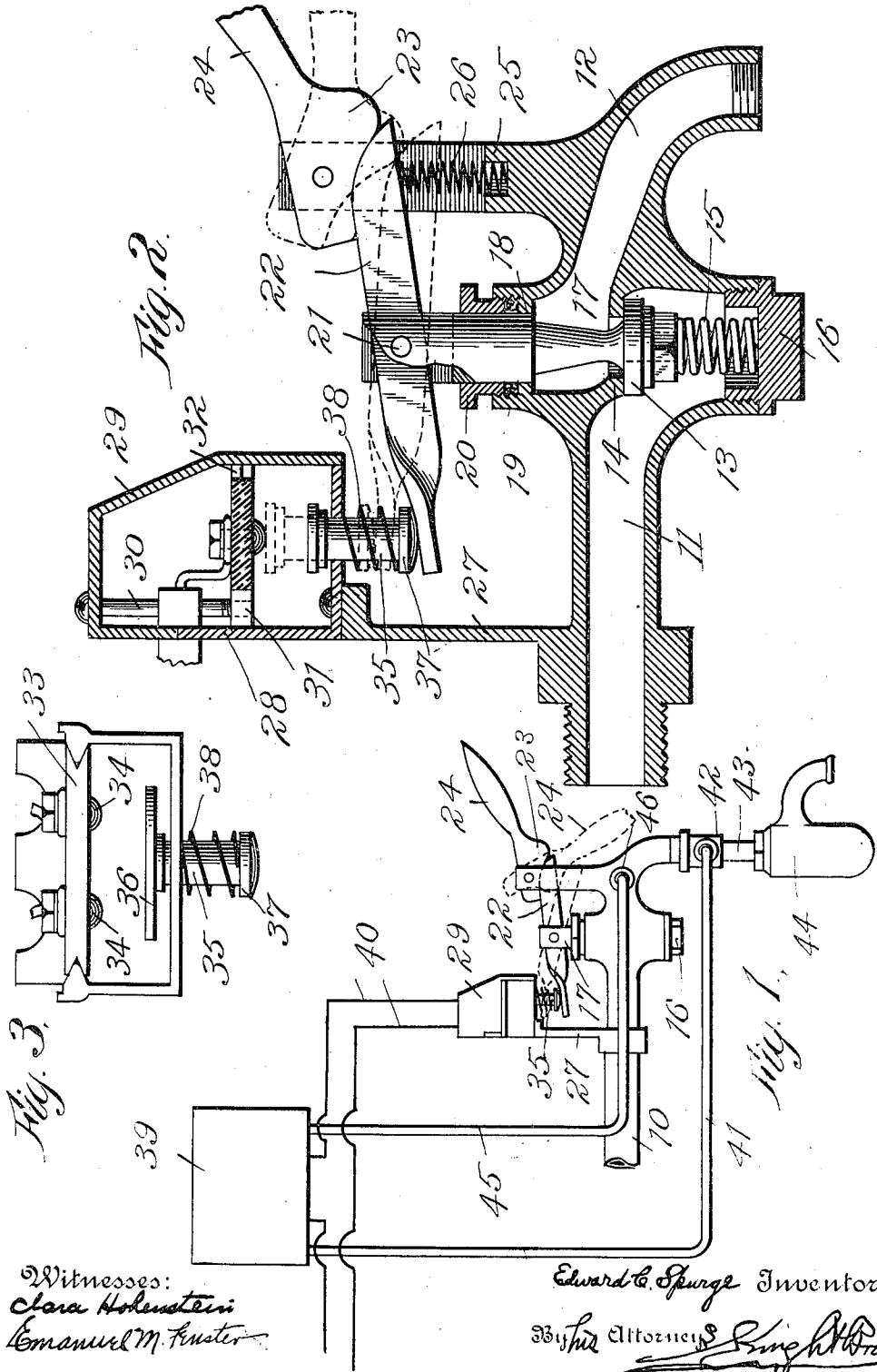


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 STERILIZER FAUCET.
 APPLICATION FILED JAN. 10, 1911.

1,000,206.

Patented Aug. 8, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWARD CHARLES SPURGE, OF NIAGARA FALLS, NEW YORK.

STERILIZER-FAUCET.

1,000,206.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed January 10, 1911. Serial No. 601,777.

To all whom it may concern:

Be it known that I, EDWARD CHARLES SPURGE, a subject of the King of England, residing at Niagara Falls, New York, have invented new and useful Improvements in Sterilizer-Faucets, of which the following is a full and clear specification.

My invention relates in general to sterilizer faucets and more particularly to that class of faucets which have means for drawing in the sterilizing gas by the suction action of the flowing water, and means for simultaneously turning on the water supply and closing the electric circuit through the ozonifier or other sterilizing gas producing means. The principle of this construction is to make the supply of sterilizing gas dependent upon the use of the water, and by controlling the supply of current for the production of the sterilizing gas simultaneously with the flow of the water, it is obvious the danger of supplying water which is not sterilized and the ineconomy of producing sterilizing gas at times other than when required for immediate use are avoided. The sterilizing gas will in most instances be ozone or ozonified air and hence I shall refer herein to the sterilizing gas as ozone, it being understood that the operation of the parts will be the same regardless of the particular properties of the sterilizing gas itself.

It has already been proposed to operate the electric switch and water valve by a single lever or equivalent means which initially closes the electric switch and subsequently moves upon the circuit closing means as a fulcrum to effect the opening of the water valve.

My invention in relation to this feature resides in an improved construction and operation of these elements. It has also been proposed to effect the cooling of the ozonifier by the flow of water to be sterilized.

My invention comprises an improvement in this feature by means of which the cooling water is controlled by the same valve which opens or closes the pipe or other conduit for the water to be sterilized, and in such manner that the cooling water is independent of the water which has already been sterilized by the action of the ozone.

An embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a more or less diagrammatic

view of the essential parts of the apparatus. Fig. 2 is a vertical section taken through the electric switch and water valve, and Fig. 3 is a front elevation of the electric switch with the cover removed.

Referring now more specifically to said drawings, 10 indicates the water supply pipe to which is to be connected the sterilizer faucet. The faucet comprises a main casting forming the water conduits 11 and 12, between which communication is controlled by the valve 13 normally held against valve seat 14 by compression spring 15 seated in plug 16 which is threaded into the bottom opening of the faucet beneath the valve seat. The valve 13 has a stem 17 which passes through a guide bearing 18 and is surrounded by a packing 19 and gland 20. The upper portion of the valve stem is slotted and in this slotted end is pivoted by pivot pin 21 the double fulcrum lever 22. The latter is operated by a cam lever 23 having a handle portion 24 which is pivoted in the slotted upper end of a vertical post 25, in which the forward end of the double fulcrum lever 22 moves. Between the lower surface of the double fulcrum lever 22 and the bottom of the recess in the post 25 is confined a return spring 26 which tends to elevate the forward end of the double fulcrum lever 22.

Integral with or secured to the rear portion of the casting of the faucet is a standard 27 upon which is mounted the electric circuit housing 28 which has a cover plate 29 secured thereon by means of screws 30 which are threaded into lugs 31. Extending forwardly from the lugs 31 are beveled flanges or seats 32 which receive a transverse plate of insulation such as fiber or the like 33, in which are mounted the circuit terminals 34. Below the transverse plate 33 the housing 28 is perforated to receive a push button 35 which carries at its upper end the bridging contact plate 36 for the terminals 34, and between the bottom of the housing 28 and the enlargement 37 of the push button 35 is confined a pressure spring 38 which tends normally to lower the bridging contact plate 36. The enlargement 37 is disposed immediately above the rear end of double fulcrum lever 22, so as to be operated thereby. Upon the depression of the handle 24 of cam lever 23 the double fulcrum lever 22 initially oscillates upon its fulcrum 21 and raises the push button 35

and the contact plate 36 until the latter engages the terminals 34 and closes the circuit. Further elevation of the rear end of the double fulcrum lever 22 is thus impossible and hence the continued depression of the handle 24 of cam lever 23 lowers the valve stem 17 to open the water valve 13. During this latter operation the fulcrum of the lever 22 is near its rear end. It should also be stated that the springs 15 and 38 are so proportioned as to prevent the operation of the valve stem until the electric switch is firmly closed.

When the cam lever 23 arrives at the end of its downward movement the forward end of double fulcrum lever 22 is held in locking engagement with the cam portion of the lever 23 under the influence of the springs 15 and 26, due to the shape of the cam 23. Fig. 2 shows in dotted lines the position of the double fulcrum lever and cam lever at the end of the initial movement, whereby the electric switch is closed, and Fig. 1 shows in dotted lines the position of the levers 22 and 23 at the completion of the second movement, whereby the water valve is opened and the cam lever 23 held down. It will be apparent that the water will continue to flow and the electric circuit be maintained as long as the cam lever 23 is held down and that this position is maintained automatically by the springs 15 and 26 without the necessity for continued manual holding. In order to return the parts to normal position the cam lever 23 is manually thrown upward beyond the point of locking engagement with the double fulcrum lever 22, whereupon the several return springs are free to restore their respective parts to initial position.

Referring to Fig. 1 the ozonifier is indicated at 39 and the electric circuit at 40. The ozone pipe 41 leads from the ozonifier 39 into an injector 42 whereby the flow of water through the faucet draws the air into the ozonifier, and the ozone through the pipe 41 into the water to be sterilized. From the injector 42 the ozone and water pass downwardly through pipe 43 into the emulsifier 44 of well known construction, as illustrated for example in the United States Patent to Otto, No. 837,107. A cooling water pipe 45 is connected with the water conduit 12 of the sterilizer faucet at connection 46 and leads to the ozonifier 39 for use in cooling the electrodes in any well known manner.

The operation of the cam lever 23 in open-

ing valve 13 and admitting water into conduit 12 obviously controls the supply of cooling water to the ozonifier at the same time that it controls the supply of electric current thereto.

I claim:

1. A sterilizer faucet comprising in combination a water valve, an electric switch, a double fulcrum lever operatively engaging said valve and switch for initially closing the switch and subsequently opening the water valve and a cam lever adapted to effect such operation of said double fulcrum lever and to lock the same in shifted position.
2. The combination with the ozonifier, the water conducting means, the circuit for supplying current to said ozonifier, the electric switch controlling same, the injector, the ozone pipe leading from the ozonifier to the injector, the double fulcrum lever operatively engaging the water valve and electric switch for initially closing the switch and subsequently establishing the flow of water through the water conducting means and injector, and means for operating said double fulcrum lever and locking the same in operated position.
3. The combination with water conducting means, the ozonifier, the water valve for establishing the flow of water through said water conducting means, an injector, the ozone pipe for leading ozone from the ozonifier to the injector, the cooling water pipe leading to the ozonifier from the water conducting means between the water valve and injector, and means for opening and closing said water valve.
4. The combination with the water conducting means, the valve for controlling the flow of water therein, the ozonifier, the electric circuit for supplying current thereto, the electric switch for controlling said circuit, the injector, the ozone pipe leading from the ozonifier to said injector, the cooling water pipe leading to the ozonifier from the water conducting means between the injector and water valve, and means for simultaneously operating said electric switch and said water valve to establish the flow of current through the ozonifier and the flow of water through the water conducting means.

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