reduced and is provided with a beveled seat 8 which is adapted to receive the conical head 9 of a valve 10. This valve has a solid body in the form of a barrel which has a close, liquid excluding, fit against the wall of the casing and said barrel is provided with two ports formed by grooves and 12 extending longitudinally of the valve body from the front conical end thereof and adapted to register respectively with the outlet ports 3 and 4 of the valve casing when the valve is turned circularly. The valve is provided with a reduced stem 13, to the outer end of which is detachably secured (by set screw 14) an operating handle 15 which may be removed to permit of the assemblage or separation of the parts. This stem is supported in a stuffing box sleeve 16 which is provided at its inner end with a threaded head 17 adapted to engage internal threads in the outer end of the valve chamber casing. A fixed hexagonal nut or head 18 adapted to be engaged by a wrench enables the disengagement of the sleeve from the casing. At its outer end this sleeve is provided with a threaded portion 19 on which is mounted a hollow threaded cap 20 adapted to close the space around the rotatable valve stem and the sleeve, in order to prevent the escape of liquid past the stem.

Formed in the upper outer surface of the valve body is an inclined or helical cam groove 21 with which is adapted to engage a member fixed in the valve casing for the purpose of moving the valve in and out longitudinally of the valve chamber to open and close the inlet, as the valve is rotated by the handle. To prevent wear on the walls of the cam groove, a sliding block or bushing 22 is provided therein, with which is adapted to engage the reduced smooth circular stem 23 of a threaded pin 24 which is adapted to engage threads in an aperture formed through the upper portion of the wall of the valve casing. This pin is pro-

vided with a slotted head 25 which may be engaged by a screw driver to enable the pin to be removed.

In the operation of the device it is usually desired to first supply the glass to be filled with a large volume of liquid in order to fill the glass quickly. This is accomplished by turning the handle of the valve so as to carry the valve to the left and the port 11 past port 3 and until the port 12 is brought into register with the port 4 which leads to the large tube 6, whereupon communication is established between the inlet and said large tube and whereby a large volume of liquid will be permitted to pass quickly from the inlet into the glass. Following the admission of the liquid through the tube 6 and when it is desired to mix and agitate the liquid and syrup thoroughly, the valve is turned back to the right a slight distance so as to carry the port 11 in the valve into register with the port 4 leading to the small constricted tube 5, whereby a concentrated solid forceful jet of liquid will be discharged through the small tube into the glass. To cut off the liquid, the valve is turned farther toward the right and the action of the cam groove will force the head of the valve inwardly against the inlet seat.

It will be seen that by the construction above described, the metal body of the valve stem will be seated directly against the metal wall surrounding the inlet, thus tightly closing the inlet and avoiding the necessity for the use of leather or rubber gaskets liable to wear which frequently causes leakage of the liquid or gas past the packing means. It will also be seen that the valve is protractable and retractable toward and from the inlet opening in the line of flow of the liquid, thus directly opposing the pressure of the admitted liquid. Separate positive closing means for the inlet and for the outlets are provided, which further insures against leakage.

By removing the set screw which holds the handle on the valve stem and unscrewing the sleeve from the valve chamber casing, the entire device may be readily disassembled.

Having thus described my invention, what I claim is:

1. In a soda fountain draft-cock, in combination with a casing having a valve chamber provided with an inlet and a plurality of outlet ports, a longitudinally movable and rotatable valve in said chamber having a solid metal body provided with a head

adapted to have direct metallic contact against the inlet seat and movable longitudinally of the chamber to open and close said inlet, said valve body having a closing fit against the wall of the valve chamber and being provided with exterior longitudinal ports and adapted to open and close said outlet ports.

2. In a soda fountain draft cock, in combination with a casing having a valve chamber which has an inlet and outlet ports, a rotatable metal valve in said chamber having a head adapted for direct metallic contact against the inlet seat, means for protracting and retracting said valve to control said inlet, said valve having a series of exterior longitudinal channel ports adapted to establish communication between the inlet and the different outlet ports successively in the rotative movement of the valve.

3. In a soda fountain draft-cock, in combination with a casing having a valve chamber and an inlet, and having a plurality of outlet ports, tubes of different areas communicating with said outlet ports, a single common outlet body providing the larger tube and inclosing the smaller tube, a valve mounted for simultaneous rotatable and longitudinal movements in said chamber and having a conical metallic head adapted to have direct contact with the inlet seat and operable to close and open said inlet in its longitudinal movement and having exterior ports formed in the valve body and corresponding to said outlet ports and adapted to establish communication between said ports and said inlet in the rotatable movement of the valve.

4. In a soda fountain draft-cock, in combination with a casing having a valve chamber provided with an inlet and with outlet ports, a metallic valve in said chamber having direct contact against the inlet seat, a handle for rotating said valve, said valve having an inclined groove, and a pin in the casing for engaging said groove to protract and retract the valve, said valve having longitudinal ports spaced circumferentially and adapted to establish communication between the inlet and said outlet ports.

In witness whereof, I have hereunto set my hand and seal, at Indianapolis, Indiana, this 9th day of August, A. D. nineteen hundred and fifteen.

WILLIS E. LA RUE. [L. S.]

Witnesses:

A. C. RICE,

H. P. DOOLITTLE.