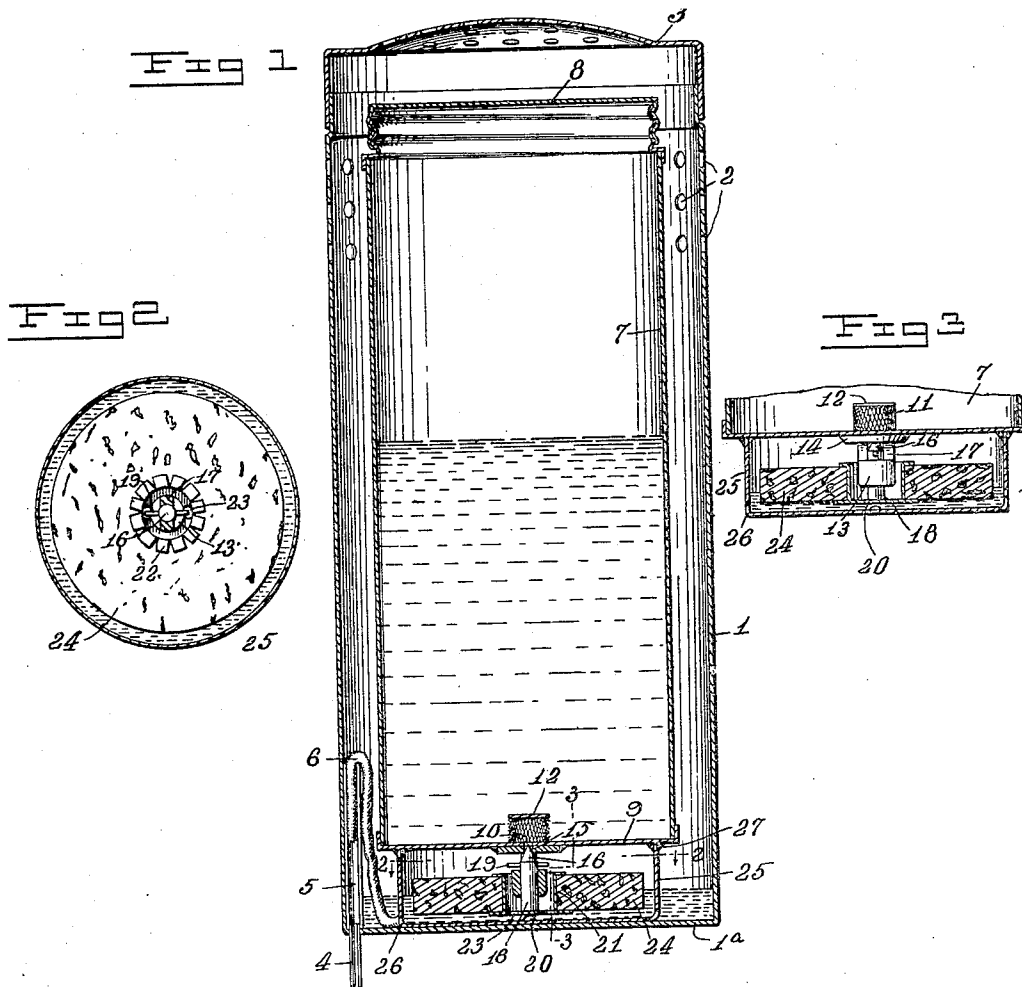


J. R. VAN DYNE.
DISINFECTING APPARATUS.
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931,817.

Patented Aug. 24, 1909.



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JOHN R. VAN DYNE, OF SEDALIA, MISSOURI.

DISINFECTING APPARATUS.

931,817.

Specification of Letters Patent.

Patented Aug. 24, 1909.

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To all whom it may concern:

Be it known that I, JOHN R. VAN DYNE, a citizen of the United States, residing at Sedalia, in the county of Pettis and State of Missouri, have invented certain new and useful Improvements in Disinfecting Apparatus, of which the following is a specification.

My invention relates to disinfecting apparatus, and particularly to apparatus designed to supply disinfecting liquid automatically and continuously to places where it is required.

More specifically, the present invention relates to improvements in that type of disinfecting apparatus shown and described in my prior patent No. 893,208, dated July 14, 1908.

While the apparatus covered by my patent above referred to will operate satisfactorily, certain objections have been found to it in practice, chief among which may be mentioned the fact that the number of parts is unnecessarily large, and that the apparatus is not as compact as it should be.

One object of the present invention, therefore, is to reduce the number of parts, and simplify and strengthen the construction of such apparatus.

Another object is to provide means for preventing the valve becoming clogged with foreign matter or other obstructions.

A still further object of the invention is to provide an improved form of float for controlling the valve.

With the above objects in view, and to improve generally upon the details of such apparatus, my invention consists in the construction and arrangement of parts hereinafter described, and illustrated in the accompanying drawings, in which:—

Figure 1 is a central, vertical section through my improved disinfecting apparatus complete. Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1, looking in the direction of the arrow, and Fig. 3 is a sectional view of the valve and associated parts, such view being taken substantially at right angles to Fig. 1, on the line 3—3 thereof.

Referring to the drawings in detail, 1 represents the outer casing, which may be of any suitable design. This casing is preferably provided near its top with ventilating openings 2, and with a perforated cover 3. Through the bottom 1^a of this casing extends

a drip tube 4, communicating with a wick tube 5, into which a wick 6 is fitted, such wick extending down from the top of the tube into the liquid in the bottom of the casing 1.

7 indicates the inner container, provided with the usual screw-threaded cover 8. Formed centrally in the bottom 9 of such container is an opening 10, which registers with the valve seat, hereinafter described. In order to prevent the operation of the valve being interfered with, or the opening 10 from being obstructed by foreign matter, I surround such opening with a cap or guard 11, formed of wire gauze or the like, and provided with a top 12, preferably of sheet metal.

The valve mechanism comprises a block 13, having a base portion 14, soldered or otherwise secured to the bottom 9 of the container adjacent the opening 10 therein. This base portion 14 has a central opening 15 registering with the opening 10, and which opening 15 constitutes a valve seat. A needle valve 16, formed on the upper end of a valve stem 18, is adapted to cooperate with the valve seat 15, such valve stem being rigidly attached to the float structure.

As shown in the drawing, this float comprises a disk of cork 24, preferably waterproofed, which cork has a central opening formed therethrough. A disk 20, preferably of sheet metal, has an annular sleeve 21 secured thereto, and extending snugly through the central opening in the float, the end of the sleeve being notched and crimped back upon the cork, as clearly shown in Fig. 2, the arrangement being such that the cork is rigidly held between the plate 20 and the crimped portion 22. The valve stem 18 is rigidly secured to the center of the plate 20, and extends upwardly therefrom through an opening in the block 13, which opening serves to guide the stem in its movements. The block 13 is cut-away on each side of the valve seat 15, as indicated at 17, so as to provide a free passage for the liquid, and the plate 20 has perforations 23 formed therein for a similar purpose.

It will be noted that the block 13 is of such size as to extend down into the pocket in the float formed by the parts 20 and 21, and by this construction the clearance necessary between the bottom of the container and casing is reduced to a minimum. A pin 19 is preferably passed through a small trans-

verse opening near the top of the valve stem in such a manner as to engage the block 13, adjacent the cut-away portions 17, and thus limit the movement of the valve away from its seat. This feature, however, is not essential, since, owing to the structure now to be described, the float is so confined that the movement thereof is limited to the necessary extent.

The means for limiting the movement of the float, and also for supporting the container in the casing, comprises a cup or shield 25, preferably formed of sheet metal, which is of such size as to entirely envelop the float and valve, and is secured to the bottom of the container as by soldering, as indicated at 27. Openings 26 are formed near the bottom of this cup or shield to permit the passage of the liquid therefrom into the casing.

It will thus be seen that, by the above construction, I have provided a very simple and compact float valve mechanism consisting of but few parts and but little liable to get out of order, and it is therefore thought that the numerous advantages of my invention will be readily appreciated by those skilled in the art.

What I claim is:—

1. Disinfecting apparatus comprising a casing, a container therein, means for supporting said container above the bottom of said casing, the bottom of said container having an opening, a float valve controlling the passage of the disinfectant through said opening, means for controlling the directions of movement of said valve, said means extending within and below the top plane of the float of the valve, and a wire gauze guard secured to said container around said opening, and serving to prevent the obstruction of said valve.

2. Disinfecting apparatus comprising a casing, a removable container therein supported above the bottom thereof, the bottom of said container being provided with an opening, a block secured to the bottom of said container and having a valve seat registering with said opening, a needle valve co-operating with said seat, a valve stem carrying said valve, and a float to which said valve stem is rigidly attached, said block extending below the top plane of the float and being formed with an opening adapted to receive and guide said valve stem.

3. Disinfecting apparatus comprising a casing, a container therein supported above

the bottom thereof, a block secured centrally to the bottom of said container, an opening extending through said block and terminating in a valve seat, a valve stem fitting in said opening and guided thereby, and carrying at one end a needle valve co-operating with said seat, and a float rigidly attached to the other end of said valve stem, said block extending below the top plane of the float.

4. Disinfecting apparatus comprising a casing, a container therein, and a float valve controlling the flow of disinfectant from said container, and a block secured to the bottom of said container and having an opening extending therethrough at right angles to the bottom of the container, such opening serving to receive the stem of said valve, and to guide the same in its movements, and terminating in a valve seat, said block extending below the top plane of the float and being cut away adjacent said seat to permit of the free passage of the liquid.

5. Disinfecting apparatus comprising a casing, a container therein supported above the bottom thereof, a block secured to the bottom of said container and provided with an opening extending therethrough and terminating in a valve seat, a float disposed beneath the container and having a pocket adapted to receive said block, and a valve stem secured at one end to the bottom of said pocket and extending up through the opening in said block, the upper end of said stem being shaped so as to constitute a valve adapted to coöperate with said seat.

6. Disinfecting apparatus comprising a casing, a container therein, a valve at the bottom of said container controlling the passage of disinfectant therefrom, a float for operating said valve, means for controlling the directions of movement of said valve, said means extending within and below the top plane of the float of the valve, and a cup or shield secured to the bottom of said container so as to completely inclose said valve and float, said shield serving as a support on which said container rests, and having perforations to permit the free escape of the liquid.

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

JOHN R. VAN DYNE.

Witnesses:

NANNIE WESLEY POWELL,
SARAH BOURON.