

D. FRAAD.
FUMIGATING DEVICE.
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1,214,149.

Patented Jan. 30, 1917.

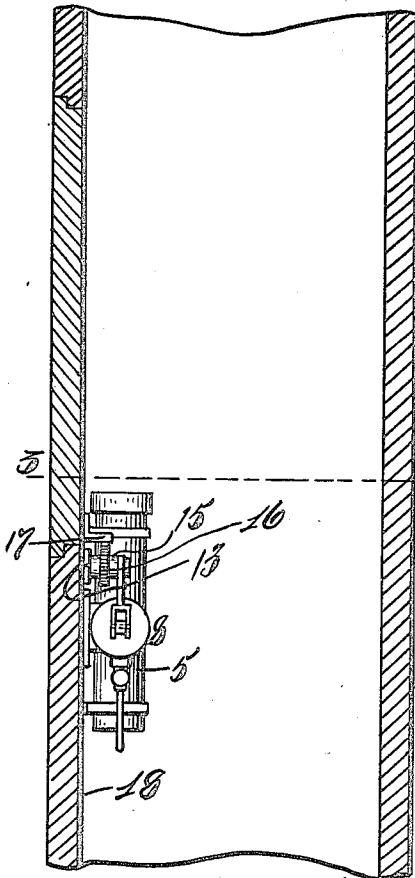


Fig. 1.

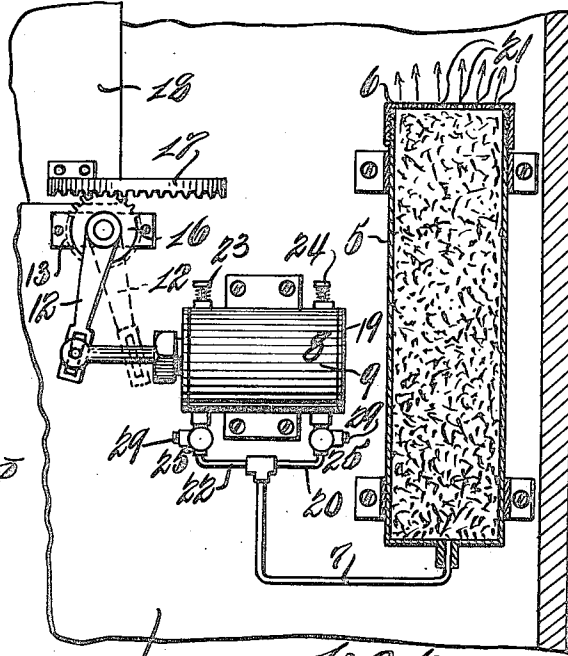


Fig. 2.

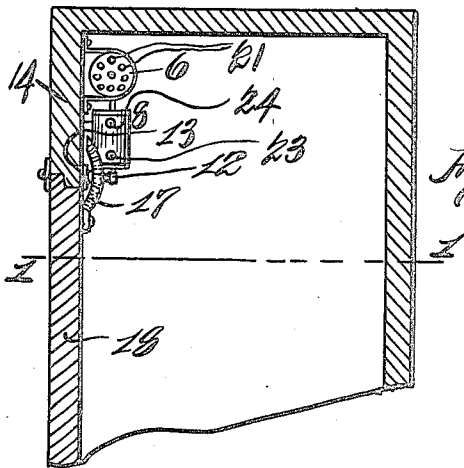


Fig. 3.

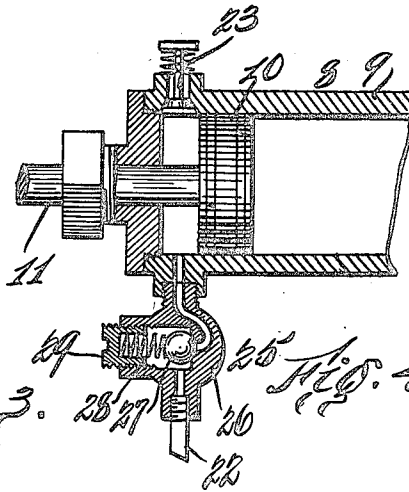


Fig. 4.

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FUMIGATING DEVICE.

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To all whom it may concern:

Be it known that I, DANIEL FRAAD, a citizen of the United States of America, residing at Brooklyn, county of Kings and State of New York, have invented certain new and useful Improvements in Fumigating Devices, of which the following is a full, clear, and exact description.

This invention relates to improvements in fumigating devices, the object being to provide a device, arranged to be operated by the movement of a door or other moving object, whereby a deodorizing or disinfecting fluid can be expelled from or agitated in a container so as to diffuse or spray the said fluid in an effective manner to provide a thorough disinfection.

My improved device may be attached to a wall within a compartment, be it a closet, room or elevator shaft adjacent the door thereof, suitable provision being made to operate the device and eject a spray of disinfectant whenever the door is opened or the device otherwise actuated.

I will now proceed to describe my invention in detail, the novel features of which I will point out in the appended claims, reference being had to the accompanying drawing, forming part of this specification, wherein—

Figure 1 is a vertical sectional view of a portion of a compartment having my improved device located therein, the section being taken on a line 1—1 in Fig. 3; Fig. 2 is an enlarged detail view, partly in section, of the fumigating device; Fig. 3 is a sectional plan view, the section being taken on a line 3—3 in Fig. 1; and Fig. 4 is an enlarged detail sectional view of the pump portion of the device.

Referring to Fig. 2 of the drawing, my improved fumigating device will be seen to comprise a receptacle 5 having a perforated movable cover 6, the said receptacle being filled with cotton or other absorbent material, which is saturated with a disinfectant or deodorizing fluid. The receptacle 5 is connected by a duct 7 to a pump 8, which is preferably double acting, although it can be single acting if desirable. The pump 8 comprises a cylinder having a piston 10 carrying a piston-rod 11, which at its outer end is connected to a movable arm 12 (see Figs. 2 and 4). The arm 12 is pivotally supported by a bracket 13 secured to the

inner surface of the wall 14 of a room, closet, shaft or the like. The hub 15 of the arm carries a gear 16 meshing with a segmental rack 17 mounted on the door 18.

While the door 18 is being opened, the gear 16 will rotate toward the left and move or swing the arm 12 to the right in Fig. 2 and force the piston 10 toward the right; hence the air in the cylinder between the piston and head 19 will be forced into the receptacle 5 through the ducts 20 and 7. The air so forced into the receptacle 5 will flow upwardly therethrough and become impregnated with the disinfecting fluid. The impregnated air will finally escape through the openings 21 in the cover 6 into the surrounding atmosphere.

While the door 18 is being closed, the gear 16 will be rotated toward the right and swing the arm 12 toward the left, thereby causing the piston 10 to force air through the duct 22 into the duct 7, and thence into the receptacle 5.

The cylinder 9 is provided with self-closing inlet-valves 23 and 24, and each duct 20 and 22 includes outlet-valves 25. Each outlet-valve consists of a casing 26 having a ball-valve 27 (Fig. 4) against which a spring 28 bears, the tension of the spring being regulated by an adjusting-nut 29. By means of the adjusting nut the tension of the spring 28 can be regulated to prevent the escape of air from the cylinder 9 until sufficient pressure has been generated to open the valve 27. In other words, by means of the spring tension regulating device I am able to cause air under pressure to escape into the receptacle 5; hence said air will rapidly rise to the top of the receptacle and escape in the form of jets or a spray. It is optional whether air under pressure be delivered to the receptacle 5 or not, but my device is arranged so that air under pressure can be delivered to said receptacle if desirable.

My fumigating device is preferably placed in such position (see Fig. 2) as to locate the receptacle at one side of the door to avoid the possibility of the treated air being ejected into the face of the person who opens the door.

I have not illustrated the device as located within any particular compartment, as it can be applied to any closed compartment (for instance) where a disinfectant or de-

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odorizer is desirable, such as ice-boxes, dumbwaiter-shafts, in cellars, or the like adjacent the doors thereof.

I claim as my invention:

- 5 1. In combination with a discharging receptacle for disinfecting material, a pump supplying air to said receptacle, a valve arranged within and controlling the outlet from said pump, a spring bearing on said
10 valve, means for adjusting the pressure of said spring, a movable part and means arranged to be operated by the movement of said part and to actuate said pump for the purpose set forth.
- 15 2. An elongated cylindrical disinfectant receptacle provided with numerous perfora-

tions at one end, a pump and tubular connecting means for forcing air into the other end of said receptacle, means for regulating the pressure under which the air passes from said pump through said tube. 20

3. In combination with a toothed gear carried by a door, a gear-wheel engaging the same, an arm carried by this wheel, a pump actuated by this arm and means for spray- 25 ing disinfectant operated thereby.

Signed at New York city, N. Y., this 3 day of August, 1916.

DANIEL FRAAD.

Witnesses:

EDWARD A. JARVIS,
MAURICE BLOCK.