(No Model.)

A. D. PUFFER, Jr.

FAUCET FOR SODA WATER DRAFT APPARATUS.

No. 489,325. Patented Jan. 3, 1893.

Fig. 2.

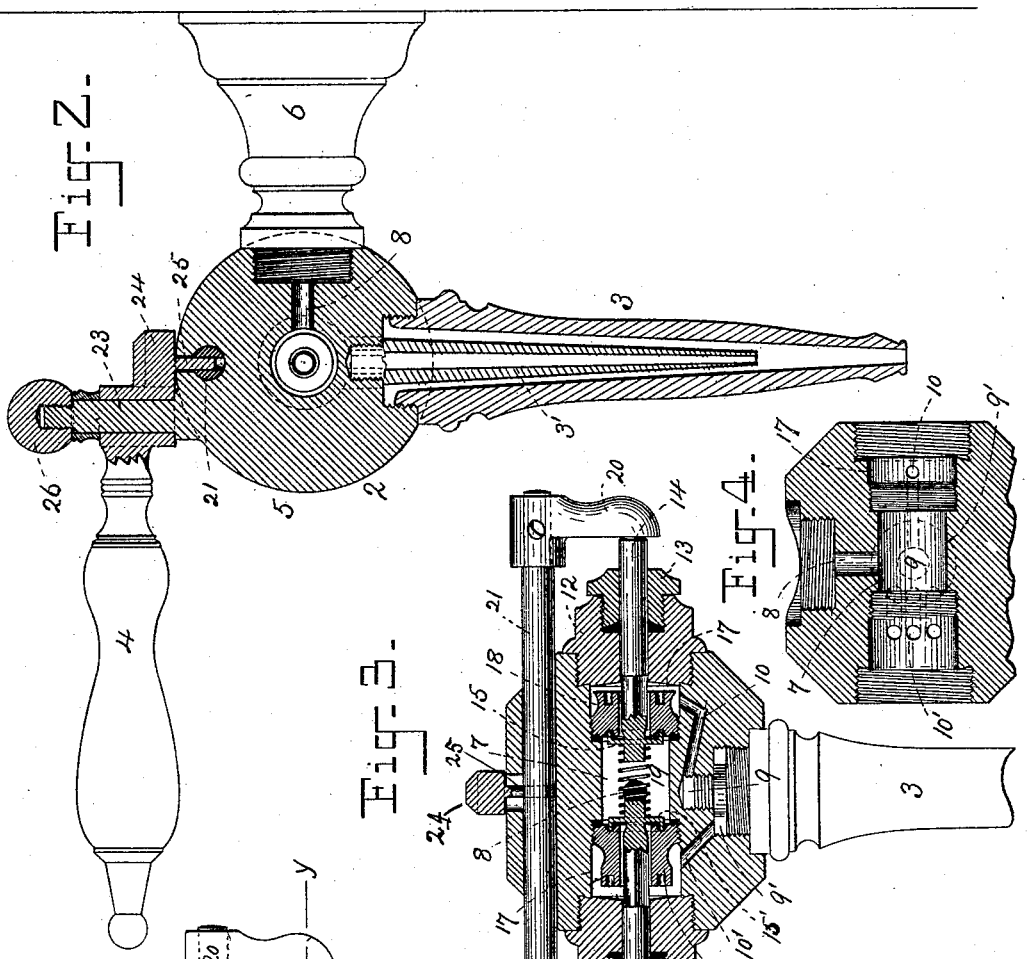


Fig. 4.

Fig. 3.

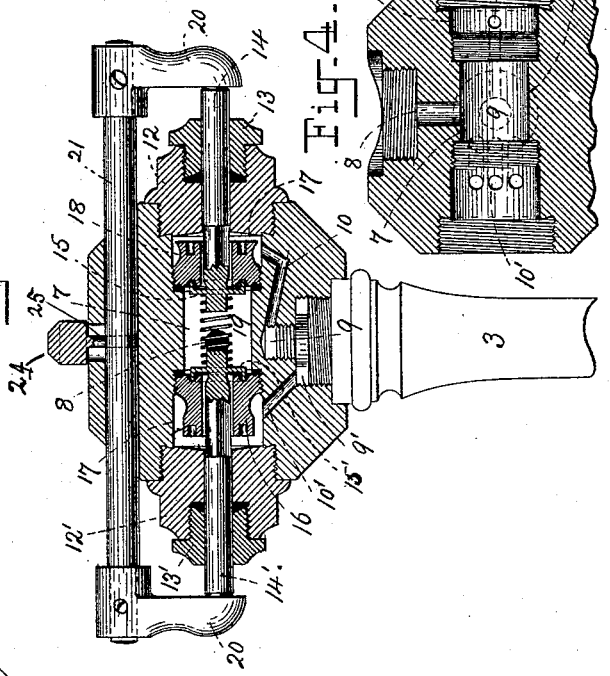
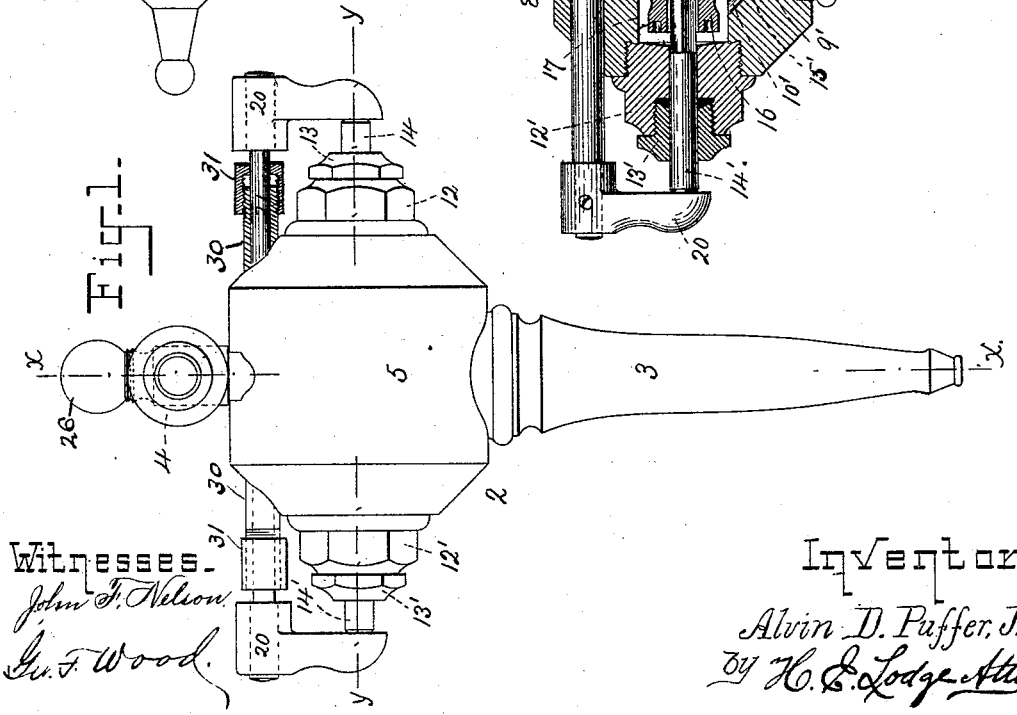


Fig. 1.



Witnesses.
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UNITED STATES PATENT OFFICE.

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FAUCET FOR SODA-WATER DRAFT APPARATUS.

SPECIFICATION forming part of Letters Patent No. 489,325, dated January 3, 1893.

Application filed September 15, 1892. Serial No. 445,989. (No model.)

To all whom it may concern:

Be it known that I, ALVIN D. PUFFER, Jr., a citizen of the United States, residing at Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Faucets for Soda-Water Draft Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of faucets in which two streams—a small one under high pressure and a larger one under less pressure—are delivered through a common nozzle.

My improvements consist in the peculiar arrangement of the valves within the valve-case, as likewise in the operating mechanism by which a slight movement of a valve-lever will produce a large or small stream through the delivery nozzle.

The drawings accompanying this specification represent in Figure 1 a front elevation of a delivery faucet embodying my invention. Fig. 2 is a vertical section on line *x x* in Fig. 1. Fig. 3 is a vertical sectional elevation longitudinally of the valves and valve-stems. Fig. 4 is a horizontal section on line *y y* in Fig. 1, the valves and other parts being omitted.

The object of this invention is to avoid the use of mechanism heretofore employed in the operation of delivery faucets the action of which was slow, as for instance the rotary screw movement, so generally practiced.

In this invention I have reduced the number of parts and have arranged such an assemblage, that a very slight movement, quickly performed, will effect the same results as would under ordinary construction take a very considerably longer time to accomplish.

In the drawings herewith presented I have indicated a delivery faucet at 2, as composed of the principal parts as follows: a compound nozzle 3, 3′, an actuating lever 4, and a valve-case 5, the latter attached to a short pipe 6, which unites it to the fountain (not shown). As before premised this faucet is adapted to deliver a large or a small stream as may be desired, the latter is under high pressure and is intended to deliver but a small quantity of liquid in order to thoroughly mix and dissolve the sirup in the glass. Subsequently the second and larger stream is caused to deliver under little or no pressure a very much greater quantity of aerated or charged liquid in order to fill the now partially filled glass quickly. To provide for such distribution the valve case is longitudinally bored to create a supply-chamber 7 which connects with the main supply from the fountain by the passage 8. The exhaust or delivery is shown at 9, 9′, for the small and large stream respectively. Furthermore to interconnect the supply chamber with the delivery nozzle I have created ducts 10, 10′; the former a single channel is adapted to supply the small stream, while the latter, in the present instance are three in number, in order to give body to the larger stream. The opposite ends of the supply-chamber 7 are closed by plugs 12, 12′ secured by screw-thread attachment to the casing and furnished with stuffing-boxes 13, 13′ through which play valve-stems 14, 14′, which are adapted to reciprocate by means of a rod 21 parallel therewith and in engagement with the lever 4. Both the extremities of said rod are supplied with a pendent arm 20 adapted to contact against the valve-stems according to the movement of the lever 4.

By reference to Fig. 3 it will further be noticed that the inner end of each valve-stem is provided with a valve 15, 15′, and these valves co-operate with valve-seats 16, 16′. The latter are short sections of cylinders and are screw-threaded and thus adjustably positioned within the bore of the valve-case, which is of three different sizes; the supply chamber is the smallest in diameter, that portion which constitutes the valve-chambers and receives the valve-seats being slightly larger, while that in which the plugs are located is the largest. Moreover it will be noticed that the valve-seat castings are shorter than the length of the bore in which they are located, and thus valve-chambers 17 are created; furthermore the valve-stems pass loosely through the valve-seats to permit flow of liquid therethrough, when the valve is raised

from its seat, and the liquid is allowed to flow about the small end of the said valve, then to enter an annular groove 18 and from there discharge into the duct 10, whence it passes into the delivery 9, and emerges through the small nozzle. A spring 19 within the supply chamber compels the valves to remain closed, except when the lever is actuated to hold them open at certain times.

From the description of the above mentioned parts which compose the faucet it is evident that the operation of the various elements is as follows: The supply-chamber in free communication with the fountain or other source is presumed to be filled with liquid under the same pressure as exists in said fountain, and the valves 15, 15′ are held firmly upon the valve-seats by the pressure of the spring 19, while the arms 20 are adjusted to contact with the extremities of the valve-stems being contiguous thereto or a short distance therefrom. Hence a very slight swinging movement of the lever 4 will suffice to open either valve. The lever it may here be explained is mounted upon a vertical post 23 in the valve-case, while an offset or lug 24 is furnished with a pin 25 adapted to set loosely in a hole in the rod 21, while a retaining nut 26 surmounts the post. A very evident modification would be to substitute for the lever 4 the circular hand-wheel employed generally to operate valves, and this plan under some conditions may be advisable since it is more compact and is situated directly above the faucet in lieu of projecting forward as in the case of the lever as shown in Fig. 2. Presuming the lever 4 is now swung to the right, with reference to Fig. 3, a thrust is exerted upon valve-stem 14 against the pressure of the spring 19 and the valve 15 is raised from its seat, allowing the liquid to flow through its valve-seat casting into the valve-chamber 17; thence about the annular groove 18 and out through the duct 10 to the delivery 9, where it enters the nozzle 3′ and escapes under high pressure. On the contrary, reverse movement of the lever immediately closes the valve 15 should it be open, while further advance of said lever causes the valve 15′ to be raised. In this instance the valve-chamber is somewhat larger, and the ducts 10′ are three in number with the result that a much larger quantity of liquid is discharged and under little or no pressure. As before premised the object in first obtaining a small quantity of liquid under high pressure is to thoroughly dissolve and mix the sirup, and finally after such act quick filling of the glass is desired with little or no head otherwise effervescing occurs and waste of the beverage takes place.

Generally in operating the lever with the valves there is no way to determine with precision the amount the valve will be opened; therefore I propose in some instances in lieu of the arrangement as shown in Fig. 3. to adopt the mechanism illustrated in Fig. 1. That is a hollow tube or sleeve 30 is made fast in the valve case and of a size to contain the rod 21, which is free to reciprocate therein. Both ends of the sleeve are exteriorly screw-threaded and fitted with an adjustable cap 31 which serves as a stop against which the arms 20 contact and thus further opening of the valves is prevented. In this way the lift of the valve from its seat is limited and a predetermined amount of fluid is procured every time the valve is opened. This method makes the operation very nearly automatic, since the person dispensing beverage will now give no thought to the amount he wishes, but simply swings the lever first one way and then the other, and is certain to obtain the requisite quantity. By adjusting the stops the valves can be made to rise more or less from their seats, and dependent upon the quantity of liquid required.

What I claim is:—

1. In a faucet connected with a liquid supply under pressure the combination of two independently mounted valve stems and valves contained in the said faucet with two independent discharge-passages, a common supply chamber, a reciprocating rod, which alternately unseats said valves, and means for operating said rod to cause quick movements of the valves, substantially as specified.

2. In soda-water draft apparatus the combination with a fountain, a valve-case connected therewith, and its dispensing nozzle, of two independently mounted valve-stems with valves thereupon, the adjustable valve-seats, and a movable rod adapted to engage the ends of said valve-stems, and mechanism for operating said rod adapted to produce quick opening of the said valves, substantially as stated and described.

3. The combination of a valve-case adapted to discharge a small or large stream, and composed of two removable plugs which close the ends of a longitudinal bore with, a central chamber formed by said bore and connected with a liquid supply under pressure, adjustable valve-seats, which create valve-chambers and separate the latter from the supply-chamber, a reciprocating rod and independent valves and valve-stems arranged to be actuated by said reciprocating rod, substantially as explained.

4. The combination in a draft fountain having a faucet for a two stream discharge of a discharge nozzle, a reciprocating rod, a valve chamber, a supply chamber two oppositely disposed spring-actuated valve-stems controlled by said rod together with adjustable valve-seats centrally bored to loosely receive the valve-stems and permit fluid to pass from the supply-chamber to the valve-chamber in order to dispense liquid when the valves are unseated, substantially as set forth.

5. In soda-water draft apparatus the combination with a fountain, a valve-case connected therewith, its dispensing nozzle, and a fixed sleeve equipped with adjustable end

caps, of two independently mounted valve-stems with valves thereupon, the adjustable valve-seats, a movable rod adapted to reciprocate in said sleeve, and pendent arms carried by said rod to engage the cups and limit the movement of the valves, substantially as stated.

In testimony whereof I affix my signature in presence of two witnesses.

ALVIN D. PUFFER, JR.

Witnesses:
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FRANCIS C. STANWOOD.