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UNITED STATES PATENT OFFICE.

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DEVICE FOR STERILIZING CLOSET-SEATS AND THE LIKE.

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To all whom it may concern:

Be it known that I, KARL GASIOROWSKI, a citizen of the Republic of Switzerland, residing at Zurich, III, Switzerland, have invented new and useful Improvements in Devices for Sterilizing Closet-Seats and the Like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The invention relates to a device for sterilizing closet-seats and the like by electric-heating, by means of which the pathogenic micro-organisms and parasites adhering to the surface of the seat and the like are killed.

According to this invention the device is provided with a metal seat or with a pipe having a coating of metal on its top serving as a seat, which pipe or coating of metal is connected to an electric circuit which before using the seat can be closed by an automatically operated circuit closer in order to heat the seat to a high temperature (200 to 250° C.), whereupon after a short time and after a circuit is opened by a time lag relay the pipe is cooled by circulating water.

In the accompanying drawing which illustrates by way of example a form of construction according to this invention, Figure 1 is a side elevation showing the closet-seat with a diagram of connections. Fig. 2 is plan view of the closet-seat.

The usual wooden closet seat is replaced by a seat made of a steel-pipe *i* of the same shape as the hitherto used seats, which is connected to an electric circuit. In order to obtain the necessary current for each closet there is provided a single-phase transformer *k*, which is connected to the installation of the building. An automatically operated double pole switch *a* is inserted in the primary circuit *a'* of the transformer, and acts to automatically close and open the circuit. The switch is provided with a weighted lever *a²* which is connected to the core of an electro-magnet *n*, the coil of which is insert-

ed in an auxiliary circuit *c* which is inserted in the primary circuit *a'*. A switch *c'* is inserted in said auxiliary circuit and is operated by a coin or a push *d*. An electromagnet *m* the coil of which is inserted in the primary circuit *a'* is also connected to the lever *a²* and holds the switch *a* in closed position. To this latter magnet there is connected a time lag relay *b*, of any approved form, which may be adjusted for example to operate after one minute, and after this time causes the switch to be opened. By means of the switch *c'* the magnet *n* is cut in for a short time thereby attracting its core and raising the lever *a²* whereby the main circuit is closed. By this means also the second magnet *m* is cut in, which keeps the switch *a* in closed position even if the first magnet *n* after a short time becomes currentless by opening the switch *c'*. The second magnet *m* is short-circuited at a predetermined time by the relay *b*. By closing the switch *a* the seat *i* is heated by the electric current to 200 to 250° C. This relay *b* is a time relay and is connected in an actuating circuit comprising point 1, wire 2, coil of relay *b*, wire 3, wire 4 to point 5. As soon as the double pole switch *a* is closed, current will pass through this actuating circuit to energize the coil of relay *b*. This coil *b* will attract its arcuate core 6 carried on a pivoted lever arm 7 which is retarded in any well known manner. The end of core 6 will after a time strike arm 8 of a double pole switch *p* and close this arm 8 on a contact 9, thereby establishing a control circuit as follows; point 1, wire 2, wire 10, coil of the electromagnet *l*, wire 11, point 9, switch arm 8, wire 4 to point 5, thereby causing the core *l'* of the electromagnet *l* to be attracted for the purposes hereinafter stated. Shortly after arm 8 reaches the point 9, the arm 12 of switch *p* closes a circuit through the point 13 to establish a disconnecting circuit for short circuiting the holding magnet *m*. This circuit will be as follows; point 14, on one side of the magnet, wire 15, switch point 13, switch arm 12, wire 4 to point 5.

In order to protect persons from touching the heated closet-seat, there is provided a

board *g* which wholly covers the closet-seat *i* without lying thereon while the current flows through the seat. This board is mounted to turn about an axle and would be turned upward by a counter-weight *h* if it was not kept in its described lower position by a catch *f*. One end of the catch is acted upon by a spring and the other end by the electromagnet *l* in the opposite direction. The electromagnet *l* is excited and overcomes the action of the spring in the moment in which the relay *b* releases the automatic switch. The relay *b* at the end of its stroke not only short-circuits the coil of magnet *m*, but also a short time before this in consequence of a small leading of the contact at the relay *b* puts the electromagnet *l* of the catch *f* in circuit. The catch *f* releases the cover and the counterweight *h* moves a lever *o* downward and thereby acts on a flushometer *p* or the like, so that water is caused to flow through the seat *i*, which is cooled by this means.

In order to prevent a heating of the metallic seat when the cover *g* is turned upward, a contact piece *e* of an auxiliary switch is mounted on an arm which is connected to the cover and turns with the latter. By this arrangement the current for automatically closing the main switch can only flow if the board *g* covers the seat *i*. By this means the persons using the closet are protected from being hurt.

By a mechanical connection with the door of the closet the board *g* may be positively moved if desired in its lower position in which it covers the seat. The seat could also be made of enameled gas pipe at the upper surface of which there is closely secured a coating of metal, for example sheet steel.

The single-phase transformer *k*, the automatic double-pole switch *a*, the time lag relay *b* and the switch *c* may be arranged in a box to be locked, which is provided with a narrow opening for inserting the coins.

The coin contact *e* may be replaced by a small push by which the switch is operated. The closing of the contact may also be performed when the closet door is opened if the coin contact or the push contact are replaced by a door-contact.

The main switch and the time lag relay may be replaced by a so called remote time switch with clock-work of the automatic type which is used for staircase lighting.

Besides for closet-seats, the device according to this invention may be used also for example for operation tables. By heating the closet-seat on its upper surface the pathogenous micro-organisms and parasites adhering to it are killed, so that thereby a transmission of gonorrhea, syphilis, typhus, gut-tuberculosis, dysentery, cholera, cancer

and the like, as well as parasites is wholly impossible.

I claim:

1. In a device for sterilizing closet-seats and the like, at least the upper surface of the seat being made of conducting material, an electric circuit including said conducting part of the seat for heating the latter, an automatically operated switch inserted in said circuit, a time lag relay interrupting said circuit, and means for cooling the seat.

2. In a device for sterilizing closet-seats and the like, at least the upper surface of the seat being made of conducting material, an electric circuit including said conducting part of the seat for heating the latter, an automatically operated switch inserted in said circuit, a time lag relay interrupting said circuit, means for cooling the seat, a movable board covering the seat during the heating, means for locking the board in the covering position and means tending to lift the board, said locking means being controlled by said relay.

3. In a device for sterilizing closet-seats and the like, at least the upper surface of the seat being made of conducting material, an electric circuit including said conducting part of the seat for heating the latter, an automatically operated switch inserted in said circuit, a time lag relay interrupting said circuit, means for cooling the seat, a movable board covering the seat during the heating, means for locking the board in the covering position, means tending to lift the board, said locking means being controlled by said relay, an auxiliary circuit for operating the said switch and an auxiliary switch connected to the movable board allowing the auxiliary circuit to be closed only if said board is in its covering position.

4. In a device for sterilizing closet-seats and the like, at least the upper surface of the seat being made of conducting material, an electric circuit including said conducting part of the seat for heating the latter, an automatically operated switch inserted in said circuit, a time lag relay interrupting said circuit, means for cooling the seat, an auxiliary circuit for operating the said switch and a coin switch inserted in said auxiliary circuit.

5. In a device for sterilizing closet-seats and the like, a pipe forming the seat, an electric circuit including said pipe, means for cooling the seat, an automatically operated switch inserted in said circuit, an auxiliary circuit for operating the said switch, a coin switch inserted in said auxiliary circuit and an auxiliary switch connected to the movable board allowing the auxiliary circuit to be closed only if said board is in its covering position.

6. In a device for sterilizing closet-seats

and the like, at least the upper surface of the seat being made of conducting material, an electric circuit including said conducting part of the seat for heating the latter, an automatically operated switch inserted in said circuit, and a time lag relay interrupting said circuit.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

KARL GASIOROWSKI.

Witnesses:

ERNST FISCHER,
AUGUST RÜGG.