No. 616,994. Patented Jan. 3, 1899.

C. J. WALZ.

DISINFECTING APPARATUS.

(Application filed Dec. 4, 1897. Renewed Sept 24, 1898.)

(No Model.)

FIG. 1.

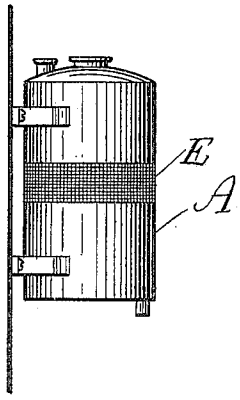
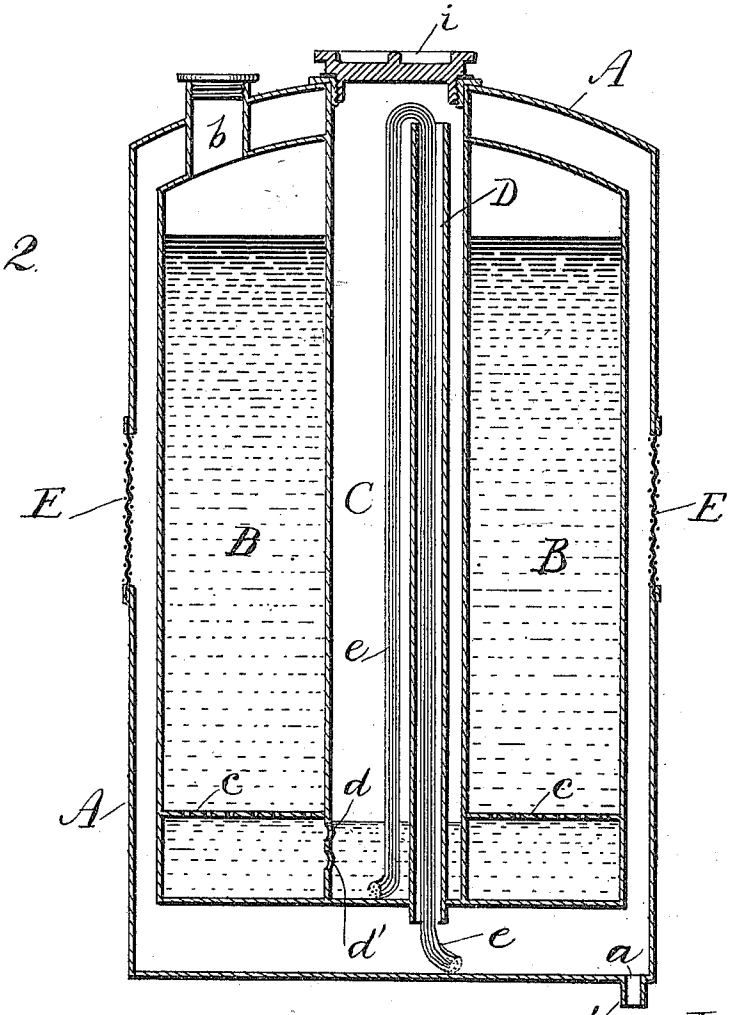


FIG. 2.



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CHARLES J. WALZ, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE RED CROSS HYGIENIC COMPANY, OF SAME PLACE.

DISINFECTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 616,994, dated January 3, 1899.

Application filed December 4, 1897. Renewed September 24, 1898. Serial No. 691,832. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. WALZ, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Disinfecting Apparatus, of which the following is a specification.

My invention relates to that class of disinfecting devices in which the liquid is transferred from an inner reservoir to an outer casing by capillary attraction, the outer casing being provided with a discharge-orifice and pipe, from which the disinfecting fluid drips continuously into the urinal or closet, and while being conducted from the reservoir to the place of discharge it is subject to atmospheric exposure and consequent evaporation for the purpose of purifying the surrounding atmosphere.

While I am aware that capillary attraction has long been used for conveying or transferring the disinfecting material from one chamber containing the fluid to another chamber having an outlet, the latter usually supplied with sponge or other porous substance, my improvement consists in its application in such a manner as to cause a more even and regular discharge of the material by limiting the supply of the fluid to the action of the wick by means of a vacuum in the reservoir. I also provide a means for the evaporation of a larger proportion of the disinfecting fluid in its transit than by the methods now in use, thereby accomplishing better results with the same quantity of material and without the use of absorbents.

My device is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my device in position. Fig. 2 is a vertical section exposing the wick and its fluid-supply.

Similar letters refer to similar parts throughout the drawings.

A cylindrical casing A of dimensions suitable for the purpose is provided with a band E of open wire-netting around its central portion for the purpose of permitting a free circulation of air between it and the inner chamber or reservoir B. The outer casing A has a flat bottom and is provided near its edge with a discharge-orifice *a* and pipe *a'*, from which the liquid disinfectant drips into the closet over which it may be placed.

The inner chamber or reservoir B is provided with a filler-aperture *b* and false bottom *c* and two small feeding-apertures *d* and *d'*, one above the other, opening into a vertical tube C. The vertical tube C is an air-chamber in the center of the reservoir B, extending from the bottom to the top and emerging through the cover of the outer casing and provided with a removable cap *i*. The reservoir B is air-tight, and when in use the fluid passes through the apertures *d* and *d'* into the lower portion of the vertical air-tube C and will not rise therein above the aperture *d* because of atmospheric resistance having a tendency to form a vacuum. The air-tube C contains a smaller vertical tube D, which extends from a point on a level with the top of the reservoir B down through the base of the air-tube C and slightly projecting below it. This tube D is open at both ends and through it is carried the wick *e*, which has one end immersed in the liquid at the bottom of the air-tube C. The other end discharges at a lower level on the floor of the outer casing A.

It will be noted that the wick is supplied with the fluid from a fixed level in the tube C, which does not exceed the height of the aperture *d*, no matter what may be the contents of the reservoir. This causes a steady and uniform flow of the disinfecting fluid, avoiding the objection to the devices now in use, wherein the wick is submerged the depth of the supply in the reservoir, causing it to run more rapidly when the reservoir is full and more slowly as the supply recedes. The liquid being discharged on the open floor of the outer casing A over which it spreads, the air-currents entering through the wire-netting E pass over the fluid up through the tube D into the air-tube C, thus causing increased evaporation for the purpose of disinfecting the surrounding atmosphere. The false bottom *c* in the inner chamber B is intended to relieve to a limited extent the pressure of the fluid in the chamber upon the apertures *d d'*. The cap I on the tube C is removable and permits a view of the interior.

Having thus described my invention, what

I claim as new, and desire to protect by Letters Patent, is—

1. In a disinfecting apparatus as described, the combination of an outer casing provided with a band of open wire-netting at its central portion, an inner reservoir provided with a false bottom, a vertical central air-tube having an exterior opening and extending from the top of the outer casing down through to the bottom of the reservoir, provided with two small apertures near its base, one above the other, a smaller vertical tube D open at both ends, the upper end opening into said air-tube, the lower end projecting slightly beneath the bottom of the air-tube and opening into the lower portion of the outer casing, a wick having one end on the bottom of the air-tube, the other end carried over the edge of the tube D, and downward to the level of the floor of the outer casing, in the form of a siphon, a discharge-orifice and pipe in the bottom of the outer casing, as specified.

2. In a disinfecting apparatus the combination of an outer casing cylindrical in form, a similar air-tight inner reservoir provided with a filler-aperture and false bottom, a tubular air-chamber, having an exterior opening in the head of the outer casing, and extending to the bottom of the inner reservoir, provided with two small feed-apertures near its base, one above the other, adapted to supply the fluid to the tubular air-chamber, but limiting the supply to the heights of the upper aperture, a vertical tube in said air-chamber, open at both ends, its upper end being on a level with the top of the reservoir, the lower end projecting through the bottom of the air-chamber, a wick carried over the edge of said tube, one end of the wick on the bottom of the air-chamber, the other end resting on the bottom of the outer casing.

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