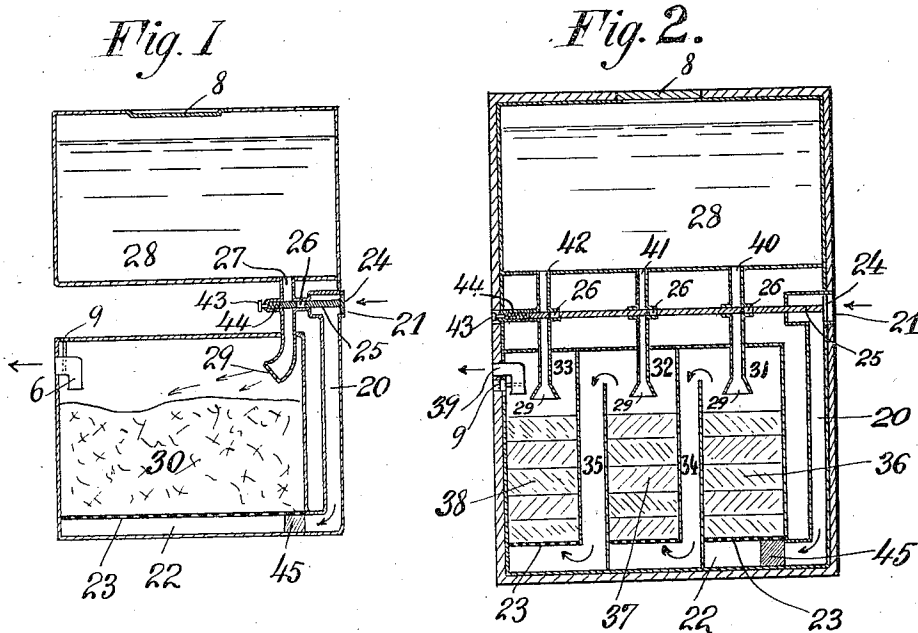


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 APPARATUS FOR DISINFECTING GASES.
 APPLICATION FILED MAR. 1, 1912.

1,052,898.

Patented Feb. 11, 1913.

2 SHEETS—SHEET 1.



Witnesses
Henry J. Lucke
Edmund O. Dubocq

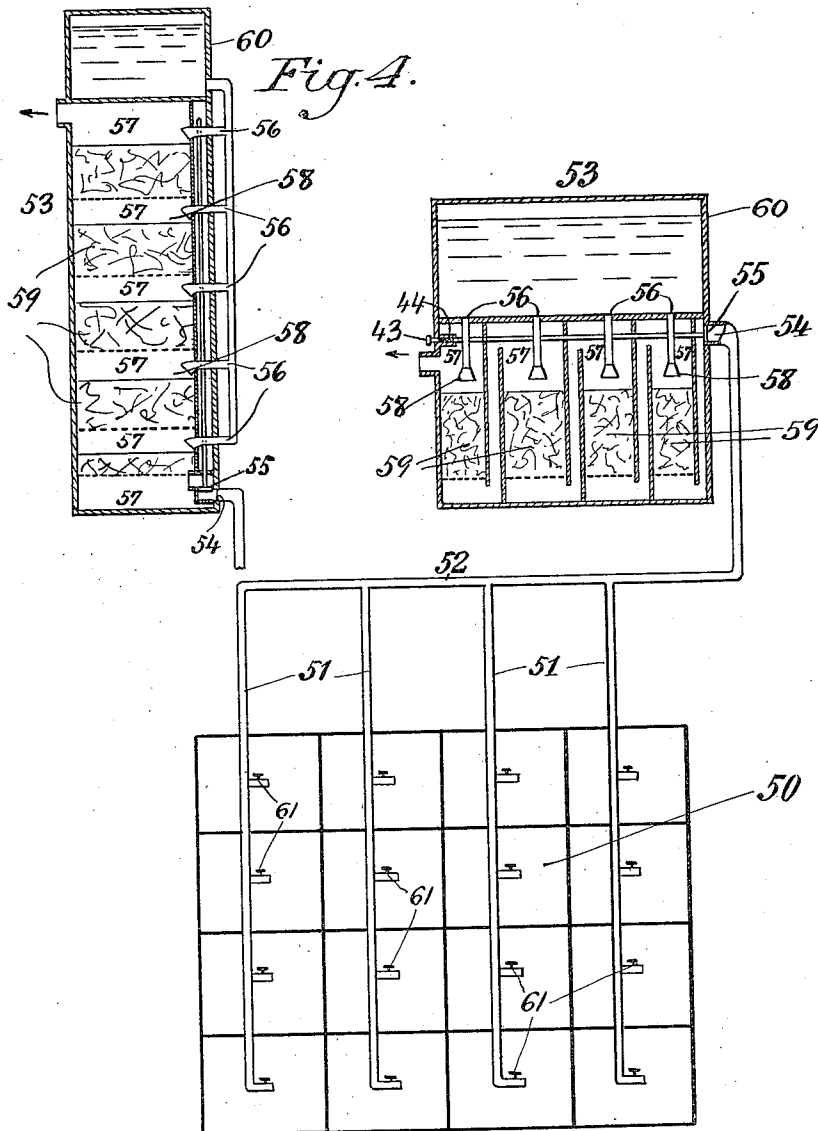
Inventors
Charles F. Dietz and Valentine Dietz, Jr.
 By their Attorneys
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UNITED STATES PATENT OFFICE.

VALENTINE DIETZ, JR., OF NEW YORK, AND CHARLES F. DIETZ, OF YONKERS, NEW YORK.

APPARATUS FOR DISINFECTING GASES.

1,052,898.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed March 1, 1912. Serial No. 680,888.

To all whom it may concern:

Be it known that we, VALENTINE DIETZ, Jr., residing at New York, in the county of New York, and CHARLES F. DIETZ, residing at Yonkers, in the State of New York, citizens of the United States, have invented certain new and useful Improvements in Apparatus for Disinfecting Gases, of which the following is a full, clear, and exact specification.

This invention relates to apparatus for disinfecting gases.

More specifically, our invention is directed to sanitation and disinfecting means for rendering the products of decomposition incident to the disintegration of dead bodies innocuous.

We contemplate our disinfecting means to be connected by intervening gas conducting means to one or more coffins, outside overcases, catacombs, and the like, or when constructed as a part of, integrally with, secured to, carried by or in unitary relation to the same. In accordance with our invention, the coffin, outside overcase, catacomb and the like is made substantially gas tight, and suitable gas conducting means provided between the interior of such receptacle or receptacles and the disinfecting means. By the expression "receptacle" as used herein, we mean to include coffins, outside overcases, catacombs, and the like, which are of suitable construction for attaining the desired results.

Our invention is directed to disinfecting means for one or more receptacles adapted to contain the remains of a decomposing body, comprising a particular arrangement of disinfectant-containing and treating chambers with provision for effectively procuring the desired disinfection, and at the same time securing economies in the space required for the disinfecting means and the amount of disinfectant employed.

Other features of our invention will be more fully understood from the following description and from the accompanying drawings, in which—

Figure 1 is a vertical sectional view of one form of our invention, embodying a reservoir for the disinfectant, and treating chamber disposed below the disinfectant reservoir; Fig. 2 illustrates another embodiment of our invention, shown in vertical section, comprising a plurality of treating

chambers arranged sequentially, with disinfectant supply means for the several treating chambers, the whole being constructed as a unitary device; Fig. 3 illustrates our disinfecting apparatus shown in Fig. 2, arranged in combination with a plurality of coffins, outside overcases, catacombs or similar receptacles; and Fig. 4 shows in vertical section another modification of our disinfecting apparatus.

Fig. 1 illustrates one form of our disinfecting apparatus embodying means for controlling the quantity of disinfecting fluid such as formaldehyde, or other suitable disinfecting fluid used for insuring sanitary disposal of gases of decomposition. The inflow passage 20 communicates at its inlet 21 with the interior of the coffin or similar receptacle and opens at the bottom of the disinfecting chamber 22, below a porous or foraminous septum, 23. Above the septum 23 is a mass of granular or other porous substance, such as charcoal, coke or like substances or a mixture of such divided substances, preferably having more or less purifying action. As the gases flow into the intake 21, the spring control valve 24 is displaced and actuates the sliding valve 25 to allow the port 26 to be brought in more or less register with the outflow passage 27 of the compartment 28 containing the disinfecting liquid or gas. The outlet passage 27 is preferably provided at its lowermost extremity with the sprayer or atomizer 29, thereby distributing the disinfecting agent over the porous mass 30, whereby the disinfecting agent percolates through the porous mass and is brought in effective purifying relation with the gases of decomposition rising upwardly through the mass 30. The outlet 6 of the disinfecting chamber 22 is provided with a key valve 9 for precluding, when desired, the escape of fluid. The disinfectant is charged into the disinfectant reservoir 28 through a suitable opening provided with a gas-tight closure 8 of any approved construction. In this form of our invention, the quantity of disinfecting agent is regulated in accordance with the amount of decomposition gases to be disinfected. It will be understood that the degree of disinfecting property of the disinfecting agent will be chosen according to the circumstances, depending in some measure upon the nature of the disease with which

the dead body was afflicted. The valve 24 is preferably made adjustable as by adjustment screw 43 of the spring 44 controlling the same or by the extent of opening in the valve, as will be readily understood. The embodiment shown in Fig. 1 may be secured to or made a part of, or be of unitary construction with the coffin, outside overcase, catacomb or similar receptacle, and under such circumstances it is preferable to construct the disinfecting apparatus to preserve the general outlines of such receptacle. The actual dimensions of the combined disinfecting tank and disinfecting compartment will be governed according to the location of the disinfecting means on the coffin, outside overcase, catacomb or any other receptacle containing decomposing organic matter. This form of our invention may be used also when not forming part of the receptacle containing the decomposing matter, as is explained hereinafter.

The arrangement shown in Fig. 2, similar to that shown in Fig. 1, comprises a receptacle 28 for containing the disinfecting agent and a separate receptacle 22 for carrying out the disinfection of the decomposition gases. In this case the inflow passage 20, provided with a spring controlled valve 24 regulates the amount of disinfecting agent admitted into different portions of the disinfecting chamber 22. Fig. 2 shows the disinfecting chamber 22 divided into three sub-chambers 31, 32, 33, connected by communicating passages 34, 35. As shown, the inlet passage 20 leads the decomposition gases to the bottom of the first sub-chamber 31, whence the gases rise through the perforated bottom 23 and up through the porous mass 36, thence through the passage 34 to the bottom of the sub-chamber 32, through the porous mass 37, and thence by passage 35 through the porous mass 38, finally escaping through the outlet 39. The outlet 39 may be provided with a spring controlled valve, or with the key valve 9. The disinfecting receptacle 28 in this case is provided with three outlets 40, 41, 42, leading to the respective sub-chambers 31, 32, 33. These outlets 40, 41, 42, each fitted with a sprayer or atomizer 29, are each provided with a valve which is operated by the valve 24 to admit disinfecting agent upon the actuation of the valve 24. It will be understood that the porous masses in the several sub-chambers need not be of the same construction or arrangement, and that different disinfecting agents or of different degrees of disinfecting properties may be admitted through the passages 40, 41, 42, in which case the disinfecting compartment 28 will be divided into three chambers. The number of sub-chambers may be of any number desired; also the position of the sub-chambers relative to one another may be ar-

ranged so that one sub-chamber is at a greater elevation than a preceding sub-chamber, thereby facilitating the flow of gases from one sub-chamber to another. These chambers may be constructed as separate parts, or may be divisional portions of a casing. The construction shown in Figs. 1 and 2 may be arranged to be disposed on one or more sides of the coffin, outside overcase, catacomb or like receptacle.

When the arrangements indicated in Figs. 1 and 2 are applied as secured to or made a part of the coffin, outside overcase or the like, the disinfecting reservoir and disinfecting compartment are constructed as a unit, and preferably by concealing all passages, valves and other parts from view and preserving the general contour and appearance of the coffin, outside overcase or catacomb. For purposes of removing moisture, condensed water and the like, forming part of the decomposition gases, we cause the decomposition gases to pass through, or come in contact with a dehydrating substance 45 disposed in that passage, or other suitable location, and preferably at such location in the path of the decomposition gases prior to the same coming in contact with the disinfecting agent.

It will thus be seen that our invention secures a disinfecting or purification of the gases arising upon decomposition of bodies in an effectual manner, and can be applied at all times, whether the coffin, outside overcase or the like is disposed in a private residence or other building occupied by living persons, or when placed in a permanent location, such as a vault, mausoleum or in the ground. It will be seen that, in accordance with our invention a disinfecting means is applied to each coffin, outside overcase or catacomb, thereby avoiding the ordinary piping necessary in the common systems of disinfection, in which a central disinfecting device is permanently located in a vault or like structure, to disinfect decomposition gases conveyed thereto by pipes from the various coffins, outside overcases or catacombs.

In Fig. 3 is shown an arrangement embodying certain features of the method of disinfection indicated in Figs. 1 and 2. According to the arrangement shown in Fig. 3, the catacombs 50 are connected by a system of pipes 51, leading to one or more mains 52, to a disinfecting arrangement 53, preferably installed in the vault or mausoleum structure above the catacombs 50, for example, on the roof of the building or on a floor at or near the top of the building. As shown, the decomposition gases rising in the pipes 51 flow through main 52 to the inlet passage 54, and actuates the valve 55, thereby controlling the flow of disinfectant through the outlets 56, into the respective

compartments or sub-chambers 57, containing charcoal, coke and like porous substances, which may have of themselves more or less property of purifying the gases passing therethrough. In the disinfectant arrangement shown in Fig. 3, the sub-chambers 57 are horizontally arranged with respect to one another, whereas in the disinfection arrangement shown in Fig. 4, the compartments 57 are arranged at different elevations, and are specifically shown as being directly above one another. The outlets 56 are preferably provided with a sprayer 58 for distributing the disinfecting agent through the porous masses 59. A reservoir 60 containing the disinfecting agent is preferably disposed above the compartments 57 containing the porous masses 59, in which case the static pressure of the disinfecting agent facilitates the distribution of the disinfectant through the porous masses. It will be understood, however, that the disinfectant may be a gas and compressed in the reservoir 60. The disinfectant employed will be chosen in accordance with the nature of the disinfection to be effected, and the reservoir 60 may be formed of separate sub-reservoirs having one or more outlets 56. The connection of each coffin, outside overcase or catacomb 50, with pipe 51 is made through a pipe or conduit provided with valve 61. Upon the flow of the decomposition gases through the inlet 54 of the disinfecting arrangement 53, the valve 55 will be displaced causing the valves of the outlets 56 to be moved to a more or less open position, admitting the desired amount of disinfectant to the porous masses 59.

It will be understood that our invention is not limited to the specific details illustrated in the drawings and described herein, since many changes and modifications may be made without defeating the purposes and objects of this invention.

Having thus described our invention, we declare that what we claim as new and desire to secure by Letters Patent, is:—

1. A disinfecting device for one or more receptacles adapted to contain decomposing matter, comprising a reservoir for containing a disinfectant, a chamber for treating the gases arising from decomposition, said chamber embodying a plurality of inter-connected compartments, valve controlled outlets from said reservoir leading respectively into said treating compartments, communicating means connecting said treating chamber with said receptacle or receptacles, and means disposed in said communicating means for automatically opening the respective valves of said outlets upon the flow of decomposition gases through said communicating means.

2. Disinfecting means for one or more receptacles adapted to contain the remains of

a decomposing body, comprising a treating chamber formed of a plurality of sequentially connected compartments, a reservoir for the disinfectant disposed above said compartments and having a plurality of valve controlled outlets leading to said compartments, a passage communicating with an extreme compartment of said sequentially connected compartments and said receptacle or receptacles, and means actuated upon the flow of decomposition gases through said passage for controlling the amount of disinfectant discharged through the valves of said outlets of said reservoir into the compartments of said treating chamber.

3. Disinfecting means for one or more receptacles adapted to contain the remains of a decomposing body, comprising a treating chamber having a plurality of intercommunicating compartments, a reservoir for the disinfectant, said reservoir having a plurality of valve controlled outlets communicating respectively with said plurality of compartments, an inlet gas passage for said treating chamber, a valve disposed in said gas passage, and means connecting said valve of said gas passage with the valves of said outlets whereby the flow of decomposition gas through said passage automatically effects the opening of said outlet valves.

4. Disinfecting means for one or more receptacles adapted to contain the remains of a decomposing body, comprising a plurality of inter-connected chambers for the treatment of the gases arising from decomposition, a disinfectant reservoir having a valve controlled outlet for permitting the flow of disinfectant into said chambers, a gas inlet for one of said chambers, means disposed in said chambers for regulating the period of reaction between the disinfectant and the decomposition gases, and means including a valve disposed in said inlet for automatically controlling the flow of disinfectant through said valve controlled outlet in response to the pressure of the decomposition gases.

5. Disinfecting means for one or more receptacles adapted to contain the remains of a decomposing body, comprising a treating chamber, means for conducting the decomposition gases under pressure from said receptacle for receptacles to said treating chamber, material in said treating chamber for retarding the gases under pressure, a disinfectant reservoir disposed above said treating chamber, a valve controlled passage from said reservoir leading to the upper portion of said material, and means actuated by the pressure of the gases disposed in said conducting means for automatically controlling the flow of disinfectant upon the upper portion of said material.

6. Disinfecting means for one or more re-

ceptacles adapted to contain the remains of a decomposing body, comprising a plurality of treating chambers connected in sequence, a passage connecting said receptacle or receptacles with one of said treating chambers, a reservoir for the disinfectant, said reservoir having a plurality of valve controlled outlets for supplying disinfectant to said plurality of treating chambers, a valve located in said passage, and means connecting the said last named valve with the valves of said outlets whereby the amount of disinfectant admitted to the several treating chambers is controlled by the flow of gas through said passage.

7. Disinfecting means for one or more receptacles adapted to contain the remains of a decomposing body, comprising a plurality of inter-connected treating chambers, each containing a mass of finely divided mate-

rial, means for conducting the decomposition gases from said receptacle or receptacles to the lower sides of said masses of finely divided material, a disinfectant reservoir having valve controlled outlets leading to the upper sides of said masses of finely divided material, and means including a valve disposed in said conducting means for automatically regulating the amount of disinfectant flowing through said outlets in accordance with the flow of decomposition gases through said conducting means.

In testimony whereof we affix our signatures in presence of two witnesses.

VALENTINE DIETZ, Jr.
CHARLES F. DIETZ.

Witnesses:

K. G. LEARD,
HENRY J. LUCKE.

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