C. DOERING, JR.

DISINFECTING DEVICE.

APPLICATION FILED JAN. 21, 1916.

1,240,831.

Patented Sept. 25, 1917.

Fig. 1.

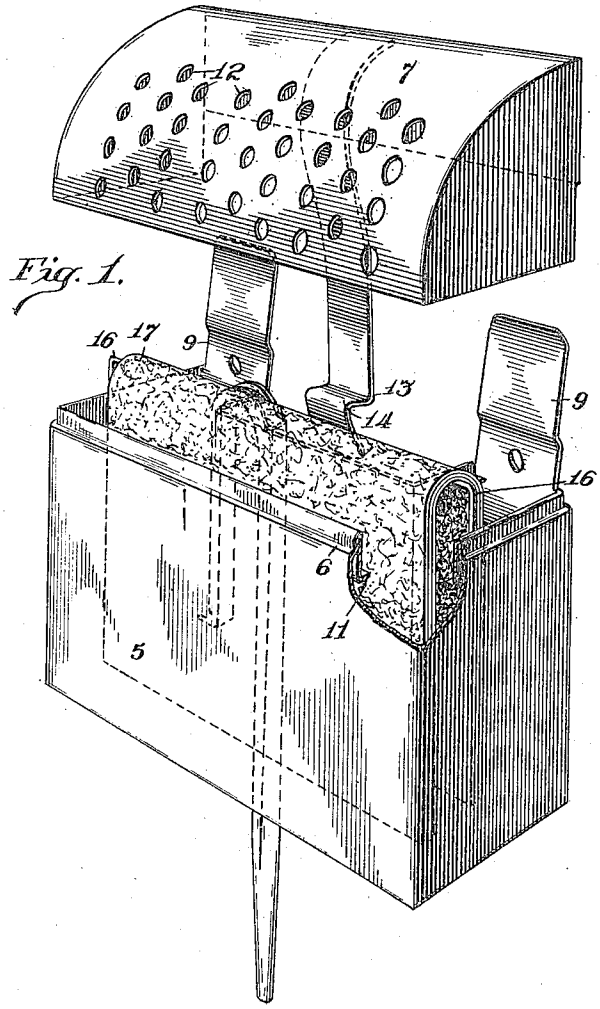


Fig. 4.

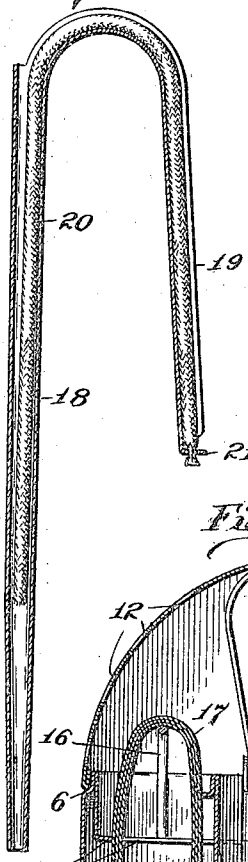


Fig. 3.

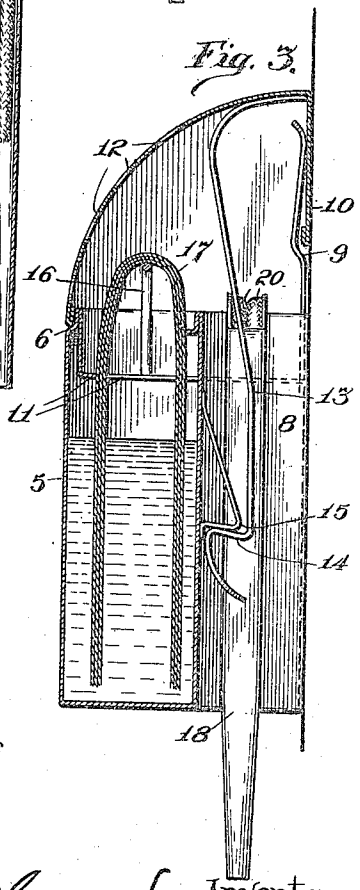
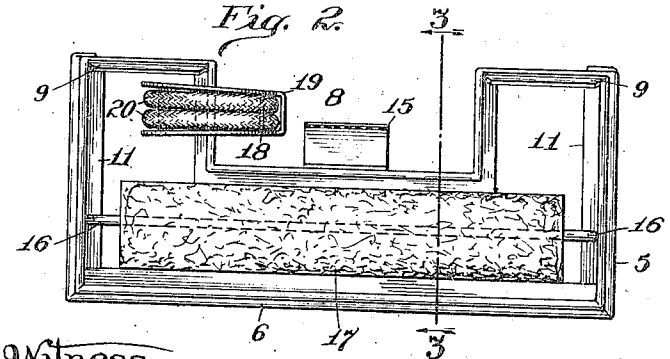


Fig. 2.



Witness

Milton Lenoir

F. A. Florell.

Inventor

Charles Doering, Jr.

By Feldman & Stark

Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES DOERING, JR., OF CHICAGO, ILLINOIS.

DISINFECTING DEVICE.

1,240,831. Specification of Letters Patent. Patented Sept. 25, 1917.

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To all whom it may concern:

Be it known that I, CHARLES DOERING, Jr., a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Disinfecting Devices, of which the following is a description, reference being had to the accompanying drawing, which forms a part of my specification.

My invention relates to a device more especially adapted to contain a disinfecting fluid, and has for its object the provision of a construction whereby the fluid may be automatically fed from the device in minute, predetermined quantities and in an intermittent manner; the feeding mechanism of the device permitting regulation of the quantity and manner of feed.

The invention also has for its object the provision of a construction whereby the fluid contained in the device will be aerated or diffused through the action of air currents induced in the apartment or chamber wherein the aerator is located, as will be more fully understood from the following detailed description of the accompanying drawing, wherein:—

Figure 1 is a perspective view of my improved device, with the top or cover lifted.

Fig. 2 is a top plan view with the top or cover-member entirely removed.

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2 looking in the direction of the arrows.

Fig. 4 is a detail longitudinal, sectional view of the feeding mechanism.

In the particular exemplification of my invention, it comprises the holder or vessel 5, of metal or other suitable material, adapted to hold liquid and of any suitable configuration; being preferably of the U-shape, in cross-section, as shown in Fig. 2, so as to provide flat surfaces, adapted to lie or fit up flush against a wall or partition, as indicated in Fig. 3. The upper edges of the front and two end walls are offset so as to form the shoulder 6, see Fig. 1, adapted to receive the top or cover-member 7, as shown in Fig. 3. The rear wall of the body-portion or holder 5 is bent or offset in the nature of a U, in cross-section, so as to provide a channel, as shown at 8 in Fig. 2, intermediate of the ends of the holder, extending vertically of the holder.

The side portions of the rear wall, or rather the portions which engage the wall, are preferably provided with the extensions 9, 9 which constitute means whereby the device may be secured to the side wall or partition; the extensions 9, 9 being shown provided with suitable holes or openings for the passage of screws, or the like, see Fig. 1.

The upper ends of the extensions 9, 9 are slightly offset toward the front of the holder so as to permit these extensions to fit into the top or cover-member 7 and at the same time provide yielding engagement with the rear wall 10 of the top or cover-member 7, as shown in Fig. 3. The rear wall 10 of the top or cover-member 7 is not made of the same depth as the front and side walls of the cover-member 7, but terminates at or short of the shoulder or offset-portion of the extensions 9, 9 so as not to overlap the upper end of the channel formed in the rear wall of the holder 5, and at the same time enable the rear of the top or cover-member 7 to lie in substantially the same vertical plane as the back wall of the holder and thus permit the entire device to fit up flush against the wall to which it is to be secured.

The upper edges of the walls of holder or vessel 5, except where the extensions 9, 9 are provided, are preferably bent down upon themselves and within the holder, with the immediate edges preferably bent at an angle so as to provide the flanges 11, the purpose whereof will be hereinafter described.

The front wall of the top or cover-member 7 is preferably curved or made arcuate, as shown, and is provided with a series of perforations 12, to permit circulation of air through the upper part of the holder, to-wit through the perforations 12 and the channel 8 formed in the rear wall of the holder.

The top or cover-member 7 is preferably provided with the depending latch member 13 in the nature of a metallic strap, the lower end whereof is bent to provide the shoulder 14 adapted to engage beneath the lug or engaging member 15 secured to the rear wall of the holder 5. In order to permit the device to lie flush against a side wall or partition, the lug or engaging member 15 is preferably arranged within the channel 8 formed in the rear wall of the holder 5, as shown in Fig. 3.

The flange-portions 11 of the inwardly bent top edges of the holder-portion 5 may provide support for the bracket 16. As this bracket is preferably made of wire, I prefer

to also solder or otherwise secure the ends to the wall of the holder in order to prevent accidental displacement. The bracket 16 preferably extends the full length of the holder 5, as shown in Figs. 1 and 2, and provides suitable means for holding the absorbent material 17 in a proper position. The pad or absorbent member 17 may comprise one or more sheets of any suitable absorbent material, preferably ordinary blotting paper, which will readily absorb the fluid placed in the holder 5. This pad 17 is of a size which will permit its being bowed or bent over the yoke or bracket 16, with both sides depending to substantially the same extent within the holder 5, as shown in dotted lines in Fig. 1, and in full lines in Fig. 3. The bracket or yoke 16 is arranged to extend beyond the upper edges of the walls of the holder 5, so that the upper or bowed part of the absorbent material or pad 17 will be held above the top of the holder-portion 5 and in the path of the currents of air passing through the holder or top 7 by reason of the perforations 12 and the channel 8 formed in the rear wall of the holder 5.

The flanges 11, formed by the bent edges of the walls of the holder 5, will prevent the depending portions of the pad 17 from hugging the side walls of the vessel or holder 5, thus permitting the liquid or fluid in the holder 5 to completely surround the pad or absorbent member 17, as shown in Fig. 3.

The invention also contemplates a feeding or drip mechanism, preferably made separate from the holder-portion, and formed in the nature of a tubular member 18 which is bowed or bent as shown in Fig. 4, so as to provide a portion or leg 19 which is adapted to extend or hook over the rear wall of the holder 5 and extend down into the holder 5 into proximity with the bottom thereof, as shown in dotted lines in Fig. 1, while the outer portion or long leg will depend beyond the bottom of the holder 5, as shown in Figs. 1 and 3. As previously stated, the long or outer leg of the member 18 is preferably in the nature of a tube, while the curved portion and short leg 19 may be open-sided as shown.

The device is adapted to be provided with one or more wicks 20, arranged substantially throughout the length of the member 18; with the inner end or ends of the wick 20 being secured in any suitable manner, as for example by clamping between the bent sides of the bent tip 21 of the wick-holder, as shown in Fig. 4. With the short leg or portion 19 of the drip mechanism preferably made open sided as shown, the wick or wicks 20 will have a considerable portion in contact with the liquid, so as to become readily saturated with the liquid or fluid in the holder 5.

The drip mechanism is so constructed as to be readily applied by simply inserting it within the channel 8, after the holder 5 has been secured in place, and hooking the short leg 19 over the top of the holder so as to depend into the holder 5 in one of the rearwardly extending portions of the holder where it will not contact or interfere with the absorbent pad or member 17. The drip mechanism 18 is provided with a gradual bend or curvature at the top so as to permit free absorption of the fluid by the wick or wicks 20, allowing the fluid to readily pass over the curved surface and into the remainder of the wick 20 in the long depending leg of the member 18.

As will be readily understood, the quantity of fluid absorbed, or, in other words, the quantity of fluid conveyed in drop-form, may be controlled, both by the number of wicks employed and also by the length of the wicks in the depending long leg of the member 18.

If the portion of the wick 20 in the long leg of the member 18 is made shorter than that illustrated in the drawing, a lesser quantity of fluid will be fed through the mechanism and the intervals between the drops will be increased; while a lengthening of that portion of the wick will induce a faster operating device; in other words, the intervals or intermittent nature of feed is proportionate to the length of the wick or wicks in the long leg of member 18.

In the employment of my improved device, the holder is preferably secured to the wall or partition at a point opposite to the door or place whereby air is admitted to the room or chamber, as the inrushing air will strike the wall and be caused to pass either through the foraminated cover or top-member 7 and down through the channel 8 in the back of the holder, or vice versa. The air currents passing in either direction as described will, of course, be made to pass across the top of the absorbent pad 17 and become impregnated with the disinfecting fluid and therefore cause the room or chamber to be charged therewith.

The drip or feed mechanism is, of course, employed where the device is located in lavatories and especially in connection with urinals and the like.

The construction shown and described, I believe to be the simplest and best form of my invention, because of its simplicity and cheapness of manufacture, but the construction may be altered in certain details without, however, departing from the spirit of my invention, and I do not wish to be understood, therefore, as limiting myself to the exact construction shown and described.

What I claim is:—

1. A disinfecting device, comprising a liquid-containing holder adapted to be secured against a side wall or partition, the

walls of the holder being offset adjacent the upper ends to provide cover-receiving shoulders, while the upper edges of the walls are bent down upon themselves within the holder so as to provide laterally disposed flanges, the rear wall of the holder being formed to provide an air passage between the holder and wall or partition, a cover having a foraminated, arcuate wall toward the front so as to permit air to circulate through the openings in the cover and through said air passage intermediate of the rear wall of the holder and the wall or partition, and an absorbent element-holding bracket mounted in said holder so as to maintain a portion of said element in the path of the air currents, while the depending portion of said element is held out of contact with the side walls of said holder by said flanges.

2. A disinfecting device, comprising a liquid-containing holder adapted to be secured against a side wall or partition, the rear wall of the holder being provided with a vertically disposed channel for the passage of air, a lug formed on the rear wall and in said channel, a cover having a foraminated, arcuate wall toward the front so as to permit air to circulate through the openings in the cover and through said channel, a spring hasp secured to said cover and arranged to engage with said lug to lock the cover in place, and an absorbent element-holding bracket mounted in said holder so as to hold a portion of said element in the path of the air-currents.

3. A disinfecting device, comprising a fluid-containing holder, the rear wall whereof is provided with a vertically disposed air channel on the exterior thereof and with attaching members whereby the holder may be secured against a side wall or partition, a cover for said holder, the rear wall whereof extends across said air channel so as to permit the air to enter and also receives the upper free ends of said attaching members so as to form frictional engagement therewith, while the other walls of the cover are arranged to permit passage of air to and from said channel and through the upper portion of the holder, and an absorbent element-holding member arranged in said holder so as to maintain a portion of said element within the cover and in the path of said air currents.

4. A disinfecting device, comprising a liquid holder adapted to be secured against a side wall or partition, the rear wall of the holder being provided with a vertically disposed air channel, a foraminated cover, the rear side whereof is adapted to extend beyond said channel so as to permit communication between said channel and the holder-interior, and a bent wick-holding member disposed in said channel and adapted to extend over the rear wall of the holder, with the outer portion of the member extending into a plane below the inner end thereof.

5. A disinfecting device, comprising a liquid holder adapted to be secured against the side wall, the walls of the holder being off-set at the upper ends to provide cover-receiving shoulders while the rear wall is provided with a vertically disposed air passage extending to the bottom of the holder, a cover having a foraminated front wall while the rear wall is arranged to overlap said air passage so as to permit the air to flow through said passage, and a bent tubular wick-holding member disposed within said air passage, one portion of said member depending within the holder while the other portion depends in said passage to a point beneath the inner end of the member, the inner end of said tubular member being open sided.

CHARLES DOERING, JR.

Witnesses:
HENRY H. DOERING,
JOHN H. BAUMGARTNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."