A. McGARY & J. P. SUNDERLAND.

CLOSET.

APPLICATION FILED AUG. 4, 1913.

1,272,483. Patented July 16, 1918.

Fig. 1.

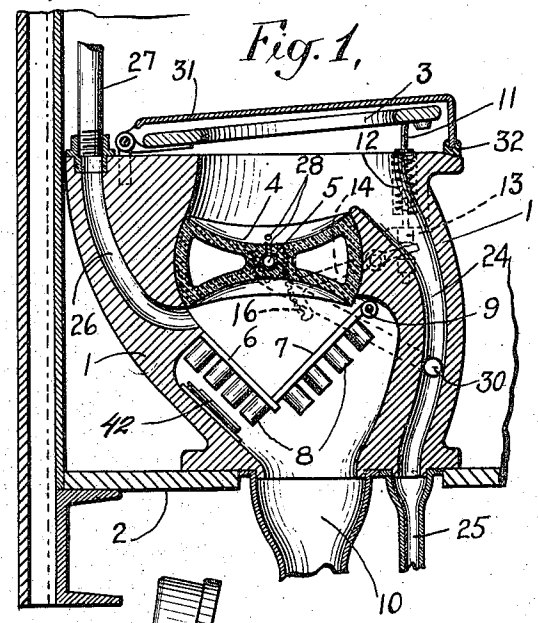


Fig. 2.

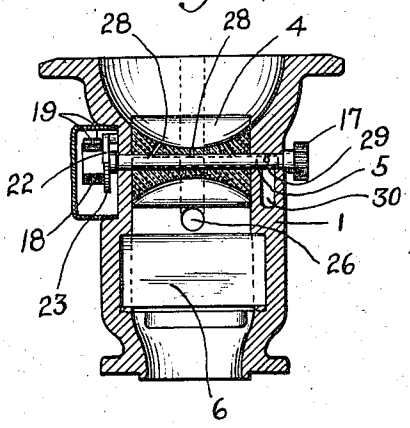


Fig. 3.

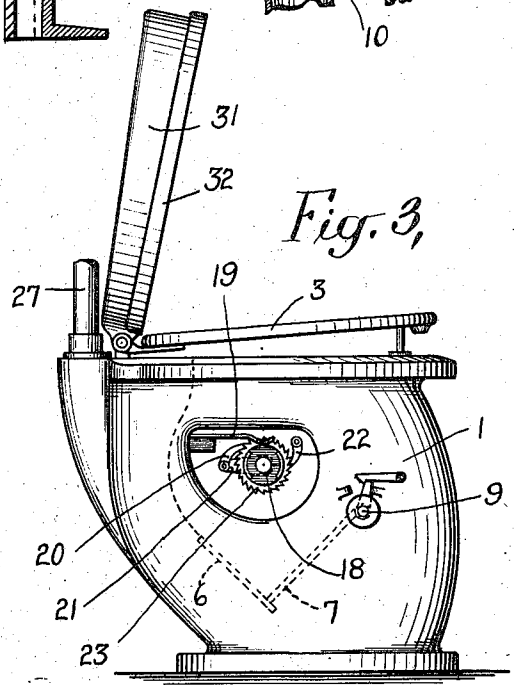


Fig. 4.

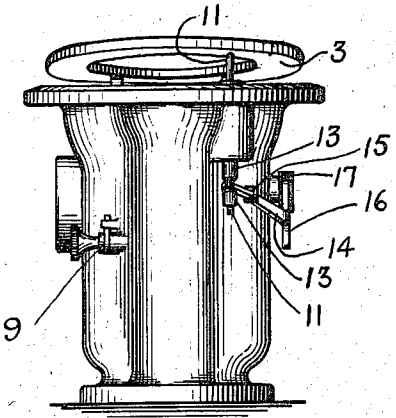
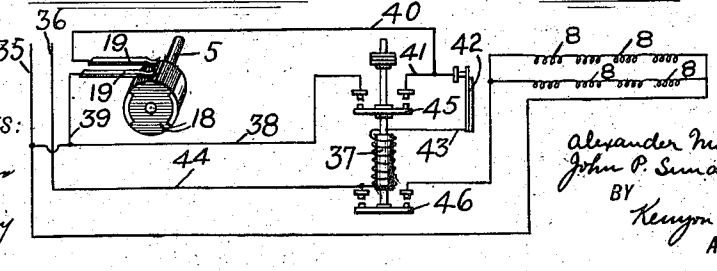


Fig. 5.



WITNESSES:

J. O. Kemper

T. E. Raftery

INVENTORS

Alexander McGary

John P. Sunderland

BY

Kenyon & Kenyon

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALEXANDER McGARY AND JOHN P. SUNDERLAND, OF NEW YORK, N. Y., ASSIGNORS, BY MESNE ASSIGNMENTS, TO GOULD COUPLER COMPANY, A CORPORATION OF NEW YORK.

CLOSET.

1,272,483. Specification of Letters Patent. Patented July 16, 1918.

Application filed August 4, 1913. Serial No. 782,781.

To all whom it may concern:

Be it known that we, ALEXANDER McGARY and JOHN P. SUNDERLAND, both citizens of the United States, and residents of the borough of Bronx, city, county, and State of New York, have invented certain new and useful Improvements in Closets, (Case A,) of which the following is a specification.

Our invention relates to improvements in closets. One object of the invention is to provide an improved closet in which the excreta will be electrically heated or burned, so that it is either practically entirely destroyed or at least so heated as to kill all bacteria and render the same harmless and unobnoxious. A further object is to provide an improved form of electric heater for this purpose. A further object is to provide an improved arrangement for discharging the excreta to the heater and automatically turning on and off the heat. Further objects, features and advantages will more clearly appear from the detailed description given below, taken in connection with the accompanying drawing which illustrates a closet embodying our improvements in one form.

In the drawings, Figure 1 is a vertical section of a closet embodying our improvement in one form; Fig. 2 a vertical section at right angles to that of Fig. 1, Fig. 3 a side elevation, Fig. 4 a front elevation, and Fig. 5 a diagram of the electrical circuits.

Referring to the various figures, 1 represents a suitable body portion supported on the floor 2. Hinged to the top thereof is a seat 3. Pivotally mounted in the body portion is an oscillating pan 4, having a hollow pipe 5 extending through the body thereof and through the body portion 1, to serve as an axis for the pan to tilt upon. Below the pan is an electric heater comprising metallic plates 6 and 7, having alternating current coils 8 secured thereto, which when energized will cause the plates 6 and 7 to become highly heated. The plate 7 may be tilted about an axis 9 in order to discharge the refuse that may be left after heating, into the chute 10.

Extending vertically through the body portion 1 is a spindle 11, normally pressed upwardly by a spring 12, the upper end of the spindle engaging the under side of the seat. The lower end of the spindle is provided with two abutments 13 engaging one end of a lever 14 pivoted at 15 and having upon its other end a rack 16 engaging a gear 17 fixed to the hollow shaft 5. On the other end of the shaft 5 is a commutator or rotary switch 18, engaged by two spring contacts 19. The commutator is loosely mounted on the shaft 5, and is given an intermittent rotary movement by a pawl 20 pivoted to an arm 21 fixed to the shaft 5, the pawl engaging a ratchet 23 carried by the commutator. A dog 22 pivoted to the body portion 1 engages the ratchet to prevent backward rotation thereof and of the commutator.

The body portion 1 is provided with a separate passage 24 for the discharge of urine into the waste pipe 25. A vent passage 26 leads from the space beneath the pan 4 and connects with the vent pipe 27. Small passages 28 lead from the bottom of the pan 4 into the hollow pipe 5 and at one end the pipe 5 is provided with passages 29 which connect the same with a passage 30 in the body portion which leads to passage 24, so that any liquid in the pan 4 will be led into the urine passage 24.

A special cover 31 is provided for the closet, hinged at the back and having a band of rubber 32 about its lower edge, fitting closely the top of the body portion in order that when the cover is closed any obnoxious gases will be prevented from coming from the closet.

When the closet is occupied the seat 3 is depressed against the action of the spring 12 and the spindle 11 is forced down, rocking the lever 14, thereby causing the rack 16 to rotate the pan 4 one half a revolution. This does not rotate the commutator, however, the pawl 20 simply riding over the ratchet teeth, so that the contacts 19 remain on the insulating portion of the commutator as shown in Fig. 3.

Upon leaving the seat the same is raised by the action of the spring 12 and the pan 4 rotated back to its initial position, thereby discharging the contents of the pan onto the heater composed of the plates 6 and 7. This reverse movement of the pan and its shaft 5 causes the commutator to be given a half revolution, thus momentarily closing an electrical circuit through the contacts 19. The closing of this circuit, which is supplied from alternating current supply mains 35 and 36, energizes the solenoid 37 (see Fig. 5), the circuit being as follows: main 35, conductors 38, 39, contacts 19, conductors 40, 41,

a thermostat 42, conductor 43, solenoid 37 and conductor 44 back to the main 36. The solenoid 37 is thereby actuated and closes two switches 45 and 46. The switch 45 closes a shunt circuit about the contacts 19 to maintain the circuit through the solenoid 37 closed after the breaking of the circuit at the contacts 19, while the switch 46 closes the circuit from the mains through the heating coils, the solenoid 37 and its associated parts acting as a stick relay. The heater is thereby heated to the desired temperature and upon a predetermined temperature being reached, measured by the thermostat 42 located beneath the plate 6, the circuit is automatically opened by the thermostat thereby deënergizing the solenoid which opens the circuit through heating coils 8, thereby throwing off the heat.

The turning on and off of the heat is therefore entirely automatic and we find the heating by alternating current especially efficient for the purposes in question. Also the pan 4 is automatically tilted and discharged. The pan fits closely the body portion, so that it forms a tight cover for the heater, preventing most if not all of any obnoxious gases from escaping from the closet except through the vent pipe 27. It also prevents the heat from the heater from reaching the seat, and since the pan is normally inverted a clean surface is presented uppermost except when the closet is occupied. It will also be noticed that the heat is not turned on until one leaves the seat, so that the heating occurs when the seat is not occupied, and it is then turned on and off automatically.

Although we have described our improvements in great detail and with respect to one particular form, we do not desire to be limited thereto except as clearly pointed out in the appended claims, since many changes and modifications may well be made without departing from the spirit and scope of our invention in its broader aspects.

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

1. The combination of a closet seat adapted to be depressed, a heater adapted to receive and heat the excreta, means for heating said excreta by alternating current, and means for turning on the current to heat the heater upon a rise of said seat.

2. The combination of a closet seat, a heater adapted to receive and heat the excreta, an electric circuit adapted to heat said heater and means for automatically energizing said circuit to heat the heater upon one leaving said seat.

3. The combination of a closet seat, a heater adapted to receive and heat the excreta and means for automatically causing said heater to heat the excreta upon one leaving said seat.

4. The combination of a closet seat adapted to be depressed, a heater below said seat adapted to receive and heat the excreta and means for automatically causing said heater to heat the excreta upon a rise of said seat.

5. The combination of a closet seat adapted to be depressed when occupied, a pan below said seat, an alternating current electric heater below said pan, means for discharging the excreta from the pan into the heater, and means for causing said heater to heat the excreta therein upon one leaving the seat.

6. The combination of a closet seat, a tilting pan beneath said seat adapted to receive and discharge excreta, an electric heater in operative relation to said pan, means automatically tilting said pan to discharge the same into the heater upon one leaving the seat, and means for turning on the heat of said heater upon one leaving the seat.

7. The combination of a closet seat, a pan beneath the seat for receiving the excreta, a heater in operative relation thereto, means for tilting said pan to discharge the same into the heater upon one leaving the seat, and means for automatically turning on the heat of the heater upon one leaving the seat.

8. The combination of a closet seat, a pan beneath the seat for receiving the excreta, an electric heater in operative relation thereto, means for tilting said pan to discharge the same into the heater upon one leaving the seat, means for automatically turning on the heat of the heater upon one leaving the seat, and means for automatically turning off the heat of said heater.

9. The combination in a device of the class described of a closet seat, a heater adapted to receive and heat the excreta, means automatically set into operation by the ordinary use of the device for heating the heater by means of an electric current and means for automatically discontinuing the heat of the heater upon the attainment of the required degree of heat.

10. The combination of a closet seat, a heater adapted to receive and heat the excreta, means for turning on the heat of the heater upon one leaving the seat and means for automatically discontinuing the heat of the heater upon the attainment of the required degree of heat.

11. The combination of a closet seat, a heater adapted to receive and heat the excreta, means for automatically turning on the heat of the heater upon one leaving the seat and means for automatically turning off the heat of the heater.

12. The combination of a closet seat, a heater adapted to receive and heat the excreta, means for heating the heater by means of an electric current, means for automatically turning on the heat of the heater upon a rise of said seat, and means for auto-

matically turning off the heat of the heater after the excreta has been heated to the proper degree.

13. The combination of a closet seat, a tilting member therebeneath having a pan formed in one face to receive the excreta, a heater below said pan, means for tilting the pan to discharge the same and a passage leading from one face of said member for the discharge of urine to a point removed from that to which solid excreta is discharged.

14. The combination of a closet seat adapted to be depressed, an excreta receiving tilting member therebeneath mounted to be tilted to discharge the same upon a rise of said seat, a heater beneath the member to receive the discharged excreta, and a passage leading from one face of said member for the discharge of urine therefrom to a point removed from that to which solid excreta is discharged.

15. The combination of a closet seat, a member therebeneath to receive the excreta, an electric heater beneath the member, means for tilting the member to discharge the same into the heater and a passage leading from one face of said member for the discharge of urine independently of solid excreta to a point removed from that to which excreta is discharged.

16. The combination of a body portion, a closet seat, a tilting member therebeneath adapted to receive excreta, a heater below the member to receive the excreta from the member, the axis upon which said member tilts embracing a hollow pipe, said member having passages from one of its faces leading to said hollow pipe, and said body portion having a passage adapted to lead the urine from said pipe.

17. The combination of a closet seat, a tilting pan therebeneath, a heater beneath the pan, means for giving said pan a part of a revolution to bring the same to operative position when said seat is occupied and an energy storing device operated thereby, said device operating to turn on said heater.

18. The combination of a closet seat, a tilting pan therebeneath, a heater below the pan, and means for giving said pan a part of a revolution to discharge said pan upon one leaving said seat, said means operating to turn on said heater.

19. The combination of a closet seat adapted to be depressed, a tilting pan therebeneath, a heater below the pan, and means for giving said pan a half revolution to discharge the pan upon a rise in said seat, said means operating to turn on said heater.

20. The combination of a closet seat, a tilting pan therebeneath for receiving the excreta, a heater below said pan, means for automatically tilting said pan to discharge the same into the heater and turning on the heat of the heater, said pan when so tilted forming a cover for the heater to prevent the heat reaching the seat and means for automatically turning off the heat of said heater.

21. The combination in a device of the class described of a closet seat, a tilting pan therebeneath for receiving the excreta, a heater below said pan, and set into operation by the ordinary use of the device, means for tilting said pan to discharge the same into the heater upon one leaving the seat, said pan when so tilted forming a cover for the heater to prevent the heat reaching the seat, and means for automatically turning off the heat of said heater.

22. The combination in a device of the class described of a closet seat, a tilting pan therebeneath for receiving the excreta, a heater below said pan, and means for tilting said pan to discharge the same into the heater, said pan when so tilted forming a cover for the heater to prevent the heat reaching the seat and means for automatically turning on and off the heat of said heater, said means being arranged to effect the turning on upon the ordinary use of the device and the turning off being controlled by the temperature of the excreta.

23. The combination of a closet seat, a tilting pan therebeneath for receiving the excreta, a heater below said pan, and means for tilting said pan to discharge the same into the heater upon one leaving the seat, said pan when so tilted forming a cover for the heater to prevent the heat reaching the seat, means for automatically turning on the heat of said heater upon one leaving the seat and means for automatically turning off the heat of said heater.

24. The combination of a closet seat, a tilting pan therebeneath for receiving the excreta, an electric heater below said pan, and means for tilting said pan to discharge the same into the heater upon one leaving the seat, said pan when so tilted forming a cover for the heater to prevent the heat reaching the seat, means for automatically turning on the heat of said heater upon a rise of the seat and means for automatically turning off the heat of said heater.

25. The combination of a closet seat, an electrical heater adapted to receive and heat excreta, means operated by a movement of said seat for momentarily closing the circuit through said heater, means for maintaining the circuit through said heater closed, and means for automatically causing the circuit through said heater to be opened.

26. The combination of a closet seat, an electrical heater adapted to receive and heat excreta, means for momentarily closing the circuit to said heater upon one leaving said seat, means for maintaining the circuit through said heater closed after one has left

the seat, and means for automatically causing the circuit through said heater to be opened.

27. The combination of a closet seat, an electrical heater adapted to receive and heat excreta, means for momentarily closing the circuit to said heater upon a rise of said seat, a shunt circuit having a switch therein for maintaining the circuit through said heater closed, and a magnetic device for operating said switch and means for automatically opening the circuit through said heater and magnetic device.

28. In a device of the class described an electric heater adapted to receive and heat the excreta, a closet seat above said heater, a switch for turning on the current to said heater, means for automatically closing said switch when the seat is vacated, and means for automatically causing said switch to open.

29. The combination of a closet seat and an electric heating device in operative relation therewith for heating the excreta, said electric heating device being adapted to be energized upon the seat being vacated.

30. In a closet, the combination of a tilting pan for receiving the excreta, a heater below the pan for heating the excreta, and means for automatically turning the pan upside down upon one leaving the closet, whereby the heat from the heater acts directly upon the side of the pan which received the excreta.

31. In a closet, the combination of a tilting pan for receiving the excreta, a heater below the pan for heating the excreta, means for energizing said heater to heat the excreta upon one leaving the closet, and means for automatically turning the pan upside down upon one leaving the closet, whereby the heat from the heater acts directly upon the side of the pan which received the excreta and the pan acts as a cover for the heater.

32. The combination of a closet seat adapted to be depressed, a tilting pan below said seat for receiving the excreta, a heater below said pan, means for turning the pan upside down upon a rise of said seat, whereby the heat from the heater acts directly upon the side of the pan which received the excreta, means for energizing the heater upon a rise of said seat, and means for automatically deënergizing said heater.

33. In a device of the class described, a seat, a tilting pan for receiving the excreta, and a heater below the pan said heater comprising a pivoted base or bottom for receiving the excreta from the pan and discharging the unconsumed remains of the excreta.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

ALEXANDER McGARY.
JOHN P. SUNDERLAND.

Witnesses:
GORHAM CROSBY,
EDWIN SEGER.