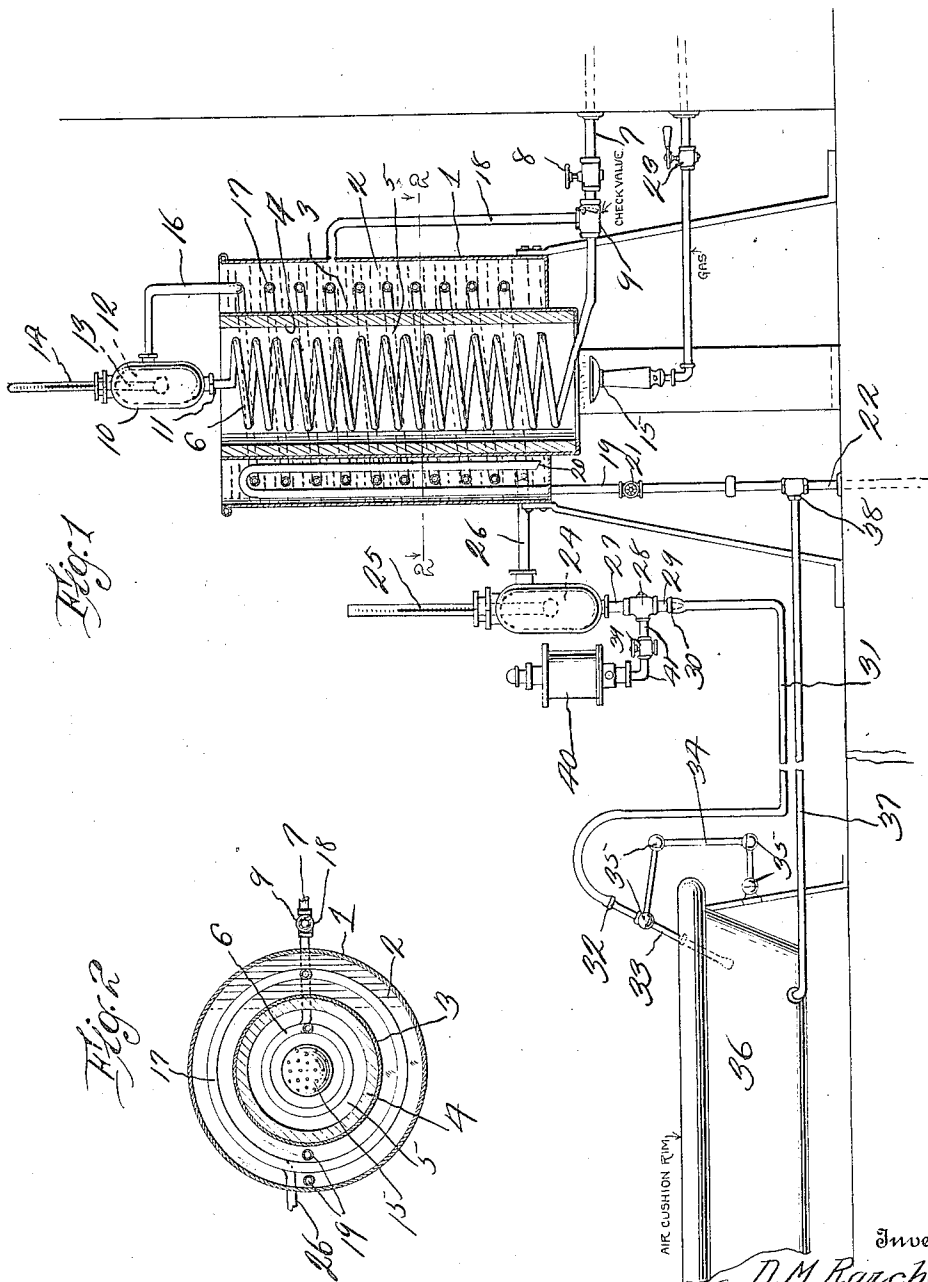


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T. E. CARON ET AL  
STERILIZER AND IRRIGATOR

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By

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## UNITED STATES PATENT OFFICE.

TELESPHORE E. CARON AND DENIS M. RAICHE, OF KANKAKEE, ILLINOIS.

STERILIZER AND IRRIGATOR.

Application filed September 8, 1919. Serial No. 322,682.

*To all whom it may concern:*

Be it known that we, TELESPHORE E. CARON and DENIS M. RAICHE, citizens of the United States, residing at Kankakee, in the county of Kankakee, State of Illinois, have invented a new and useful Sterilizer and Irrigator, and we 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.

The invention relates to a sterilizer and irrigator and has for its object to provide a device of this character wherein a continuous flow of water will be sterilized and heated by passing the same through a coil, which coil is heated by a burner and from which coil the water passes through a cooling coil through a thermometer casing located between the coils allowing the temperature of the water as it passes into the cooling coil to be ascertained. The water after leaving the cooling coil passes into a chamber in which a thermometer is located, thereby allowing the operator to ascertain the temperature of the water as it leaves the cooling coil. Also another object is to provide irrigator means so constructed and supported that the same may be directed by the operator into a bath tub or the like. Another object is to provide in connection with the sterilizer a medicator whereby a medication may be added to the water before the same is discharged from the irrigator nozzle.

A further object is to provide a portable sterilizer and irrigator wherein the temperature of the water may be regulated and registered at all times so that a continuous flow of water to the irrigator nozzle, at a uniform temperature may be assured, said heating being accomplished by a coil having under the same a gas burner, or any other source of heat, the coil being adapted to heat the water as it passes through the same to a secondary coil located in a cooling chamber where the temperature of the water is reduced and the water passed out through piping leading to a nozzle, which nozzle is preferably supported on a bath tub in such a manner that the fluid during the irrigation operation will flow into the bath tub from which tub the water is carried off through a waste pipe. Another object is to provide in connection with said waste pipe a siphoning pipe whereby the receptacle in

which the secondary coil is located may be easily and quickly drained.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a side elevation of the portable hydrosterilizer showing parts in section to illustrate the water heating coils.

Figure 2 is a horizontal sectional view taken on line 2—2 of Figure 1.

Referring to the drawings the numeral 1 designates a metallic receptacle having a chamber 2 therein. Concentrically disposed within the receptacle 1 is a second receptacle 3, which has its bottom and top open and is preferably lined with a refractory material 4. Said refractory prevents the burning of the wall of the receptacle 3 and prevents to a certain extent the transmission of heat to the water within the chamber 2. Vertically disposed in the passage 5 of the receptacle 3 is a coiled pipe 6 which has its lower end connected to a supply pipe 7 which is controlled by a conventional form of valve 8, however a check valve 9 is disposed between the lower end of the coiled pipe 6 and the valve 8, whereby in case of loss of pressure back flowing of the water through the supply pipe 7 will be prevented. The upper end of the coiled pipe 6 is connected to a receptacle 10 as at 11, said receptacle having a chamber 12 therein and is adapted to receive the lower end 13 of a conventional form of thermometer 14, thereby allowing the temperature of the water after it passes through the coiled pipe 6 and is heated by the burner 15 to be ascertained and observed. The water after leaving the chamber 12 passes through a pipe 16 and thence downwardly through a coiled pipe 17 disposed around the receptacle 3 and in the water in the chamber 2. The water is supplied to said chamber 2 through a pipe 18 which connects to the water supply pipe 7. The water within the chamber 2 is normally cool and as the water after passing through the coiled pipe 6 and being heated by the burner 15 is hot, the temperature of

the same having been observed by the thermometer 14, the temperature of the water will be reduced as it passes through the convolutions of the coiled pipe 17, which contact  
5 with the water in the chamber 2.

The water within the chamber 2 is constantly changing through a siphoning pipe 19, which passes upwardly through the bottom of the receptacle 1 and thence downwardly within the coiled pipe 17 and has its lower end 20 disposed adjacent the bottom of the chamber 2 of the receptacle 1. The siphoning of the water is controlled by a valve 21, which has connected thereto a  
10 waste pipe 22 through which the water will be conducted to any suitable point of discharge. Thus it will be seen that by adjusting the valve 8 which is the supply valve to the chamber 2 of the receptacle 1, and the  
15 valve 21, a uniform flow of water through the chamber 2 may be maintained so that the water passing into the coiled pipe 17, from the coiled pipe 6, may be reduced in temperature to any desired degree. The  
20 regulation is facilitated by the regulation of the burner through the medium of the valve 23. By means of the burner 15 and its controlling valve the temperature of the water leaving the chamber 12 in which the  
25 thermometer 14 is located may be regulated to a certain extent and the water within chamber 2 utilized to reduce this temperature to a uniform degree, which may be ascertained and observed at all times in the  
30 chamber 24 in which a thermometer 25 is disposed. The chamber 24 is in communication with the lower end of the coiled pipe 17 through the medium of the pipe 26. The operator can at all times ascertain the temperature of the water within the chamber 24  
35 by referring to the thermometer 25. If the water is shown to be too hot, valves 21 and 8 may be adjusted to reduce the temperature to the required degree. If so desired the reduction of temperature may be assisted  
40 by the reduction of the flame at the burner 15. The water after leaving the chamber 24 passes through a pipe 27, which is connected to a T 28, said T having connected thereto a nipple 29 to which nipple is connected,  
45 as at 30, an irrigator pipe 31, which is flexible, and may be formed of rubber or any other flexible material. The other end of the flexible pipe 31 is connected as at 32  
50 to an irrigator nozzle 33, preferably disposed over a bath tub or other receptacle, so that an operator may stand over the same for irrigation purposes. However, it is to be understood that the irrigator may be  
55 disposed over an operating table when it is desired to irrigate wounds. Irrigator 33 is preferably supported on a bracket 34 hav-

ing universal joints 35, by means of which universal joints, the irrigator nozzle 33 may be placed in any desired position, said universal joint being of the conventional frictional type thereby providing means whereby it will not be necessary to hold the nozzle during an irrigating operation. Bracket  
65 34 may be secured to any suitable support. 70

The patient stands in the tub or other receptacle 36. It is obvious that the waste water after the irrigation operation will flow into the tub 36, therefore to drain the water from the tub a pipe 37 is provided  
75 which has one of its ends connected to and in communication with the tub and its other end connected as at 38 to the waste pipe 22, therefore it will be seen that the waste water within the tub will be conducted to  
80 the waste pipe during an irrigating operation. When it is desired to use a medicinal fluid in connection with the water for irrigating, valve 39 is opened thereby allowing the fluid to pass from the medicator 40  
85 through the pipe 41 into the nipple 29 where it is mixed with water in its course to the irrigating nozzle 33.

From the above it will be seen that a hydrosterilizer and irrigator is provided  
90 wherein a constant flow of water may be attained which is at a uniform temperature and one which is particularly adapted for hospital purposes.

The invention having been set forth what is claimed as new and useful is:— 95

The combination with a liquid sterilizer and cooling apparatus comprising a receptacle having a central passage therein, a heating coil disposed in said passage, a cooling coil disposed in the receptacle and adapted to be covered by water and through which coils a continuous flow of water is maintained, a discharge pipe carried by the cooling coil, of means for maintaining a constant level of water in the receptacle, said means comprising a water supply pipe connected to the receptacle, a valve carried by said water supply pipe and an overflow pipe extending upwardly into the receptacle and arching over the cooling coil and having its intake end disposed adjacent the bottom of the receptacle, said overflow pipe having a valve for controlling flow there-through. 100  
105  
110  
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In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

TELESPHORE E. CARON.  
DENIS M. RAICHE.

Witnesses:

ORBY TALBOT,  
H. C. BETONNE.