E. G. FRIEDRICH.

STERILIZING TOILET.

APPLICATION FILED NOV. 25, 1918.

1,333,073.

Patented Mar. 9, 1920.

2 SHEETS—SHEET 1.

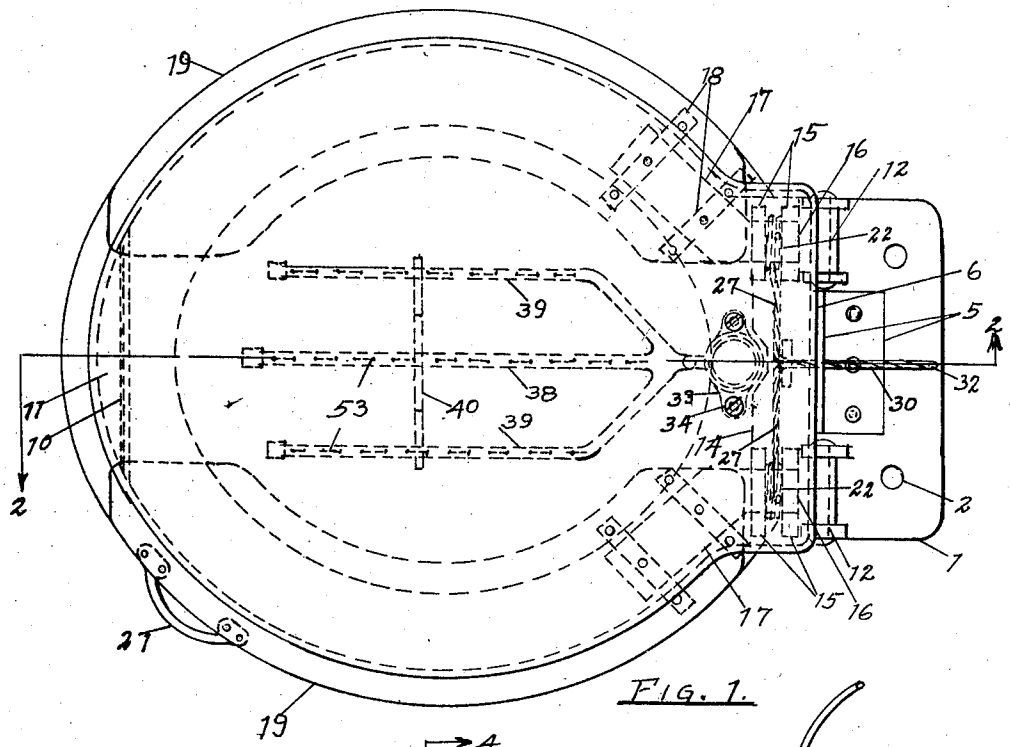


FIG. 1.

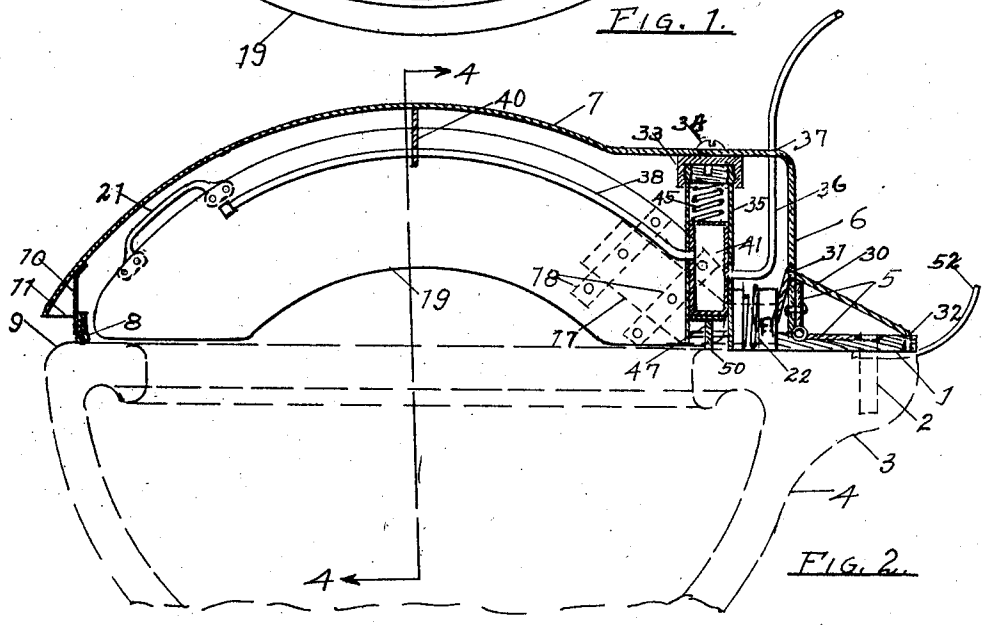


FIG. 2.

WITNESSES

Helen Hunt.

ERNEST G. FRIEDRICH
INVENTOR.

BY

J. A. Sperry
ATTORNEY.

E. G. FRIEDRICH.

STERILIZING TOILET.

APPLICATION FILED NOV. 25, 1918.

1,333,073.

Patented Mar. 9, 1920.

2 SHEETS—SHEET 2.

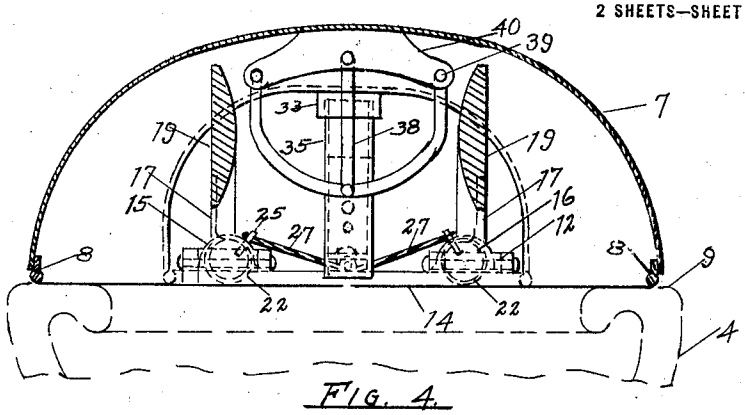


FIG. 4.

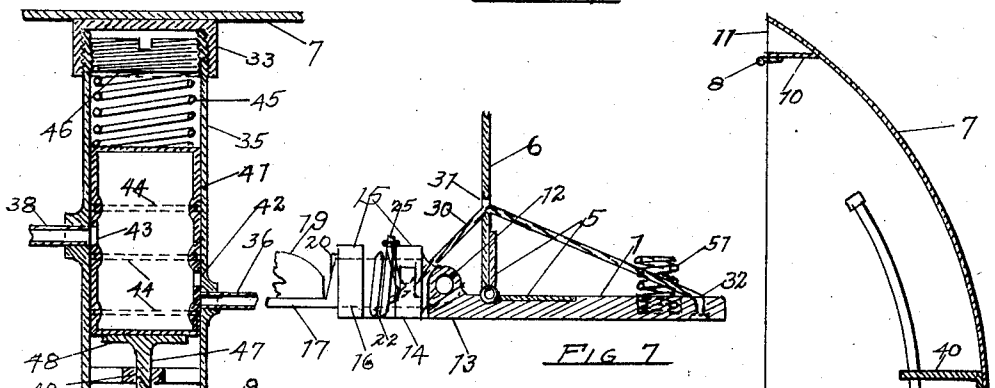


FIG 7

FIG 5

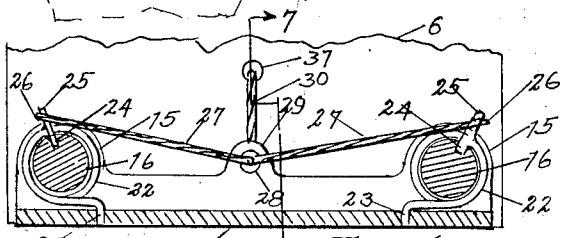


FIG. 6

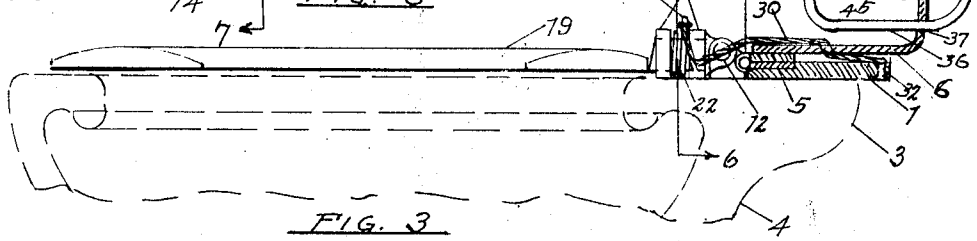


FIG. 3

WITNESSES.

Helen Hunt.

ERNEST G. FRIEDRICH.

INVENTOR

BY

J. A. Sperry

ATTORNEY

UNITED STATES PATENT OFFICE.

ERNEST G. FRIEDRICH, OF INDIANAPOLIS, INDIANA.

STERILIZING TOILET.

1,333,073. Specification of Letters Patent. Patented Mar. 9, 1920.

Application filed November 25, 1918. Serial No. 263,956.

To all whom it may concern:

Be it known that I, ERNEST G. FRIEDRICH, a citizen of the United States, and a resident of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Sterilizing Toilets, of which the following is a specification.

My invention relates to improvements in toilet seats and seat covers in general, and more particularly to the type where sterilizing means are employed for sanitary purposes.

The principal object of my invention is the construction of a toilet seat that will automatically sterilize itself after each usage thereof. A further object is to provide a seat having a suitable closing or foldable cover which shall retain the sterilizing fluid or element within said cover until sterilization is complete. A further object is to provide a seat, the side wings or edges of which shall fold upward within said foldable cover as said cover is lowered or folded over the bowl to facilitate sterilization of said wings or edges. A still further object is to provide an automatically operating, measuring or controlling receptacle attached within said cover which will automatically release a predetermined quantity of sterilizing fluid or element immediately on the complete closing of said cover.

A further object is to provide a device of the type described that may be attached to any standard toilet bowl in place of the regularly provided seat therefor. A further object is to provide a device that shall be simple and inexpensive of construction, that shall not be liable to get out of order and that shall have a wide range of adaptability.

With these objects in view and such others as will incidentally appear as the description of the invention proceeds, my invention relates to mechanism and construction which will be best understood from a consideration of the annexed drawings which compose an integral portion of these specifications and which illustrate a preferred embodiment of the device, it being understood that such modification thereof may be made as commercial requirements may find advisable and as come within the spirit of the appended claims, and in which:

Figure 1 illustrates a plan view of the device with the cover folded over the seat wings, the wings being in horizontal position. Fig. 2 is a sectional view on line 2—2 of Fig. 1 with wings folded vertically within the cover, a fragmentary portion of the bowl being shown in broken lines. Fig. 3 is a similar section with the cover raised and the seat wings in horizontal position. Fig. 4 is a vertical section on line 4—4 of Fig. 2. Fig. 5 is a section of the fluid controlling cylinder or mechanism. Fig. 6 is a fragmentary detail of the seat wing raising and controlling mechanism taken on line 6—6 of Fig. 5, and Fig. 7 is a fragmentary detail of the seat controlling and raising mechanism taken on line 7—7 of Fig. 6.

With more particular reference to the drawings, in which like numerals refer to like parts throughout, the numeral 1 indicates an attaching plate secured by bolts 2 to the rear portion 3 of any standard toilet bowl 4, to which plate is attached a hinge 5, one wing of which is secured to the rear wall 6 of the cover member 7, the cover being provided around its bowl engaging edges with a resilient or flexible closing element 8 resting on the upper surface 9 of bowl 4. The forward portion of the cover may be provided with an attached bridge or wall 10 to provide a hand hold 11 for the purpose of manually raising said cover.

Hingedly connected to the forward end 13 of plate 1, as at 12, is a second plate or bracket 14 provided with a plurality of bearing members 15 carrying trunnions or hinges 16 supporting plates 17 to which are attached by fastening strips 18 the side wings or seats 19, flanges 20 being provided on trunnions 16 to prevent rearward motion of plates 17. A suitable handle or grip 21 may be attached to wings or seats 19, if desired, to raise these seats vertically on hinge elements 12 when cover 7 is in raised position.

Surrounding trunnions 16 are coiled springs 22, one end of which is attached as at 23 to bracket 14, the opposite end being inwardly bent and inserted in trunnions 16 as at 24. Projections 25 are attached to and outwardly disposed from the ends 24 of springs 22, and to these ends 25 are secured, as at 26, flexible cables or cords 27 which pass through a medial opening 28 in a lug 29 integrally attached to bracket 14, cords 27 being united to form a cable or flexible

element 30 which passes through an opening 31 in the back wall 6 of cover 7, and is attached as at 32 to plate 1.

Attached to cover 7 by screws 34 is a casting 33 into which is threadedly attached a tube or cylinder 35 to which is secured an inlet pipe or tube 36 which preferably passes upward and outward through an opening 37 in cover 7, and is connected to any desired storage tank or receptacle (not shown) which may be located in any desired position or manner. An outlet tube 38 is also attached to cylinder 35, which outlet may be bifurcated as at 39 and supported from the cover 7, as at 40. An inner receptacle or cylinder 41 is slidably mounted within the cylinder 35, this receptacle having an inlet opening 42 which may register with inlet pipe 36 and an outlet opening 43 which may register by movement of receptacle 41 with outlet tube 38. This receptacle may also be provided, if desired, with anti-leak rings 44 to prevent leakage of the sterilizing fluid or element between receptacle 41 and cylinder 35. A helical spring 45 is mounted within cylinder 35, the tension on and position of said spring being regulated by a cap 46 threadedly engaging the inner walls of cylinder 35.

The opposite end of receptacle 41 is engaged by a plunger 47 preferably provided with an enlarged head 48 and mounted within cylinder 35 by a support 49, the lower end 50 of the plunger 47 being adapted to engage the upper surface 9 of bowl 4 when cover 7 is in lowered position. A coil spring 51 may also be provided attached to plate 1 for the purpose of closing cover 7 after same has been raised or this coil spring may be replaced by a suitable leaf spring as shown at 52 for the same purpose.

In operation the plate 1 is attached to any standard toilet bowl, and when the cover 7 is manually raised it is evident that the coil spring within the cylinder 35 will force the sterilizing fluid chamber 41 downward until the opening 42 registers with the opening 36 when the receptacle will be filled by any desired sterilizing element as formaldehyde, heated water or other element through the pipe 36 from its storage tank. At the same time the rear wall 6 of cover 7 passes longitudinally over portion of cord 30, and releases the tension on said cord, as shown in Fig. 3, allowing the springs 22, through their fastenings 24 and 23, to rotate the seat wings 19 into a horizontal position. When cover 7 is again lowered, either manually or through spring 51 (which may tilt the cover until gravity will complete the closing operation), the tensioning of the cord 30 by its passage through opening in the wall 6 of cover 7 will cause the seat wings 19 to be raised into a vertical position, and as the cover completes its closing plunger 47 will contact with the face 9 of bowl 4, causing receptacle 41 to move upward, thus closing the inlet tube 36 and opening the receptacle through port 43 so that the sterilizing fluid or gas will pass outward through pipes 38 and 39 which are provided with suitable distributing slots or openings 53 directing the sterilizing fluid against the upraised seats 19 and allowing it to fill the entire cover and bowl.

It is understood that any form of disinfectant or sterilizing element may be employed and also that if found desirable pneumatic or other pressure may be applied within the receptacle 41 to forcibly eject the sterilizing element therefrom. It is also understood that a counterweight or other modifying device may be applied to the cover 7 to prevent too rapid or destructive action thereof under the influence of gravity in closing, and such further mechanical modifications may be made as come within the spirit of the claims appended.

Having thus described my invention, what I claim as new and desire to protect by these Letters Patent is:—

1. In a sterilizing toilet the combination with a toilet bowl, of a plate fixedly attached to said bowl, a cover hingedly connected to said plate, a bracket hingedly connected to said plate forwardly of said cover hinge, seat wings trunnioned in said bracket, coil springs attached to said trunnions and to said bracket, a flexible member connected to said trunnions, said flexible member passing through an eye in said bracket and through an opening in the rear wall of said cover and being attached to said first mentioned plate exteriorly of said cover to raise said wings from a horizontal to a vertical position as said cover is lowered over said bowl, as and for the purpose described.

2. In a sterilizing toilet the combination with a toilet bowl, of a plate fixedly attached thereto, a cover hingedly connected to said plate, seat wings trunnioned on longitudinal axes within a bracket hingedly connected to said first mentioned plate, resilient means for maintaining said wings in a horizontal position, flexible means operatively connected through said cover to said first mentioned plate for elevating said wings to a vertical position on their longitudinal axes, a cylinder attached within said cover, a receptacle movably positioned within said cylinder, a plunger co-acting with said bowl to elevate said receptacle when said cover is lowered, a helical spring within said cylinder to longitudinally operate said receptacle when said cover is raised, an inlet pipe attached to said cylinder, an outlet pipe from said cylinder, valve ports in said receptacle alternately alining with said pipes, substantially as and for the purpose described.

3. In a sterilizing toilet in combination with a toilet bowl, a plate fixedly attached to said bowl, a plurality of seats or wings rotatably mounted in a bracket carried by said plate, flexible elements attached to said wings and to said plate, an inverted bowl-shaped cover hingedly attached to said plate, a flexible element secured to said cover to co-act with said bowl to securely seal the contact of said cover with said bowl, said cover engaging said flexible elements to raise said wings from a horizontal to a vertical position, resilient means connected to said wings to return them to horizontal position, a fluid carrying pipe passing through said cover and connected to a cylinder fixedly attached within said cover, a bifurcated outlet pipe connected to said cylinder, discharge slots or vents in said outlet bifurcation, means for supplying sterilizing fluid or gas to said inlet pipe, a receptacle within said cylinder operated downwardly by a helical spring within said cylinder, a plunger supported by said cylinder to co-act with said toilet bowl to force said receptacle upward, ports within said receptacle alternately engaging said inlet and outlet pipes and flexible means for closing said cover, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERNEST G. FRIEDRICH.

Witnesses:
HELEN HUNT,
HARRY ROGERS.