

D. N. HITCHCOCK.
DISINFECTING DEVICE.
APPLICATION FILED OCT. 20, 1909.

997,914.

Patented July 11, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

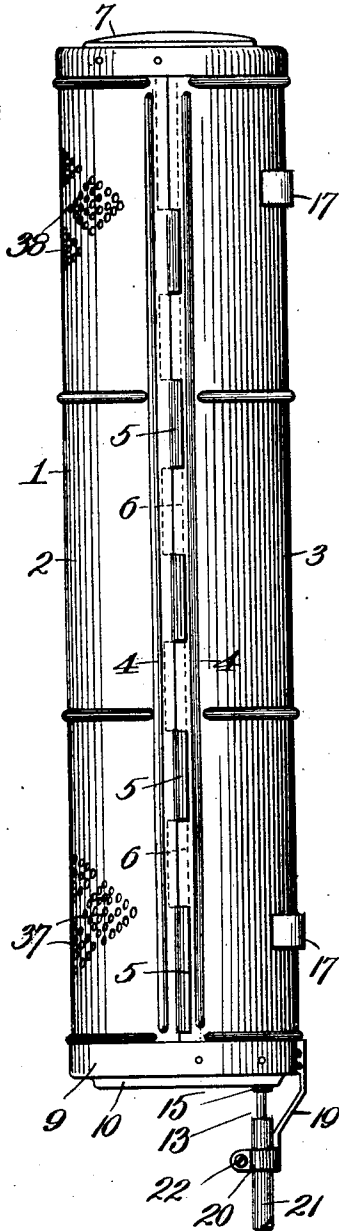
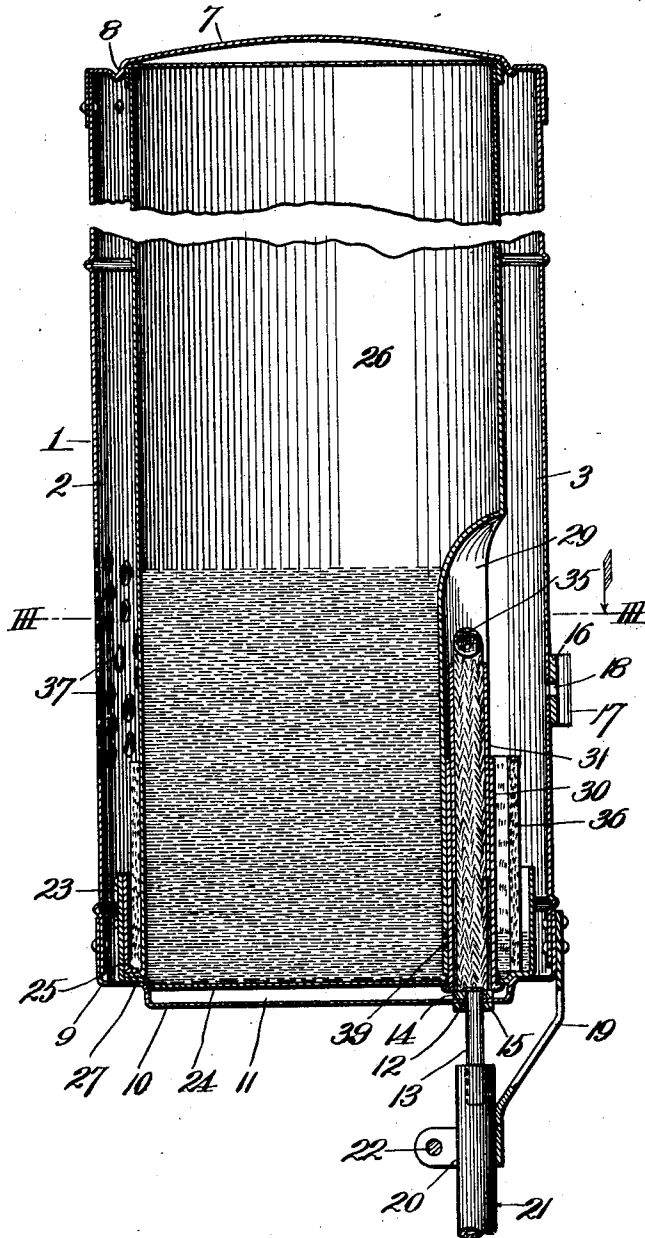


Fig. 2.



Witnesses:

E. E. Seidelman
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By

Inventor
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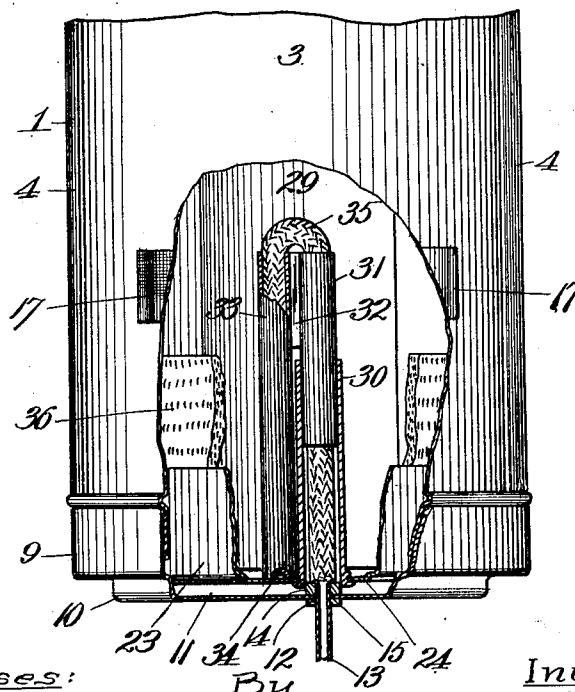
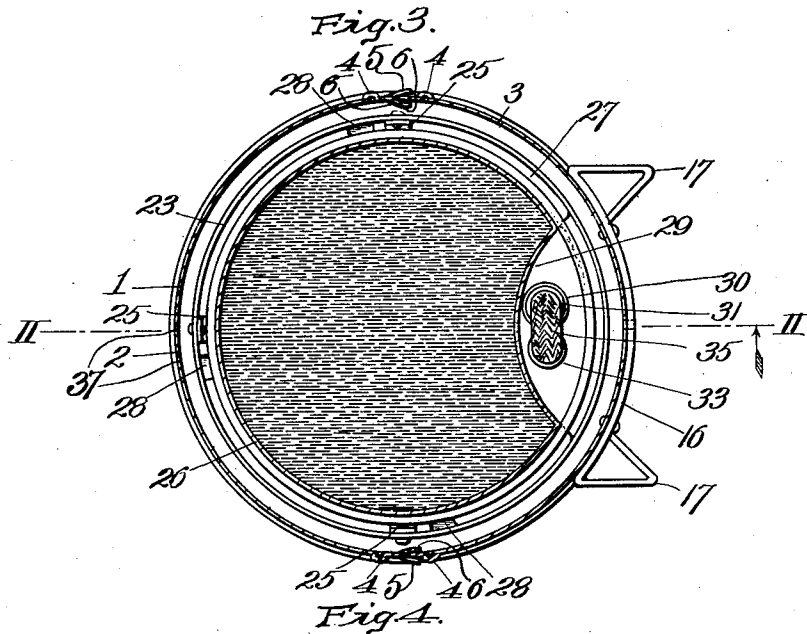
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UNITED STATES PATENT OFFICE.

DANIEL N. HITCHCOCK, OF KANSAS CITY, MISSOURI.

DISINFECTING DEVICE.

997,914.

Specification of Letters Patent.

Patented July 11, 1911.

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To all whom it may concern:

Be it known that I, DANIEL N. HITCHCOCK, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Disinfecting Devices, of which the following is a specification.

This invention relates to disinfecting devices of that class employed to periodically drop a disinfectant in liquid form and continuously charge or impregnate the air of the room with disinfectant by evaporation of the same, my special object being to produce a device of the character outlined which embodies the desirable features of simplicity and durability of construction and the capacity of operating reliably for a long period of time without being recharged.

With this and other objects in view as hereinafter appears, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1, is a side elevation of a disinfecting device embodying my invention. Fig. 2, is an enlarged vertical section of the same taken on the line II—II of Fig. 3. Fig. 3, is a horizontal section of the same on the same scale as Fig. 2, and on the line III—III of said figure. Fig. 4, is a rear view of the lower part of the casing with certain parts in section to disclose features otherwise hidden.

In the said drawings, 1 indicates a cylindrical casing, consisting of a front semi-cylindrical member 2, and a rear semi-cylindrical member 3, each preferably stiffened near its vertical margin by beads or ribs 4, one of the members, 2 in this instance, being formed with rearwardly projecting lips 5 and 6 arranged alternately and disposed divergently with respect to each other, so as to conveniently receive between them the vertical edges of the companion member.

Member 2 is provided with an embracing inverted-cup-shaped top 7 having a downwardly projecting circular rib 8, the upper end of member 3, being adapted to be slipped into said top. Member 3 is provided at its lower end with a permanent embracing cup-shaped bottom 9, to externally

embrace the lower end of member 2, and said bottom is provided with a large circular depression 10, forming a chamber 11 for a purpose hereinafter explained, and said depressed portion is provided rearward of its center with a hole 12 receiving a tube 13 depending below said cup-shaped bottom, and in order to reliably secure the tube in position, with a liquid tight relation, it is equipped with nuts 14 and 15 engaging the upper and lower sides of the depressed portion of the cup-shaped bottom.

For the purpose of conveniently securing the device to a wall or other support, the rear member 3 is provided at suitable distances apart with a pair of brackets, consisting of curved bodies 16 arranged horizontally and riveted to said member and bent at their ends to form outwardly-projecting arms 17 to bear against the wall or support at equal distances from the center of said body portions in order that they may guard against any tendency of the device to turn when secured in position by means of screws, not shown, extending from the inner side of said member through the same and holes 18 in the centers of said brackets. The said member is also provided with a depending bracket 19 terminating in a pair of forwardly projecting arms 20 to form a sleeve for a tube 21, said arms being connected by a clamping screw 22 whereby the tube 21 is clamped in the sleeve and reliably supported.

The bracket 19 and tube 21 may be disposed with where it is convenient to dispose the device vertically above and near the receptacle into which the disinfectant is adapted to be dropped. Ordinarily the device will be secured at a considerable height and frequently out of vertical alignment with the receptacle and in such event the bracket is employed to support the tube 21 and the latter is of such form or so disposed that its discharge end will be vertically over the receptacle.

23 is a shallow circular pan fitting in the casing and resting upon the cup-shaped bottom and provided with a circular depressed portion 24 depending slightly into the depressed portion 10 of said cup-shaped bottom so as to be held from lateral movement thereby, the depressed portion 24 also constituting a chamber for a purpose which hereinafter appears.

Projecting inward from the wall of the

cup-shaped bottom is a plurality of short lugs 25 to receive the outturned flange 27 at the lower end of a reservoir 26 preferably of cylindrical form, the same being of diameter to fit snugly at its upper closed end within the circular rib 8 of top 7, said flange 27 having notches 28 sufficiently large to receive the lugs 25, as it is necessary in order to secure the reservoir in position for the lugs to pass through the notches, the reservoir being then turned to dispose the notches out of alinement with the lugs and the flange under said lugs, as shown clearly in Figs. 2 and 3, the reservoir being reversely operated in order to realine the notches and lugs before the reservoir can be lifted out of the pan 23.

At its rear side and lower end the reservoir is formed with a large vertical external channel 29 to receive or accommodate the vertical tube 30 projecting upward from and extending through the bottom of the pan, and fitting slidingly and detachably in the upper end of said tube is a short tube 31 soldered or otherwise secured as at 32 to the similar tube 33 arranged parallel with tube 30 and resting upon the bottom of the pan and provided at its lower end with a notch or opening 34, through which the lower end of a wick 35 projects into the chamber of the pan formed by the depressed portion 24, said wick extending up through the tube 33 and down through tube 31 and tube 30 for the purpose of conducting liquid disinfectant by capillary attraction from the pan to the bottom of the last-named tube which when the parts are in operative relation, is vertically above the short or drip tube 13 and closed around said drip tube by nut 14.

36 is a large circular wick fitting snugly around the reservoir within the pan and by preference projecting a considerable distance above the latter in order to expose considerable area within the casing to the air circulating up through the casing, such air entering the casing through the perforations 37 in the lower end of member 2 and escaping from the casing through the perforations 38 in the upper part of said member, it being obvious of course that the rear member may likewise be provided with such perforations, the reservoir being provided near its lower or open end with an exit opening 39 which determines the level which the liquid disinfectant attains in the pan.

In practice the casing members are separated by pushing member 2 upwardly until the top 7 is withdrawn from the upper end of member 3 and the lower end of member 2 is withdrawn from the cup-shaped bottom 9, member 2 being then laid aside. The reservoir is then withdrawn from the cup-shaped bottom and inverted and charged while in such position with the required vol-

ume of liquid disinfectant. The pan is also removed from the cup-shaped bottom and placed upon the open end of the reservoir and while said pan is held in such position the reservoir is restored to its upright or normal position, the disinfectant flowing out into the pan until its level in the latter is above the exit opening 39, when the flow ceases because of the atmospheric pressure upon the liquid in the pan. The pan and reservoir are then placed in the cup-shaped bottom and the reservoir turned to effect the interlocking of its flange 27 with lugs 25 of the pan. The wick-carrying tube consisting of tubes 31 and 33, if not already in place, is secured in position and as a result the end of the wick projecting through notch 34 becomes saturated with the disinfectant and begins its capillary action. The member 2 is then secured to member 3, and, as will be readily understood, the length of the wick in the tube will determine the rapidity of the discharge through tube 13, it being obvious that as the length of said wick increases the flow is diminished.

In practice the parts are so proportioned that about one quart of the disinfectant is used each month, this consumption including not only that which drops from the wick in the tube but also that which is evaporated from the large wick by the passage of air up through the casing, it being understood that the discharge to the receptacle will be drop by drop.

From the above description it will be apparent that I have produced a disinfecting device embodying the features of advantage enumerated as desirable and I wish it to be understood that I do not desire to be restricted to the details of construction shown and described as obvious modifications will suggest themselves to one skilled in the art.

Having thus described the invention what I claim as new and desire to secure by Letters-Patent, is:

1. A disinfectant device, comprising a casing, consisting of two semi-cylindrical members fitting together at their longitudinal edges, one member having a cup-shaped bottom receiving the lower end of the other member, and the latter a top receiving the upper end of the member provided with the cup-shaped bottom, a pan arranged within the casing at the bottom thereof, provided with an opening and a partitioning tube surrounding said opening, a reservoir within the casing and pan and provided with an exit opening below the plane of the top of said pan and tube to supply liquid disinfectant to the pan, a wick arranged within the casing with one end within and accessible to the disinfectant in the pan and the other end projecting down into said tube, and a tube projecting through the bottom

of the casing and arranged to receive liquid disinfectant from the said tube of the pan and the end of the wick therein.

2. A disinfectant device, comprising a casing consisting of two semi-cylindrical members fitting together at their longitudinal edges, one member having a cup-shaped bottom receiving the lower end of the other member, and the latter a top receiving the corresponding end of the member provided with the bottom; said casing having perforations near its upper and lower ends, a pan within the casing and upon the bottom thereof, a reservoir within the casing and the pan and provided with an exit opening communicating with the pan below the upper edge thereof, and a wick fitting around the reservoir within the pan.

3. A disinfectant device, comprising a casing consisting of two semi-cylindrical members fitting together at their longitudinal edges, one member being provided with a cup-shaped bottom externally embracing the lower end of the companion member, and the latter provided with a top externally embracing the corresponding end of the other member, said casing having perforations near its upper and lower ends, and the member provided with the cup-shaped bottom having brackets by which it may be secured to a wall or other support, a pan within and supported by the bottom of the casing and provided near its bottom with a plurality of inwardly projecting lugs, and a reservoir within the casing and pan, provided at its lower end with an outwardly projecting flange underlying said lugs and having notches of slightly greater size than and corresponding in number to said lugs to receive the latter in securing the reservoir in or removing it from position, and with an exit opening in a plane between its lower end and the top of the pan.

4. A disinfectant device, comprising a casing consisting of two semi-cylindrical members fitting together at their longitudinal edges, and one of them provided with lips projecting from its longitudinal edges and externally embracing the edges of the companion member and with lips internally embracing the edges of the companion member, one member being provided with a cup-shaped bottom externally embracing the lower end of the companion member, and

the latter provided with a circular top externally embracing the corresponding end of the other member, said casing having perforations near its upper and lower ends, and the member provided with the cup-shaped bottom having brackets by which it may be secured to a wall or other support, a pan within and supported by the bottom of the casing and provided near its bottom with a plurality of inwardly projecting lugs, and a reservoir within the casing and pan, provided at its lower end with an outwardly projecting flange underlying said lugs and having notches of slightly greater size than and corresponding in number to said lugs to receive the latter in securing the reservoir in or removing it from position, and with an exit opening in a plane between its lower end and the top of the pan.

5. A disinfectant device, comprising a casing, a pan within and supported by the bottom of the casing and provided near its bottom with a plurality of inwardly projecting lugs, and a reservoir within the casing and pan, provided at its lower end with an outwardly projecting flange underlying said lugs and having notches of slightly greater size than and corresponding in number to said lugs to receive the latter in securing the reservoir in or removing it from position, and with an exit opening in a plane between its lower end and the top of the pan, and provided also with an external longitudinal channel in its lower portion, a drip tube extending through and depending from the bottom of the casing, an upright tube extending through the bottom of the pan, a tube fitting telescopically in the last-named tube and carrying a tube secured thereto which extends to the bottom of the pan and is provided at its lower end with a notch, a wick extending down through said tubes and at one end projecting through said notch, a bracket secured to the casing and depending therefrom, and a tube secured to and depending from said bracket and receiving the lower end of the drip-tube.

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

DANIEL N. HITCHCOCK.

Witnesses:

HELEN C. RODGERS,
M. A. O'DONNELL.