

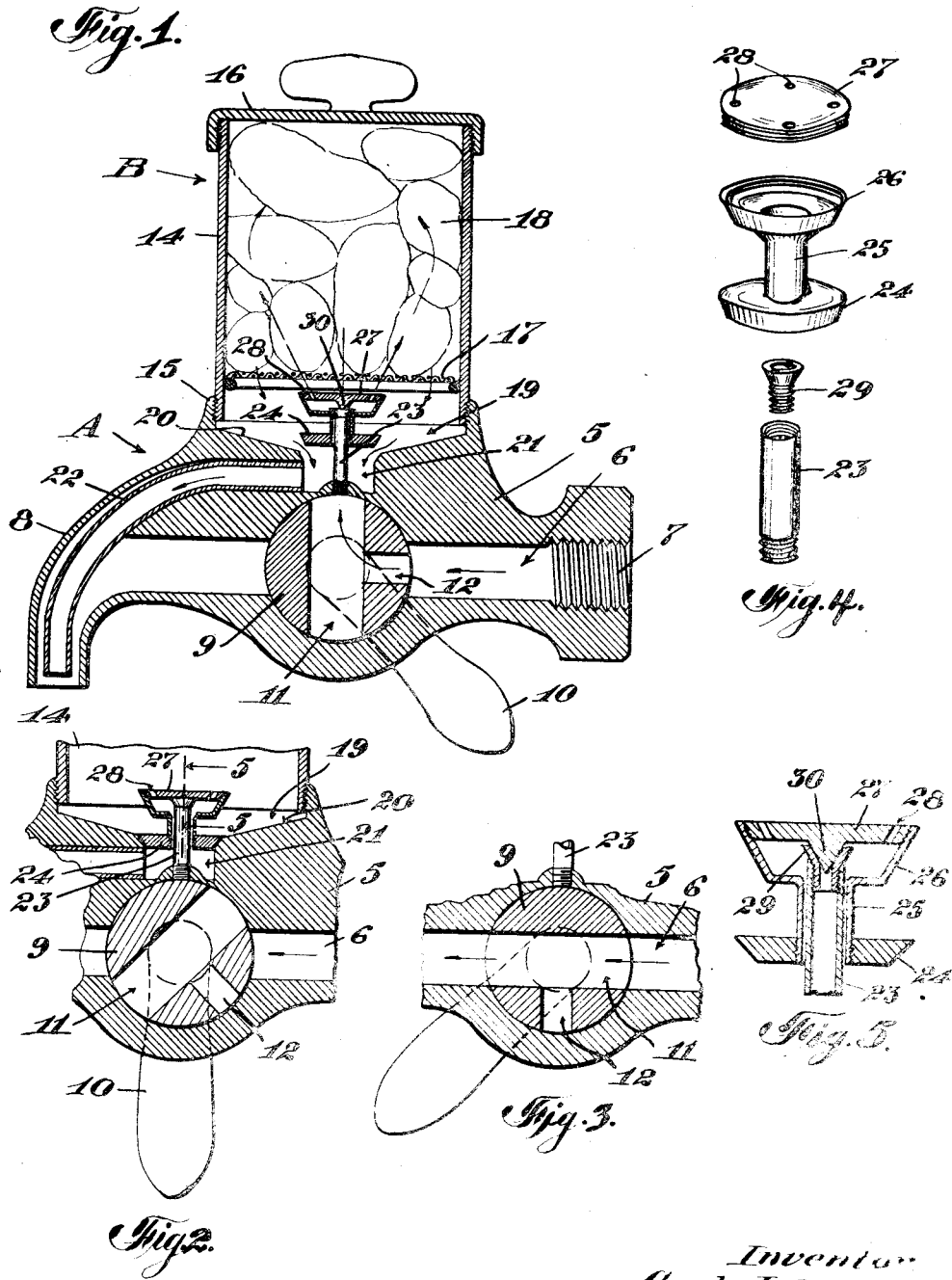
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FAUCET

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UNITED STATES PATENT OFFICE

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FAUCET

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This invention relates to a faucet and has as its primary object the provision of a faucet embodying a valve operable to deliver water from a source of supply either directly to discharge or through a solvent containing chamber so as to deliver from the faucet either impregnated or unimpregnated water.

Another object is to provide a faucet which is particularly applicable for use in effecting delivery of either water or a soap solution.

Another object is to provide a faucet embodying a solvent container and including a valve whereby water may be delivered either directly through the faucet or the solvent container and when passed through the latter be discharged from the faucet.

Another object is to provide a construction in a device of the above character whereby accumulation of liquid in the solvent chamber will be prevented so as to obviate dissolving of the solvent during such time that the water is not directed through the solvent chamber.

Another object is to provide an arrangement whereby both the impregnated and unimpregnated water may be delivered to discharge through a single spout.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed and illustrated by way of example in the accompanying drawing, in which:

Fig. 1 is a view in vertical section of the faucet showing the valve in one of its open positions in which water is directed from a source of supply through the solvent containing chamber;

Fig. 2 is a fragmentary sectional view showing the valve in its closed position;

Fig. 3 is a fragmentary sectional view showing the valve in the open position in which the water is delivered directly through the faucet.

Fig. 4 is a view illustrating in perspective the several elements of the automatic valve interposed between the faucet valve and the

solvent chamber, showing the parts disassembled.

Fig. 5 is an enlarged section as viewed on the line 5—5 of Fig. 2.

Referring to the drawings more specifically, A indicates a faucet and B designates a solvent container associated with the faucet and here shown as carried thereon. The faucet A embodies a body portion 5 formed with a passage 6 extending therethrough, one end of which passage is threaded as indicated at 7 for connection with a pipe leading from a source of water supply, such as a city main, and the other end of which passage opens to discharge through a spout 8 in the manner common in faucet construction. The faucet embodies a valve 9 of the rotary type housed within the faucet body 5 and extending across the passage 6 which valve is fitted with the usual operating handle 10 whereby it may be turned to various positions.

In carrying out the invention, the valve 9 is formed with a passage 11 extending diametrically therethrough adapted to be positioned as shown in Fig. 3 with its ends communicating with the passage 6 to deliver water from the source of supply directly through the faucet; the valve also being formed with a passage 12 leading from the passage 11 at right angles thereto which, when the valve is positioned with the passage 12 communicating with the intake end portion of the passage 6 will serve to direct water from the source of supply to the solvent container. The valve is adapted to be positioned as shown in Fig. 2 with the passages 11 and 12 out of communication with the passage 6 to interrupt the flow of water through the passage 6.

The solvent receptacle is here shown as embodying a cylindrical shell 14 screw threaded at its lower end into engagement with an upstanding flange 15 on the faucet body, and as provided at its upper end with a closure cap 16 preferably having screw threaded engagement therewith. Arranged within the shell 14 and spaced from the lower end thereof is a screen 17 which affords a support for a solvent material, indicated at 18, confined within the solvent container.

The faucet body 15 is formed with a recess 19 in the space bounded by the upstanding flange 15 which recess has a downwardly inclined bottom wall 20 leading to a central chamber 21 located directly above the valve 9 but out of communication therewith and leading from the chamber 21 into the spout 8 is a nozzle 22, the lower end of which opens adjacent the discharge end of the spout 8.

Extending upwardly from the bottom of the chamber 21 is a tube 23, the lower end of which is threaded into engagement with an opening leading to the valve 9 and with which the passage 11 of the valve is adapted to communicate. Mounted on the tube 23 for vertical movement is a valve 24 adapted to seat on the margin of the chamber 21 as shown in Fig. 2 to close communication between the solvent container and the nozzle 22. The valve 24 normally gravitates to its closed position and is here shown as carried on a sleeve 25 encompassing the tube 23 and guided thereon. The upper end of the sleeve 25 is provided with an enlargement 26 in which is screwed a disk 27 having a series of spray apertures 28; the disk 27 being arranged below the screen 17 with the apertures opening toward the latter. The disk 27 is demountable so that disks having various sizes and arrangements of spray apertures may be employed to produce sprays or jets of different character as occasion may require.

The upper end of the tube 23 is provided with a tubular screw 29, the upper end of which flares outwardly above the sleeve 25 to limit upward movement of the valve 24, and at the same time serve to seal the clearance or space between the tube 23 and sleeve 25 and thereby prevent the escape of water through this space, when the valve 24 is fully open. Formed on the under side of the disk 27 is a conical projection 30 arranged to project into the upper end of the screw 29 when the valve 24 is in its closed position. By adjusting the disk 27, the projection may be disposed in various positions, relatively to the upper end of the screw 29 to more or less restrict the flow of water from the tube 23 and thereby vary character of the spray.

In the operation of the invention, when it is desired to deliver a supply of solvent impregnated water from the faucet, the valve 9 is disposed with the passage 11 therein communicating with the tube 23, whereupon water under pressure from the source of supply will be directed, as shown in Fig. 1, upwardly through the tube 23 into the enlargement 26 and against the underside of the disk 27 and through the apertures 28 whereby jets of water will be directed upwardly through the screen 17 against the solvent 18. The pressure of water against the disk 27 acts to raise and open the valve 24 whereupon water impregnated by the

solvent, which will flow back from the container B into the recess 19, will be permitted to pass to discharge through the chamber 21 and nozzle 22.

By turning the valve 19 a partial revolution to move the passage 11 out of communication with the tube 23, the flow of water to the solvent containing chamber will be interrupted, whereupon the valve 24 will gravitate to its seat and thereby close the lower end of the solvent chamber to discharge.

In this manner, any impregnated water as may drip from the solvent may accumulate above the valve 24 in the recess 19 so as to be confined against passing to discharge through the nozzle 22 when the valve 9 is closed to the tube 23. The solvent being supported on the screen 17 above the bottom of the recess 19 such liquid as may accumulate in the latter will not submerge any of the solvent so that the latter will not be dissolved when the water is not being directed into the solvent chamber.

When it is desired to deliver a supply of water directly through the faucet, the valve 9 is turned to the position shown in Fig. 3.

The invention is particularly applicable for use in connection with the supply of hot water in plumbing systems in association with kitchen sinks, laundry trays, bath tubs and the like, for enabling the delivery of soap solution, in which event the solvent 18 will consist of soap which may be in the form of cakes, granules, or shavings. Where thus embodied, the device affords a means for utilizing the small remnants of bar soap that are ordinarily wasted. Where associated with a bath tub, the solvent employed may consist of salts, or perfumed or medicated substances.

The invention however, is also applicable for use in forming insecticidal sprays and other impregnated solutions, in which event the desired chemical is placed in the solvent container and the spout 8 connected with a conduit, such as a hose, leading to any suitable point of discharge. In this use of the invention, the faucet may be attached to a water supply pipe at any convenient point.

While I have shown and described a specific embodiment of my invention, I do not limit myself to the exact details of construction and arrangement shown, but may employ such modifications and changes as occasion may require coming within the scope of the appended claims, and while I have described the faucet as employed in connection with a water supply it obviously is applicable for use with any desired liquid or fluid and that any substance may be placed in the container as occasion may require.

I claim:

1. A faucet having a passage therethrough for connection with a source of fluid supply, a solvent container associated with said faucet

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5 cet, a screen for supporting a solvent in said chamber, an upwardly opening tube below said screen, a discharge outlet leading from the solvent container below said screen, a valve in said faucet operable to direct water from the source of supply either directly to discharge through the faucet passage or to said solvent container through said tube, a valve normally closing the discharge outlet from said solvent container, and means operable by the pressure of fluid flowing through said tube to open said last named valve, said means including spray apertures for directing jets of fluid into the solvent carried on said screen.

15 2. A faucet having a passage therethrough for communication with a source of water supply, an upstanding annular flange on the faucet surrounding a recess, a shell attached to said flange affording a solvent containing chamber, a cover on said shell, a screen within the shell affording a support for a solvent, a discharge nozzle leading from a chamber communicating with the recess, a tube opening into the recess and extending through the chamber, a valve guided on said tube normally closing the communication between said recess and the discharge nozzle, a valve in said faucet operable when in one position to permit the flow of water directly through the faucet from said passage and when in another position to direct liquid from the passage through said tube, and means operable by the pressure of water discharging from said tube to open the first named valve.

25 3. A faucet, a solvent container on said faucet, a valve in said faucet for controlling flow of liquid therethrough, a tube arranged to afford a communication between said valve and the solvent container, a valve normally closing an outlet from said container guided on said tube and an apertured disk connected to said last named valve extending over said tube.

45 4. A faucet, a solvent container, on said faucet, a valve in said faucet, for controlling flow of liquid therethrough, a tube arranged to afford a communication between said valve and the solvent container, a valve normally closing an outlet from said container guided on said tube, an apertured disk connected to said last named valve, and a conical projection on said disk extending toward the upper end of said tube.

55 In testimony whereof, I have affixed my signature.

CARL J. SONNER.