

J. M. TRAVIS.

FAUCET.

APPLICATION FILED OCT. 29, 1909.

1,005,368.

Patented Oct. 10, 1911.

3 SHEETS-SHEET 1.

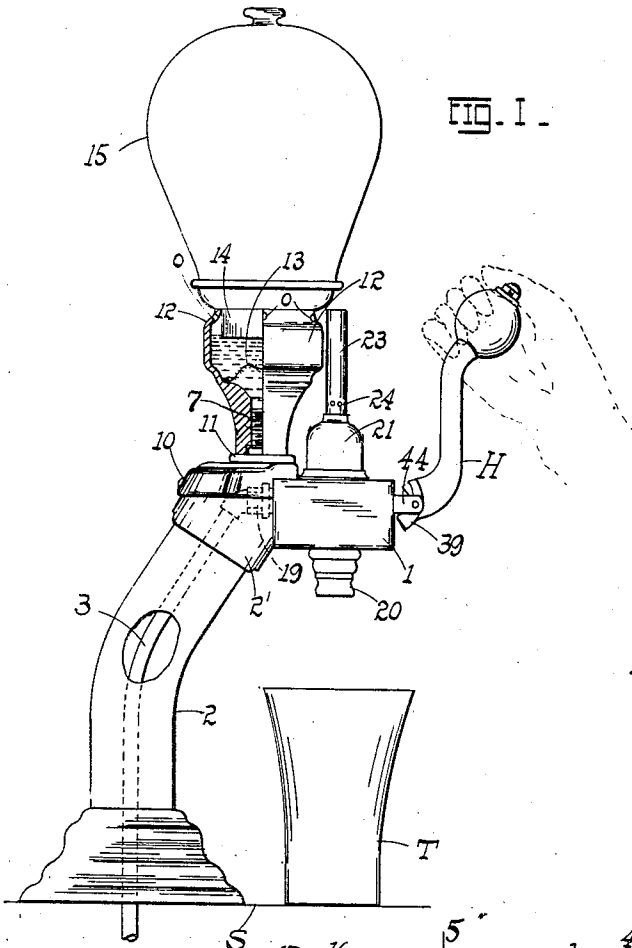
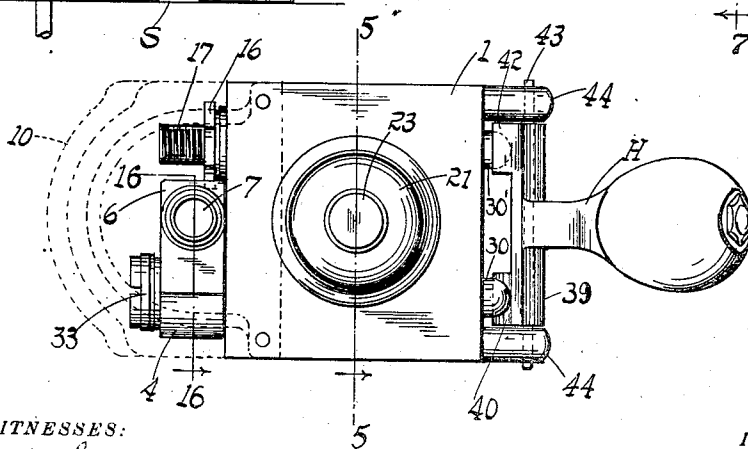
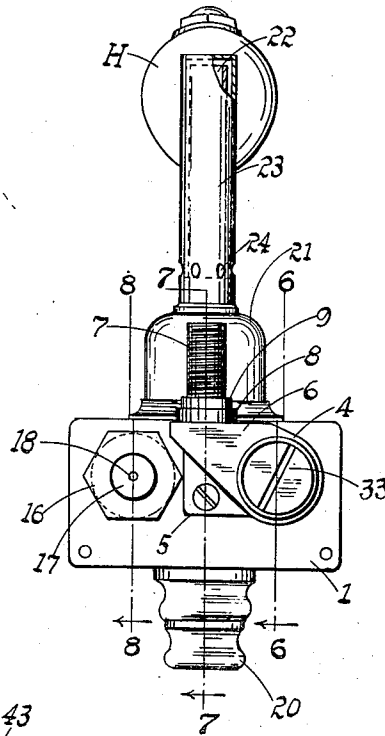


FIG. 2.



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FIG. 3.

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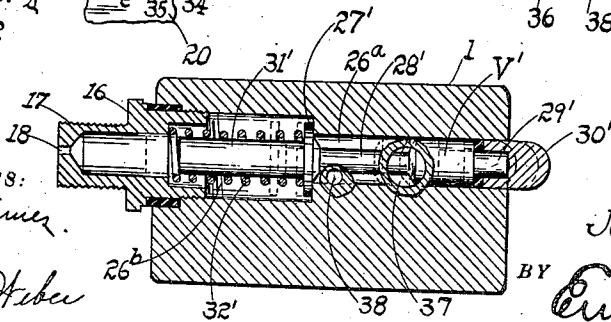
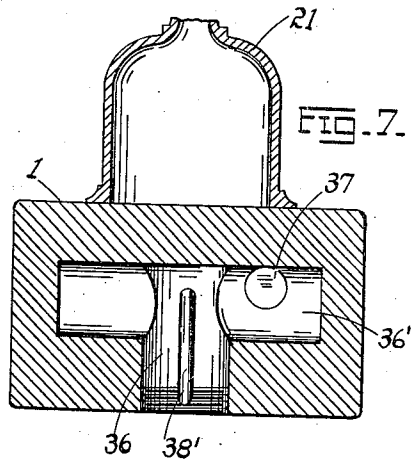
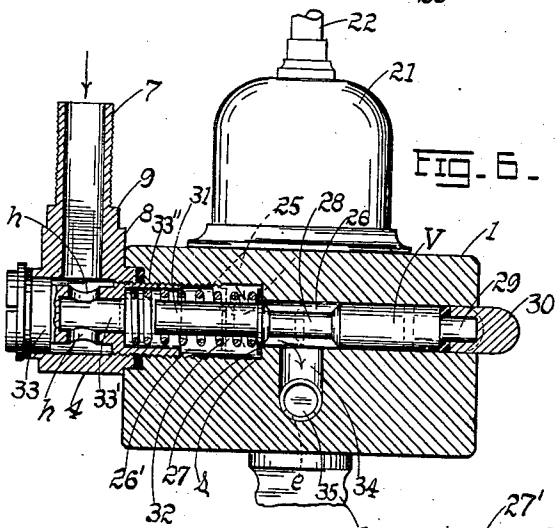
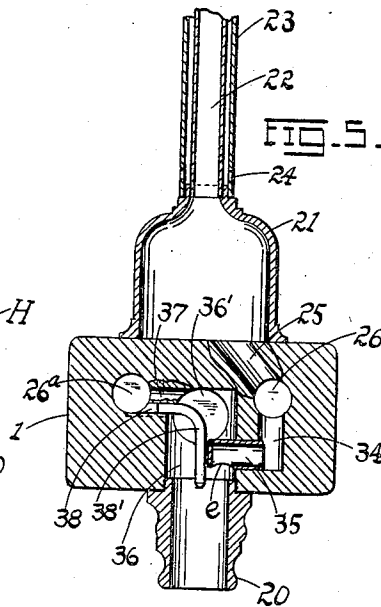
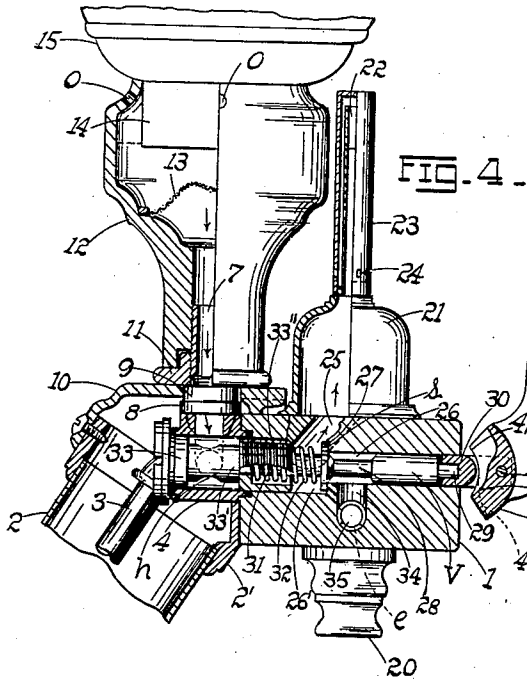
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3 SHEETS—SHEET 2.



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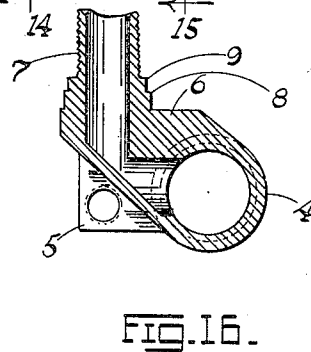
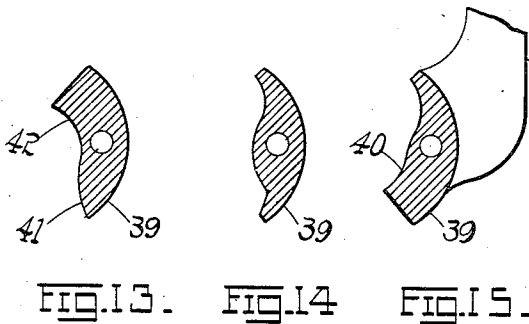
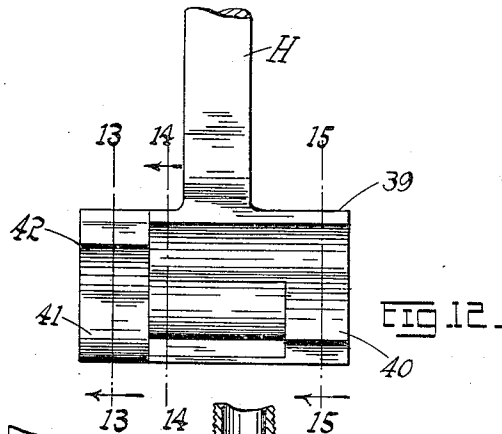
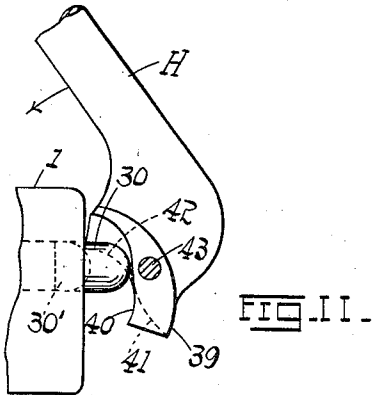
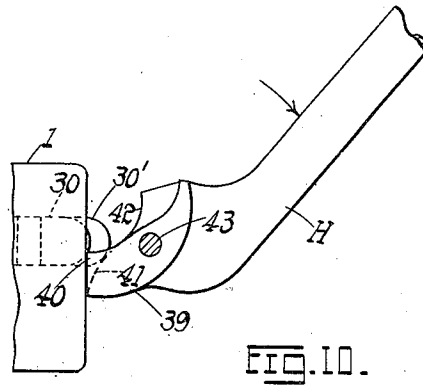
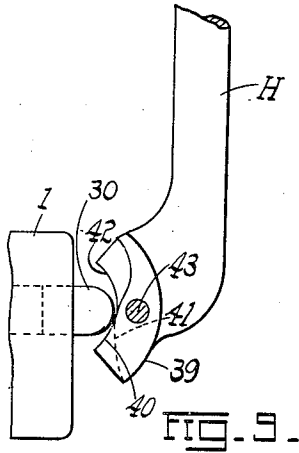
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3 SHEETS—SHEET 3.



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FAUCET.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN M. TRAVIS, citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Faucets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in faucets for carbonated beverages; and it consists in the novel construction and arrangement of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the faucet and attachments, with parts in section; Fig. 2 is a rear elevation with supporting standard and syrup-supply jar or container removed; Fig. 3 is a top plan of Fig. 2; Fig. 4 is a combined side elevation and section of the faucet and sealing well for the syrup, the section on the faucet proper being taken longitudinally through the syrup control valve and substantially on the line 6—6 of Fig. 2; Fig. 5 is a vertical transverse section on the line 5—5 of Fig. 3, with valves omitted; Fig. 6 is a vertical longitudinal section through the body of the faucet and syrup control valve on the line 6—6 of Fig. 2; Fig. 7 is a middle vertical longitudinal section through the main or mixing chamber of the body of the faucet, on the line 7—7 of Fig. 2; Fig. 8 is a longitudinal vertical section on the line 8—8 of Fig. 2 through the body of the faucet and the carbonated-water control valve; Fig. 9 is a side view of the operating handle or lever in normal position; Fig. 10 is a view of the lever oscillated for actuating both syrup and water control valves; Fig. 11 is a view of the lever oscillated inwardly for actuating the water-control valve only; Fig. 12 is an inner face view of the enlarged base of the lever on which the cam formations which actuate the valves, are disposed; Figs. 13, 14 and 15 are cross-sections taken respectively on the lines 13—13, 14—14, and 15—15 of Fig. 12; and Fig. 16 is a sectional detail on the line 16—16 of Fig. 3 taken through the hollow socket which establishes communication between the faucet and the syrup jar or container.

The present invention is directed to a form of faucet for carbonated beverages in which an operating lever or handle is em-

ployed for actuating the syrup and carbonating water controlling valves, the objects of the invention being to provide, (1) a syrup-measuring receptacle which fills automatically from a well in which a constant level of the liquid is maintained from a convenient syrup container, the liquid flowing by gravity into the well from the container, and by gravity from the well into the receptacle, the level attained in the receptacle corresponding to that in the well under the well known physical law of liquids always seeking their own level; (2) to provide the operating lever with suitable cam formations by which with a sweep of the lever in one direction the contents of the measuring receptacle is discharged into the glass or tumbler, while the main supply from the well is cut off, and a coarse stream of carbonated water is mixed with such syrup within the body of the faucet; (3) to provide the operating lever with another set of formations by which with a sweep of the lever in the opposite direction only the carbonated water controlling valve is actuated, and whereby, in this actuation either a coarse or fine stream of the water may be discharged; (4) to provide the vent of the syrup receptacle with a protecting cap or hood which will prevent access of dirt thereinto; and (5) to provide the faucet with further and other details the advantages of which will be fully apparent from a detailed description of the invention, which is as follows:—

Referring to the drawings, 1, represents a suitable casting or body portion of the faucet which in the present instance is supported above the counter surface S by a hollow arm 2 through which passes the carbonated water supply pipe 3 leading to any available source of supply (not shown). The manner of connecting the hollow arm 2 and water supply pipe 3 to the faucet is as follows:—To the rear wall of the body 1 opposite the chamber or passage way which receives the syrup control valve (all of which will be fully hereinafter described) is secured a socket 4, the same being provided with a wing 5 which receives the screw that fastens it to the wall of the body 1. Cast with the socket is a chambered arm 6 (Figs. 2, 3, 16) which in turn terminates in a hollow screw-threaded upwardly projecting stem 7 at the base of which are formed two annular shoulders 8 and 9 respectively.

Passed loosely over the stem 7 with the walls of the opening which receives said stem resting on the lower shoulder 8, is a rearwardly projecting plate or hood 10, which is fastened by screws at the rear edge of the body 1, and is additionally clamped by a nut or washer 11 which is driven down against the shoulder 9 (Fig. 4). To the edges of the hood 10 is secured the upper enlarged and specially formed terminal 2' of the arm 2 when the connection between the arm and faucet body 1 is completed. Over the portion of the stem 7 projecting above the nut or washer 11 is screwed the bell-shaped vessel or sealing well 12 preferably provided with a strainer 13, the upper open end of the well receiving the mouth 14 of the inverted syrup supply jar or container 15 which discharges into the well, the level of the syrup in the well never rising above the plane of the opening of the mouth 14 of the jar, a liquid seal being formed at this plane, which prevents the main body of the liquid in the jar from rising above the seal on account of atmospheric pressure exerted on the liquid in the well. The upper edge of the well is provided with openings *o* to allow the atmospheric air to pass into the well and thence into the jar when the liquid is abstracted from the well and jar, as subsequently to be explained.

The manner of connecting the upper end of the water-pipe 3 to the faucet is as follows:—At the rear of the chamber or passage formed in the body 1 for the reception of the water-control valve (to be fully explained later) is screwed a hollow plug or socket 16 which terminates on the outside in a hollow screw-threaded stem 17 having a central perforation 18 in its end wall (Figs. 2, 3, 8) the stem serving to accommodate a union 19 (shown dotted Fig. 1) of any ordinary and well known construction by which union the pipe 3 may be coupled to the faucet. The manner of connecting the parts 2 and 3 to the faucet body is not important, any suitable mechanical means being sufficient for the purpose so long as the construction is practical.

The present invention relates to that class of faucets in which the mixing of the syrup and water takes place within the faucet or just as the liquids are passing into and through the discharge spout or nozzle 20; and since it is desirable that a fixed and constant quantity of syrup shall be dispensed with each and every drink, I provide the faucet with a syrup measuring receptacle 21 terminating at the top in a vent tube 22 protected against dirt and dust by a loosely fitting tubular cap 23 having air vents or perforations 24 near the bottom as shown. This measuring receptacle is supplied directly with syrup from the sealing well, the liquid flowing thereinto by gravity, the con-

nections or passage-ways being as follows:—The liquid in the well 12 flows downwardly through the stem 7 into the socket 4, thence through the chamber or passage in which operates the syrup-control valve *V*, thence through an upwardly inclined passage 25 into the bottom of the receptacle 21, the syrup rising in the latter and vent tube thereof to a level or plane corresponding with that of the liquid in the well 12.

To discharge the syrup receptacle 21, we must first cut off communication between it and the well 12, and this is accomplished by the syrup-control valve *V*, the action and construction of which I shall now proceed to describe:—Referring more particularly to Figs. 4 and 6, the valve *V* operates in a passage-way 26 which enlarges into a chamber 26', an annular shoulder *s* being necessarily formed between the chamber and passage-way, said shoulder forming a bearing or seat for the valve-seat 27 at the rear end of the reduced neck portion 28 of the valve. The outer end of the valve terminates in a stem 29 over which fits a cap 30 well known in the art. Beyond the seat 27 the valve terminates in a stem 31 which is encircled by a coiled expanding spring 32 confined in the chamber 26'. The spring normally forces the valve to its seat, thus preventing a discharge of the syrup into the passage 26, the shoulder *s* being between said passage and the passage 25. Now, into the socket 4 is inserted a hollow screw-plug 33, said plug having a comparatively narrow hollow neck or medial portion 33' within the socket 4 proper, thereby leaving an annular space between it and the inner walls of the socket into which space the syrup first flows, and whence it finds its way into the passage way of the neck 33' through the openings *h* formed in the walls thereof, the liquid thence flowing into the inner enlarged screw-threaded cup-shaped terminal 33'' the bottom of which forms a support or bearing for the rear end of the spring 32, the opposite or forward end of the spring bearing against the valve seat 27. Before the valve *V* is forced from its seat (Figs. 4, 6) it is obvious that the syrup will flow from the well 12 through the stem 7 into the socket 4, thence through the plug 33, 33', 33'' into the chamber 26', through the passage-way 25 into the receptacle 21. If now we force the valve inwardly to a point where the stem 31 will close the passage in the neck 33' of the plug, no more syrup can pass into the receptacle; but in such inward movement of the valve the seat 27 will leave its seat or shoulder *s* and permit the contents of the receptacle to flow out through the passage 25, into the passage-way 26, whence the syrup will discharge into the vertical passage 34 whence it will flow into the small horizontal tube 35 (closed at the inner end)

and out through the bottom opening e thereof (Figs. 5, 6) into the vertical leg 36 of the common longitudinal or mixing chamber 36', whence it discharges (after being mixed with the water) into the nozzle or discharge spout 20. The unseated position of the syrup-valve V is indicated merely by dotted lines in Fig. 6, it being perfectly obvious that the operation will be as described, without an illustration of the valve in full in such unseated position.

The syrup-valve V is on one side of the center of the casting 1, the water control valve V' being on the opposite side of said center. The water valve V' is constructed similarly to the valve V, having likewise a neck-portion 28' (Fig. 8), a seat 27', a stem 31', a spring 32', an outer stem 29' capped by a cap-piece 30', the main valve body operating in a passageway 26^a, the spring being housed in the chamber 26^b and bearing with its outer end against the seat 27' and with its inner end resting in the socket of the plug 16. Now, leading from the passage 26^a opposite the forward end of the neck 28' is a large passage-way 37 which communicates with the mixing-chamber 36' (Figs. 5, 7) the purpose of which is to deliver a coarse water stream into said chamber. Leading likewise from the passage 26^a at a point opposite the rear end of the neck 28' is a constricted port 38 from which leads a small or wire tube 38' the purpose of which is to discharge a fine stream of water into the leg 36 and nozzle 20, the character of water stream discharged depending on the position of the water-valve V'. As shown in Fig. 8, (full position) the water-control valve is seated; but if the same be forced inwardly, a short distance, just sufficient to lift the seat 27' from its support or seat, and before any material portion of the passage 37 is covered by the main body of the valve, the highly charged carbonated water will rush from the pipe 3 through the port 18 of the socket 16, thence into the chamber 26^b past the valve-seat 27' into the passage 26^a taking the line of least resistance through the partially covered passage 37, escaping in a coarse stream into the chamber 36' and leg 36 and mixing with the syrup being simultaneously delivered into said chamber 36' and leg 36 thereof on their way to the nozzle or spout 20.

Where the syrup is first poured directly into the tumbler T, only the water valve is made use of, but since the mixing of the liquids must then take place entirely in the tumbler, it becomes necessary to force the valve V' inwardly its full extent or until it covers the opening of the passage 37. In that event all the carbonated water will be obliged to flow through the wire tube 38' and thus discharge as a fine stream into the tumbler. This fine stream is made use of to

put a bead on the beverage and to thoroughly mix the syrup and water initially admitted as a coarse stream in sufficient quantities to form a drink.

In dispensing a drink where the water and syrup are mixed within the faucet body both valves V, V', must be actuated conjointly; and while this feature is not broadly new, the present invention contemplates a construction of operating handle or lever H, whereby in such conjoint operation, the syrup valve V will be forced inwardly its full extent to accomplish its purpose, while the water valve V' shall be pushed in only partially so as to leave the passage 37 practically uncovered to discharge a coarse mixing stream of water. The lever H is provided with an expanded base 39, one end of whose inner face has disposed thereon a bottom cam formation 40, the opposite end having a bottom cam formation 41 which, when the lever is swung outwardly (Fig. 10) respectively press against the cap-pieces 30, 30' of the respective valves V, V', forcing the syrup valve the full distance, and the water valve a partial distance to effect the release of a coarse stream of water. When only the water valve is to be actuated, (under circumstances previously referred to) the lever is swung inwardly, whereupon there is brought into play an upper cam 42 located over the cam 41, which cam 42 actuates the water valve only to an extent depending on the throw given the handle H. A partial throw will unseat the valve and move it slightly to release a coarse stream, and a full throw will force the valve to cover the passage 37, leaving the water to pass as a fine stream through the wire tube 38' into the tumbler T. When the handle H is oscillated inwardly (Fig. 11) there being no cam formation opposite the valve V, this valve will be left undisturbed, the syrup having been already poured into the glass by the clerk. Barring the cam formations, the cross section of the base 39 of the handle is substantially as shown in Fig. 14. The handle is hinged about a pin 43 mounted between the bracket arms or lugs 44 on the body 1. So that with a "mixing" or outward throw of the lever H, both valves are actuated (the water valve being moved but a short distance from its seat in order to release a coarse stream for mixing with the syrup within the main chamber of the faucet), and with an inward throw of the lever only the water valve V' is actuated, and this to any degree desired by the clerk, depending on whether he desires to discharge a coarse or fine stream.

The syrup jar or container 15, being inverted while in service, it follows that the discharge therefrom will take place from the open bottom thereof into the sealing well 12 on the well known principle of the stu-

dent lamp, except that in the present case special means are provided for withdrawing the liquid from the sealing well.

The stem 31' of the water-control valve V' is of smaller cross-sectional diameter than the passage-way of the plug 16 and the stem 17 thereof, so that when this valve is forced inwardly its full extent to cover the passage 37 for purposes of delivering a fine stream, the stem 31' of the valve will have entered the passage of the stem 17 (dotted position Fig. 8). The annular clearance however around the stem 31' is sufficient to permit the water to pass freely, this clearance being of an area not less than the area of the inlet port 18.

Having described my invention, what I claim is:—

1. A faucet comprising a body portion chambered for the passage of syrup and water and having a discharge opening, valves for controlling the flow of the liquids to said discharge opening, a syrup receptacle on the body portion, in combination with an open-bottomed syrup container, a sealing well into which said container discharges and within which the level of the liquid is maintained at the sealing plane, means for establishing communication between said well and receptacle, an operating member, and formations on said member for actuating the respective valves conjointly and releasing the water and syrup by a movement of said member in one direction and cutting off the flow of syrup from the well, and actuating the carbonated water control valve only by a movement in a reverse direction, substantially as set forth.

2. A faucet comprising a body portion chambered for the passage of syrup and water from suitable sources of supply and having a discharge opening, valves for controlling the flow of the liquids to said discharge opening, an operating member, formations on said member for actuating the respective valves conjointly by a movement of said member in one direction, means coöperating with the water-control valve to release a coarse stream in such conjoint operation of the valves, formations on said member for actuating the water control valve only by a movement of said member in a reverse direction, and means coöperating with the water control valve to release first a coarse and then a fine stream in such reverse movement of the member according to the degree of movement imparted thereto, substantially as set forth.

3. A faucet comprising a body portion chambered for the passage of carbonated water from a suitable source of supply, and having a discharge opening, a valve for controlling the flow of the water to said discharge opening, a movable operating member for the valve, and means in conjunction

with the valve for releasing a coarse stream with a movement of the member in one direction, and a coarse and fine stream successively with a movement of the member in a reverse direction, substantially as set forth.

4. A faucet comprising a body portion chambered for the passage of syrup and carbonated water, and having a discharge opening, a receptacle mounted on the body portion, the latter being provided with a passageway leading from the bottom of the receptacle to the discharge opening, a reciprocating valve for controlling the flow of the syrup from said passage way to the point of discharge, a reciprocating valve for controlling the flow of the water to the point of discharge, the body portion being provided with large and constricted openings for conducting the water to the point of discharge, the last named valve having a formation for controlling the flow of the water through the large opening, and a movable operating member for engaging said valves and actuating both with a movement in one direction to release the syrup and water, the latter discharging mainly through the large opening aforesaid, and for actuating the water-valve only with a movement in a reverse direction, and a formation on the member for forcing the water-valve to progressively cover the large opening whereby the stream of water delivered changes from a coarse to a fine stream, substantially as set forth.

5. A faucet comprising a body portion chambered for the passage of carbonated water and syrup from suitable sources of supply, valves for controlling the respective liquids, an operating member for actuating the valves conjointly or the water valve only, according to the direction of movement imparted to said member, and formations on the member for releasing a coarse stream of water for mingling with the syrup with the movement resulting in the conjoint actuation of the valves, and parts coöperatively positioned relatively to said formations for releasing a stream of variable character with the movement resulting in the actuation of the water-valve only, substantially as set forth.

6. A faucet comprising a body portion chambered for the passage of syrup and water, a measuring receptacle carried by the body portion for supplying a predetermined quantity of syrup to the faucet for a given discharge of the mixed liquids, a movable operating member on the faucet, devices actuated by said operating member for either commingling the syrup and water during the flow of the syrup toward the discharge spout of the faucet or permitting the discharge of the water only according to the direction of movement imparted to the operating member, and means coöperating

with the devices actuated by the operating member, for releasing a coarse stream of water for mixing with the syrup, and first a coarse and then a fine stream when water only is discharged, substantially as set forth.

7. A faucet comprising a body portion chambered for the separate passage of syrup and water, and provided with a mixing chamber for receiving the liquids, a discharge nozzle leading from said mixing chamber, a constricted and a large passage leading from the individual passage for the water to said mixing chamber, a syrup measuring receptacle on the body, a passage leading therefrom to the individual syrup passage, valves in the respective individual passages for controlling the discharge of the respective liquids therefrom into the mixing chamber, a pivoted lever for actuating the valves and releasing the liquids conjointly into the mixing chamber by an oscillation of the lever in one direction whereby the large water passage is in the main left uncovered for delivering a coarse stream, and for actuating the water valve only upon

an oscillation in a reverse direction whereby the water valve may be forced to progressively close the large water passage and deliver first a coarse and then a fine stream, substantially as set forth.

8. A faucet comprising a body portion chambered for the passage of syrup and water from suitable sources of supply, and having a discharge opening, valves for controlling the liquids to said discharge opening, an operating member for the valves, and means for releasing a stream of water forming the necessary complement to combine with the syrup with a movement of the member in one direction, and for releasing a coarse or fine stream with a movement of the member in the reverse direction, substantially as set forth.

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

JOHN M. TRAVIS.

Witnesses:

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NORMA C. WHEELER.