May 31, 1927. 1,630,932

E. G. FRIEDRICH

TOILET

Filed Aug. 30, 1926 3 Sheets-Sheet 1

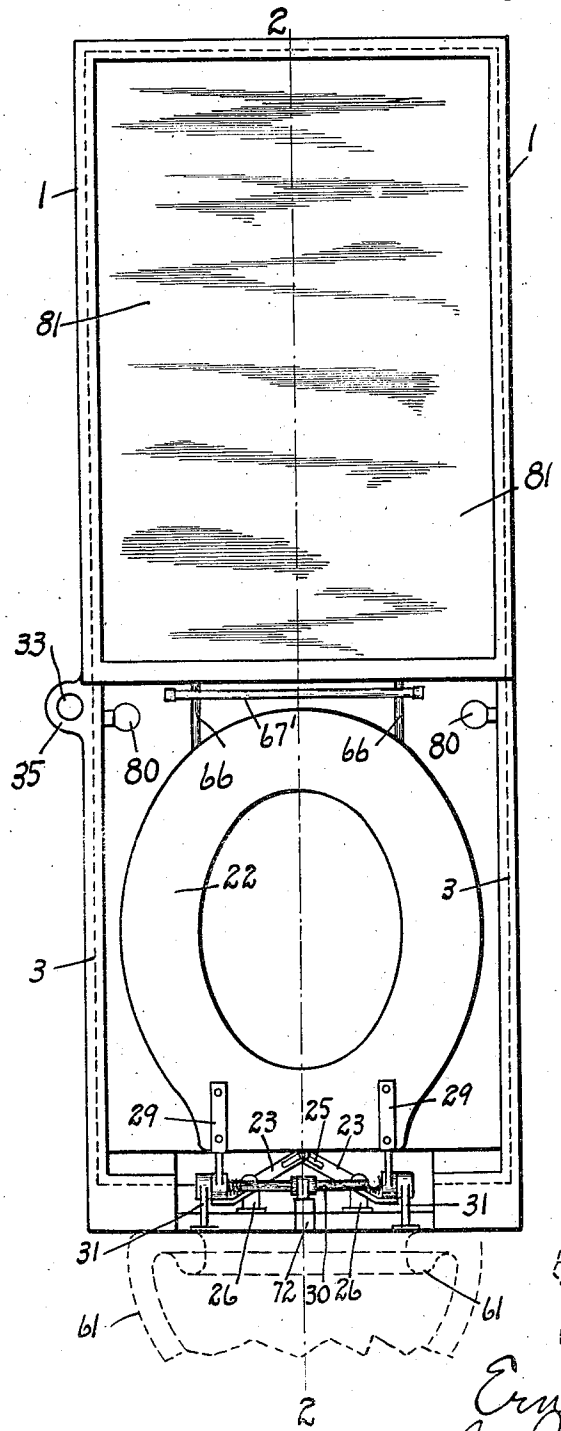


FIG. 1.

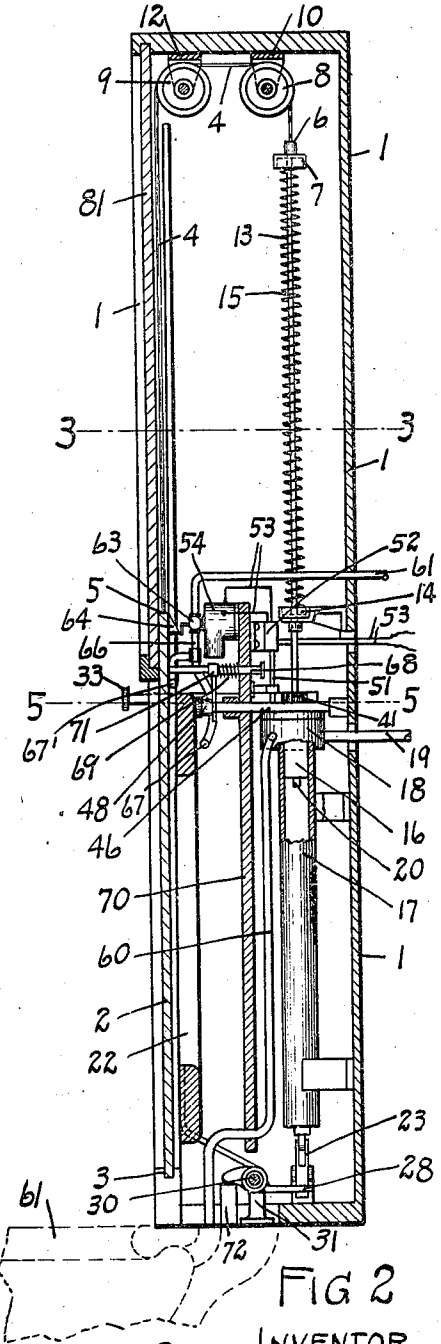


FIG 2

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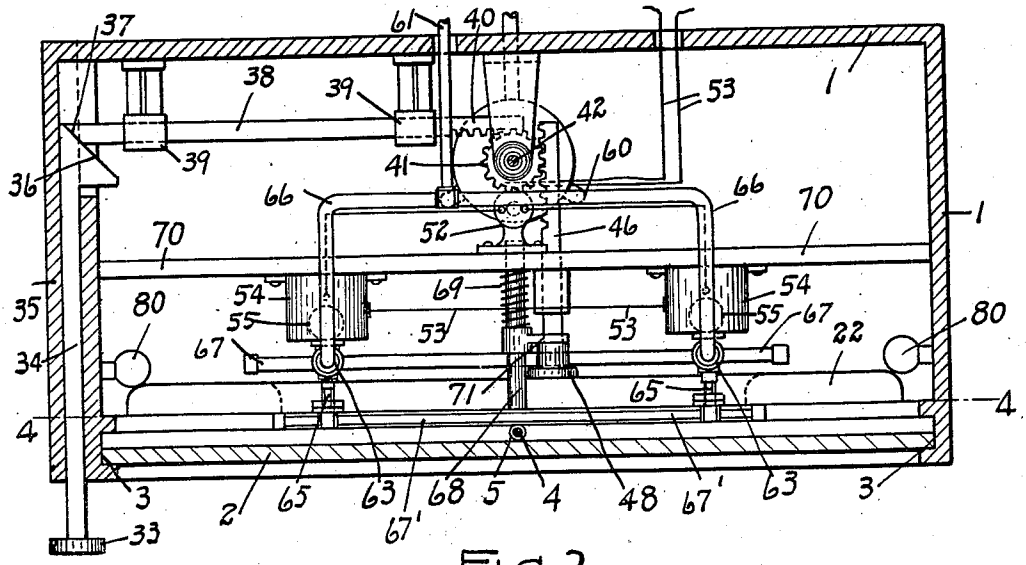


FIG. 3.

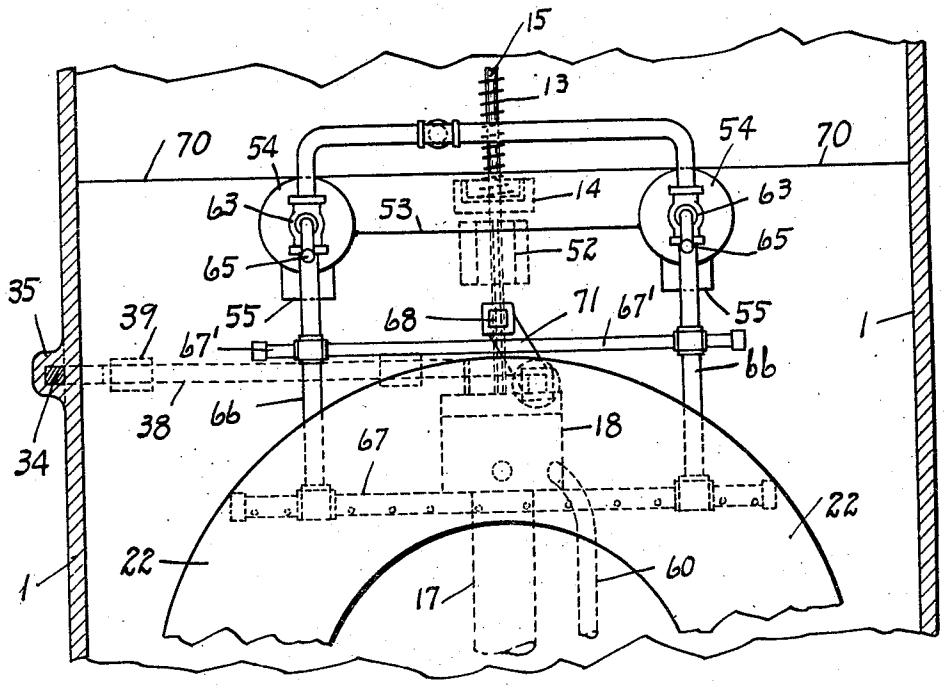


FIG. 4.

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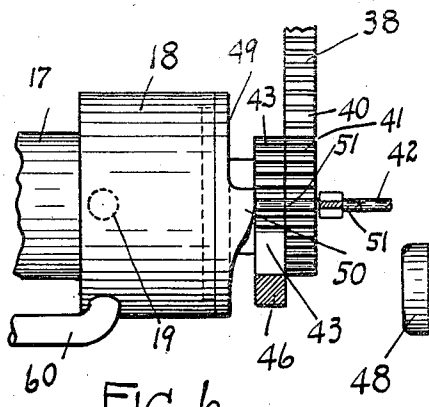


FIG. 6.

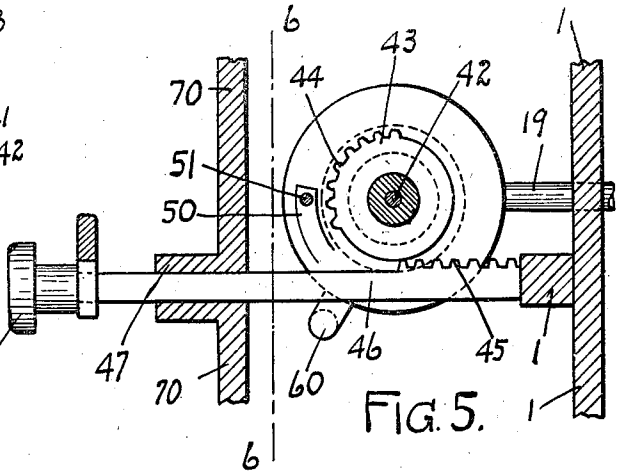


FIG. 5.

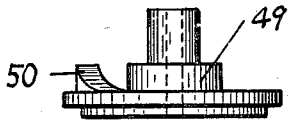


FIG. 7

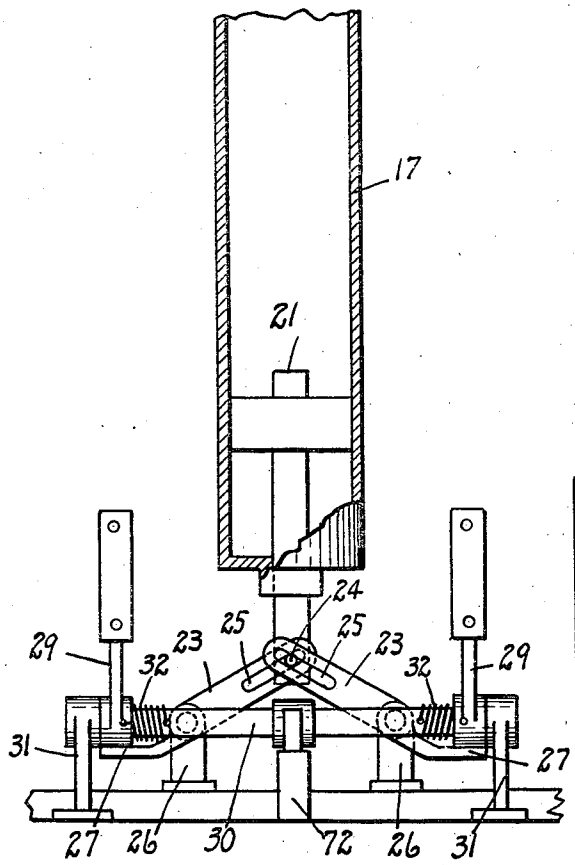


FIG. 8

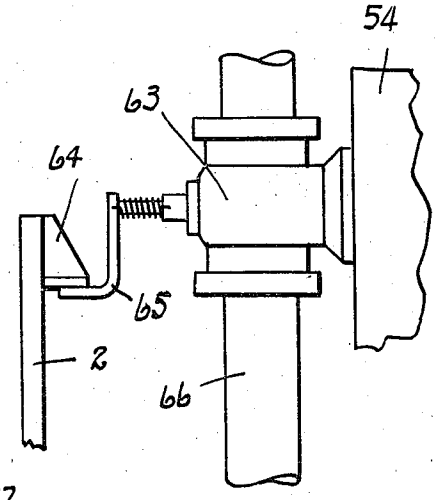


FIG. 9.

INVENTOR

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Patented May 31, 1927. 1,630,932

UNITED STATES PATENT OFFICE.

ERNEST G. FRIEDRICH, OF CINCINNATI, OHIO.

TOILET.

Application filed August 30, 1926. Serial No. 132,417.

My invention belongs to that class of toilets known as sanitary closets, and particularly refers to keeping the seat thereof in a highly sanitary condition.

One of the features of my invention consists in the construction of a toilet seat which will be mechanically cleaned and dried, after each use thereof.

Another feature of my invention consists in flushing the seat with water or liquid or the like, on both sides thereof, or as an entirety.

Another feature of the invention consists in forcing air to the seat and thus drying same, after flushing said seat.

In carrying out my invention, I provide a cabinet provided with a moving door or doors, preferably made of glass; the toilet seat moves out of this cabinet and into the same at predetermined times; said seat being cleaned or flushed while the same is in said cabinet, and also dried while in said cabinet.

In the accompanying drawing forming a part of this specification:

Fig. 1 is a front elevation of my new invention,

Fig. 2 is a section taken on line 2—2 of Fig. 1,

Fig. 3 is an enlarged section taken on line 3—3 of Fig. 2,

Fig. 4 is an enlarged detail of the seat flushing mechanism, parts broken away,

Fig. 5 is an enlarged detail of the seat lowering means, partly in section and parts broken away, taken on line 5—5 of Fig. 2,

Fig. 6 is a section taken on line 6—6 of Fig. 5,

Fig. 7 is a detail part of the electrical device used in connection with drying means used by me,

Fig. 8 is an enlarged detail of the seat carrying and lowering means, and

Fig. 9 is a detail of the slow acting valve which flushes the seat.

I provide a cabinet having a sliding or movable door or doors, in present instance using a glass 2 operating in slots 3, 3, by means of a cable 4, connected at one end to the glass 2 at 5 and the other end connected, at point 6, to a head 7; this cable passes over pulleys 8 and 9; said pulleys being supported in brackets 10 and 12. The head 7 forms one end for compression against spring 13 and the other end of the spring bearing in a bracket 14, secured to the back of the cabinet 1. This spring 13 is guided by a pull rod 15 which has its one end fastened in head 7 and its other end is secured in a plunger 16 in a cylinder 17. In the head 18 of this cylinder I provide valve means (not shown) as old in the art. This valve means controls the upward and downward movement of plunger 16, when water enters the cylinder through the inlet 19. Plunger 16 is forced downward and this causes the slide window 2 to rise, and as the finger 20 of the plunger 16 bears down on the lower plunger rod 21, at the lower extremity of the cylinder 17, will cause the seat 22 to lower by reason of the links 23 being pressed downwardly by the plunger rod 21; this is caused by a pin 24 engaging in slots 25 of the links 23, said links being movably mounted in the brackets 26. The links 23 have extensions 27 which bear against extensions 28 of the seat brackets 29, these seat brackets are supported on a shaft 30, which is supported in brackets 31. Coiled springs 32 each have one end secured in the hub of brackets 29 and the other ends of the springs 32 are secured in the shaft 30, which is held rigidly in brackets 31 so that when the seat 22 is brought downward the springs 32 will cause seat 22 to return as hereinafter described.

In carrying out the operation, I provide a push button 33 which is mounted at one end of the push rod 34, the said rod being provided in a housing 35 and at the opposite end of said push rod I provide an inclined face 36, which engages on a corresponding inclined face 37, which is at one end of a sliding bar 38, said bar being guided in bracket 39 and is provided with a rack 40 at the other end, which rack 40 engages into a gear 41 which gear is securely mounted on a shaft 42, which also has securely mounted thereto a segment gear 43, having teeth 44, which engage with the rack teeth 45, of a rack 46 which is guided in the bracket 47 and carries a pusher head 48.

When the seat 22 rises and goes back into the cabinet, it is caused to do so by the springs 32, and in rising, the seat strikes against the pusher head 48, this causes the rack 45 to allow the sector gear 43 to return to the position shown in Fig. 5; in returning to this position, the inlet valve (not shown), in the head 18, closes the inlet at 19 and opens the drain which passes through the pipe 60 into the bowl 61; the draining

of the cylinder 17 takes place when the plunger 16 is forced upwardly by spring 13.

In order to flush the seat 22 an independent inlet line 62 leads to slow acting valves 63; these valves are operated by a bracket 64 which engages crank arms 65 when the glass door 2 has returned completely to its lowest position, the slow acting valves 63 allow water to pass through pipes 66 into headers or sprays 67 and 67' which flush seat 22 to limit of time set by the slow acting valves 63. This flushing takes place while the seat is inclosed in the cabinet preventing the water from splashing. The water then drains into bowl 61.

In order to operate the device the operator presses on the pusher knob or button 33, which forces the gear 41 to revolve, which being secured to shaft 42, also revolves the sector gear 44, and these gears being secured to shaft 42, said shaft 42 opens the main inlet at 19 which allows water to force plunger 16 down in cylinder 17 until the finger 20 engages rod 21 and causes the seat 22 to lower after the window or sliding door 2 has been raised out of path of motion of seat 22; the sector gear 43 does not act on rack 45, thereby pushing out the pusher knob 48 until sliding door 2 has reached its uppermost travel; at this time a supporting rod 68 passes under door 2 and holds it in position by reason of compression spring 69. The rod 68 is guided in partition 70 and has the depending guide arm 71 which engages around the rod 47. The seat having been brought downward, the seat 22 is caused to return by springs 32 into the cabinet; this is made possible by the arms 28 being allowed to return to their former position because the slow acting valves in the head 18, having been turned off, allows the rod 21 to return to its normal or former position. The seat having been returned it is flushed as heretofore stated and in order to dry same while the seat is still in the cabinet, I accomplish the same in the following manner.

On the shaft 42 I also provide and securely mount a cam 49 having the raised portion 50; as the cam is revolved the raised portion 50 engages underneath the push rod 51, this operates an electrical slow acting switch 52, said switch being connected by wires 53 at one end, and at the other ends said wires connect to and operate electrical units 54 which units heat the air and force same through openings 55 onto the seat 22, which dries the seat.

The door 2, in the present instance is made of glass to permit inspection for those desiring to use the toilet; the door may, however, be made of any material and operated in any desirable manner.

I also provide an electric light 80 which provides continual elimination.

The upper part of the door is usually made with a panel or mirror 81. The feature of cleaning the seat on both sides or as an entirety enables me to secure the highest possible sanitary result; of course, this cleaning can be done by water, liquid of some kind, or through any other cleaning means; and the feature of the drying the seat by electricity, air or any equivalent means, renders it possible by further sanitation and the rays of the electric light may be of a sterilization character to further carry out the purpose of sanitation. I may use compressed air or any other means for drying purposes.

It is evident that the toilet which is herein specifically described, is capable of some change and modification, and I wish to be understood as claiming any changes or modifications which fall within the scope of this specification and claims.

My invention can be applied to any of the forms of toilets now is common use, especially to that class which are coin-controlled, and I may use a seat of any form or contour found most practicable in use.

What I claim as new and my invention and desire to secure by Letters Patent is:—

1. A toilet of the character described, comprising a seat, capable of upward and downward movement, a receptacle, into which said seat passes in its upward movement, and means for flushing said seat on both sides thereof, and means for drying the same while said seat is in said receptacle.

2. A toilet of the character described, comprising a seat, capable of upward and downward movement, a receptacle, into which said seat passes in its upward movement, and means for flushing said seat as an entirety, and means for drying the same while said seat is in said receptacle.

3. A toilet of the character described, comprising a seat, capable of upward and downward movement, a receptacle, into which said seat passes in its upward movement, and means for flushing said seat on both sides thereof, and means for drying the same while said seat is in said receptacle, said means for drying consisting of electric sterilizing rays.

4. A toilet of the class described, comprising a seat capable of upward and downward movement, a receptacle into which said seat passes in its upward movement, an upwardly and downwardly moving door on said receptacle, means for flushing said seat, while in said receptacle, and means for drying the same while said seat is in said receptacle, said door being down in its lowest position, when said flushing and drying operations are in progress and said door rising to allow the seat to emerge therefrom, said operation accomplishing same at predetermined times.

5. A toilet of the character described, comprising a seat capable of upward and downward movement, means for housing said seat, on its upward movement, means for cleaning said seat as an entirety, and means for drying the same, while said seat is in housed position.

6. A toilet of the character described, comprising a seat, capable of upward and downward movement, a receptacle, into which said seat passes in its upward movement, an upwardly and downwardly moving glass door for said receptacle, means for illuminating said receptacle and means for cleaning said seat combined with means for drying the same while said seat is in said receptacle, and when the door is in its lowest position.

7. A toilet of the character described, a seat capable of upward and downward movement, said seat when in an upward position free from interruptions by extraneous means, and while in said position capable of being subjected to means for cleaning the same and to means for drying the same, said drying means applicable directly to the seat itself.

8. A toilet of the class described, a bowl, a seat therefor, said seat capable of moving off of said bowl out of normal position, and back onto said bowl into normal position, a receptacle, said seat moving into said receptacle out of normal position, and means for cleaning said seat as an entirety, and means applied directly to said seat for drying the same after the same is cleaned.

In testimony whereof, I affix my signature at the city of Cincinnati, county of Hamilton, and State of Ohio, this thirteenth day of August, 1926.

ERNEST G. FRIEDRICH.