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INCINERATOR IN COMBINATION WITH LATRINES OR THE LIKE

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Fig. 1.

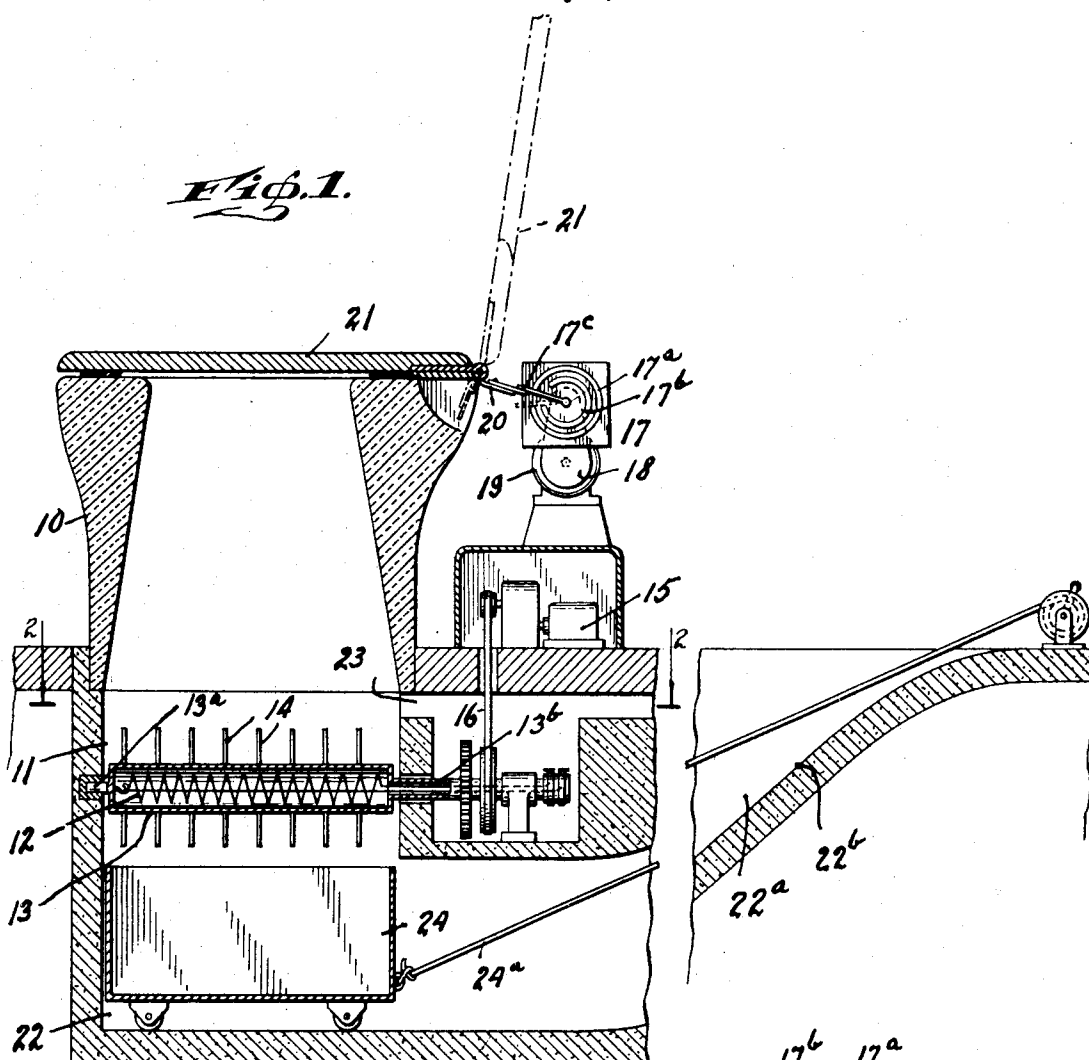


Fig. 2.

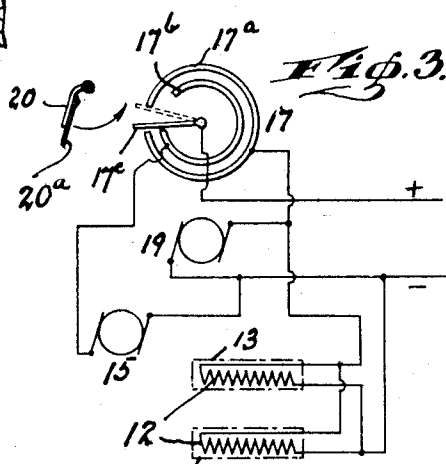
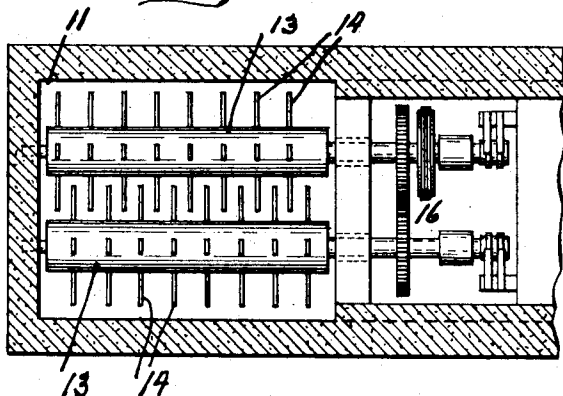


Fig. 3.

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INCINERATOR IN COMBINATION WITH
LATRINES OR THE LIKE

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10 Claims. (Cl. 4-131)

This invention relates to incinerators and one of the principal objects thereof is to provide means for facilitating and expediting the disposal of excrements or other matter in latrines or the like and thereby do away with the unsanitary cesspools, particularly in places which lack sewers.

Another object of this invention is to provide a latrine with an incinerator which will be automatically controlled from the seat.

A still other object is to provide means which will disseminate and comminute the matter during the process of incineration.

And still other object is to provide an ash collecting means below the incinerator which can be conveniently and readily removed and emptied.

With these and other objects in view my invention consists in the novel combination, construction and arrangement of parts as will be hereinafter more fully described and defined in the appended claims.

While the present embodiment discloses the construction of an incinerator as applied to a latrine such as used in outhouses, I do not wish to confine myself to the details of construction described and shown herein since the structure may be modified in various cases to make the incinerator applicable for latrines in railroad trains, trailers, airplanes, etc., without departing from the principle of my invention.

Moreover under the term "electric incinerator" I wish to include heating elements as used in connection with toasters, irons, etc., as well as high and low frequency electric circuits as used with electric furnaces.

In the accompanying drawing which constitutes part of this specification and in which similar reference characters denote corresponding parts:

Figure 1 is a vertical section of a latrine equipped with an electric incinerating device constructed in accordance with my invention.

Figure 2 is a cross section on line 2-2 of Figure 1, and

Figure 3 is a diagram of the electric circuits controlled from the seat of the latrine.

In the present example the latrine is shown to comprise an open bottomed bowl 10 mounted over an incinerating chamber 11 formed of suitable material. The walls of the bowl slope outwardly in downward direction and at their lower edges are flush with the upper edges of the incinerating chamber.

The incinerating means, according to this ex-

ample, comprises heating elements in form of high resistant coils 12 such as ordinarily used in electric toaster, electric irons, etc., and of which several (in the present example two) are arranged in a horizontal plane below the bottom of the bowl or near the upper end of the incinerating chamber. These coils extend longitudinally through hollow rollers of heat conducting material 13 whose journals 13a, 13b, are suitably and rotatively supported in the opposite walls of the incinerating chamber 11. These rollers are arranged in as close proximity to one another as possible so as to obstruct direct passage from the bowl into the ash collecting chamber 22 and serve at the same time as mangles whereby the matter dropping onto the rollers when the latter are rotated will be comminuted and its burning to ashes expedited. The rollers may be provided with radial ribs 14 of metal or other heat conducting material distributed closely next to one another around the entire circumferential faces thereof. The ribs of one roller are displaced relative to those of the adjacent roller so as to mesh with one another and form a sort of grate, which will receive the matter dropping down the bowl and when the rollers are rotated assist in disseminating and comminuting the same and thereby more effectively cause the burning thereof.

The rollers may also be arranged in two or more vertical tiers, in which those of one tier are displaced horizontally to the adjacent tier.

15 denotes an electric motor from which through suitable transmission 16 rotation is imparted to the set of rollers 13. The electric circuit for said motor is controlled by means of a suitable time switch 17 which is automatically operated from the seat of the bowl. To this end the switch 17 comprises two circular concentric contact shoes 17a, 17b insulated from one another and a contact arm 17c. The contact arm 17c is mounted on an output shaft of a speed reducing gear 18 driven from an electric motor 19. The contact shoes 17a, 17b are incomplete circles, the edges thereof at one end being in radial alinement, while the edges at the opposite end are out of alinement, so that the gap between the ends of one shoe segment is wider than that of the other. The electric circuit operating motor 19 and the heating coils 12 is controlled through contact of the contact arm 17c and segment 17a while the electric circuit operating the motor 15, is controlled through contact arm 17c in cooperation with contact segment 17b.

The contact arm 17c is radially extended be-

yond the contact shoes and is adapted to be operated from a finger 20 projecting from the lid 21 hingedly mounted on the seat of the bowl 10. The finger 20 has a resilient or yielding member 20a which when the lid is moved into closing position will engage the outer end of the contact arm 17c, and move the latter from its position in the gaps onto the contact segment 17a, thereby first closing the electric circuit through the motor 19, setting the arm 17c into rotation, and at the same time through the heating elements 12. When the arm 17c reaches the other contact shoe 17b, which is after the resistance coils have been heated to the desired temperature, the electric circuit through the motor 15 is closed as a result of which the heated rollers 13 commence to turn delivering the ashes to the ash collecting chamber 22. The incineration process continues as long as the contact arm is in contact with the contact shoes 17a, 17b. When it slides off the same and enters the gaps the circuit is broken.

When the lid 21 is opened for use the member 20a of the finger 20 can pass the contact arm 17c without moving the latter from its inactive position within the gaps. Suitable packing means may be provided between the lid and the seat to produce a tight closure when the lid is closed.

23 denotes a fume and odor escape passage which may lead from the upper part of the incinerator a sufficiently long distance away from the latrine. Within the ash collecting chamber 22 a wheeled receptacle 24 may be provided which by means of a cable 24a may be hauled outwardly through a passage 22a over an inclined bottom 22b or rails.

The mode of operation is as follows:

As long as the lid is in open position the incinerator is out of operation. When the lid is moved into closing position its finger 20 will turn the arm 17c from the lower ends of the contact shoes 17a, 17b, through the gaps on to the upper edge of the outer contact shoe 17a. As the result thereof the time switch will close the electric circuit through the motor 19 as well as through the heating elements of the incinerator. As the contact arm revolves it will reach the second shoe thereby closing the second circuit energizing the motor operating the rollers, as a result of which the heated rollers will be rotated causing the dissemination and comminution of the burning matter and passing the ashes into the collecting receptacle.

What I claim is:

1. In a latrine a bowl, an incinerator therein including rotary excreta receiving and discharging means comprising a plurality of parallel adjacently disposed members formed with radial ribs, the ribs of each member projecting into the spaces between the ribs of adjacent members to form narrow passages between them and heating means affecting said rotary means so as to cause the burning to ashes of the excreta deposited thereon, means for operating said heating means, means for operating said rotary means and manually actuated means for automatically controlling both said last named means in one operation.

2. In a latrine, a bowl, an incinerator therein including movable excreta receiving and discharging means comprising a plurality of parallel adjacently disposed members formed with radial ribs, the ribs of each member projecting into the spaces between the ribs of adjacent members

to form narrow passages between them and electric heating means within said movable means adapted to heat the latter so that the excreta deposited thereon will be burned to ashes, an electric circuit for said heating means, an electric circuit for operating said movable means and means actuated from the bowl to control both said circuits successively.

3. In a latrine, a bowl, an incinerator therein including movable excreta receiving and discharging means comprising a plurality of parallel adjacently disposed members formed with radial ribs, the ribs of each member projecting into the spaces between the ribs of adjacent members to form narrow passages between them and electric heating means within said movable means adapted to heat the latter so that the excreta deposited thereon will be burned to ashes, an electric circuit for said heating means, an electric circuit for operating said movable means, means actuated from the bowl to control both said circuits successively, and automatic means for causing the opening of said circuits after a predetermined period of time.

4. In a latrine a bowl having a lid, an incinerator therein including movable excreta receiving and discharging means comprising a plurality of parallel adjacently disposed members formed with radial ribs, the ribs of each member projecting into the spaces between the ribs of adjacent members to form narrow passages between them and electric heating means within said movable means adapted to heat the latter so that the excreta deposited thereon will be burned to ashes, an electric circuit for said heating means, an electric circuit for operating said movable means and means actuated by said lid to control said circuits.

5. In a latrine, a bowl having a lid, an incinerator therein including movable excreta receiving and discharging means comprising a plurality of members formed with radial ribs, the ribs of each member projecting into the spaces between the ribs of adjacent members to form narrow passages between them and electric heating means within said movable means adapted to heat the latter so that the excreta deposited thereon will be burned to ashes, an electric circuit for said heating means, an electric circuit for operating said movable means, means actuated from said lid to control said circuits and means for automatically causing the opening of said circuits after a predetermined period of time.

6. In a latrine, a bowl, an incinerator below said bowl comprising movable excreta receiving and discharging means comprising a plurality of members formed with radial ribs, the ribs of each member projecting into the spaces between the ribs of adjacent members to form narrow passages between them and heating means affecting said last named means so as to cause the excreta deposited thereon to burn to ashes, a removable receptacle below said incinerator to collect the ashes from said movable means, means for operating the latter and means for operating said heating means.

7. In a latrine, a bowl, an electric incinerator below said bowl comprising hollow rotary excreta receiving and discharging rollers of heat conducting material, electric heating means mounted within said rollers and adapted to heat said rollers so as to cause the excreta deposited thereon to burn to ashes, means associated with said rollers for comminuting and disseminating the excreta thereon, said last named means con-

sisting of radial ribs formed on said rollers, the ribs of each roller projecting into the spaces between the ribs of adjacent rollers to form narrow passages between them, means for operating said rollers and means for controlling said electric heating means.

8. In a latrine, a bowl, an electric incinerator below said bowl comprising hollow rotary excreta receiving and discharging rollers of heat conducting material, electric heating coils mounted within said rollers and adapted to heat said rollers so as to cause the excreta deposited thereon to burn to ashes, means associated with said rollers for comminuting and disseminating the excreta thereon, said named means including ribs projecting radially from said rollers, the ribs of the different rollers inter-engaging one another and forming narrow passages between them, means for operating said rollers, means for energizing said electric coils, means for automatically controlling said last named two means and removable means below said incinerator for collecting and removing the ashes dropping from said rollers.

9. In a latrine, a bowl, an incinerator below said bowl, including means for burning and means for discharging the excreta deposited on said incinerator, said last named means including grill shaped movable members having narrow passages between them, means actuated manually from said bowl for controlling the incinerator so as to set it automatically in operation at the closure of said bowl.

10. In a latrine, a bowl having a manually movable lid, an incinerator below said bowl including means for burning and means for discharging the excreta deposited on said incinerator, said last named means comprising a plurality of grill shaped movable members having narrow passages, means automatically actuated by said lid for controlling both said means of said incinerator so as to set in operation both said excreta burning and discharging means successively by the closure of said lid.

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