Sept. 28, 1937. C. L. HEALD 2,094,170

DEVICE TO BE USED IN CONNECTION WITH TOILET BOWLS

Filed May 28, 1937 2 Sheets-Sheet 1

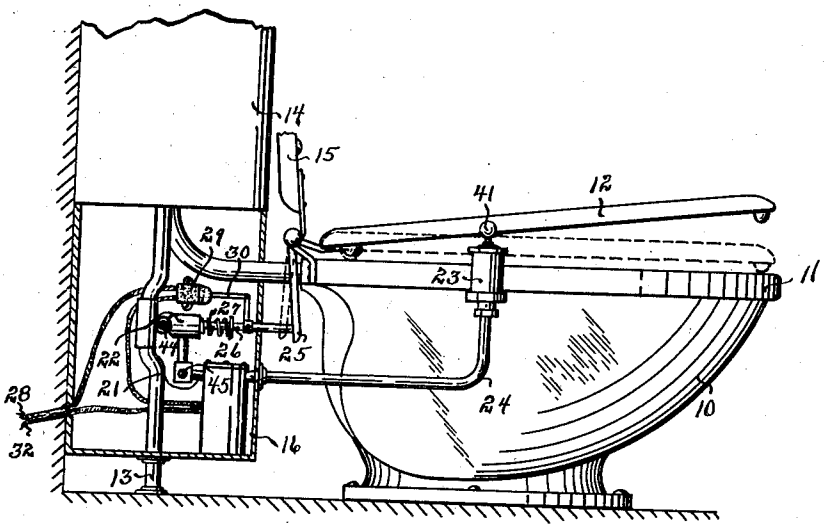


Fig. 1.

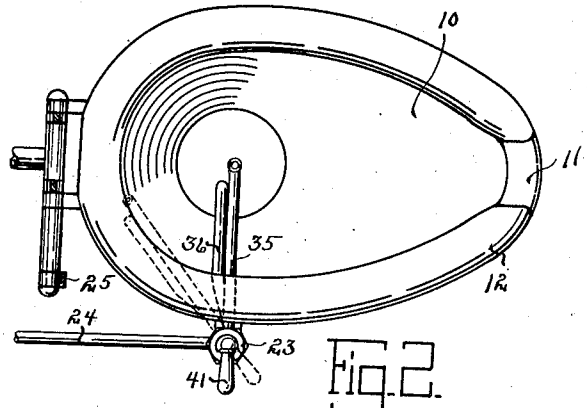


Fig. 2.

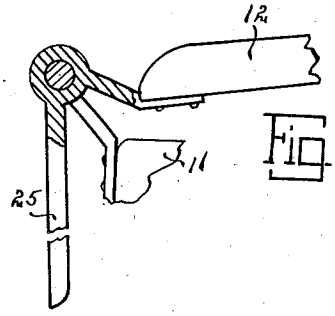


Fig. 3.

INVENTOR.
C. L. HEALD

BY M. Talbert Dick
ATTORNEY.

Sept. 28, 1937. C. L. HEALD 2,094,170

DEVICE TO BE USED IN CONNECTION WITH TOILET BOWLS

Filed May 28, 1937 2 Sheets-Sheet 2

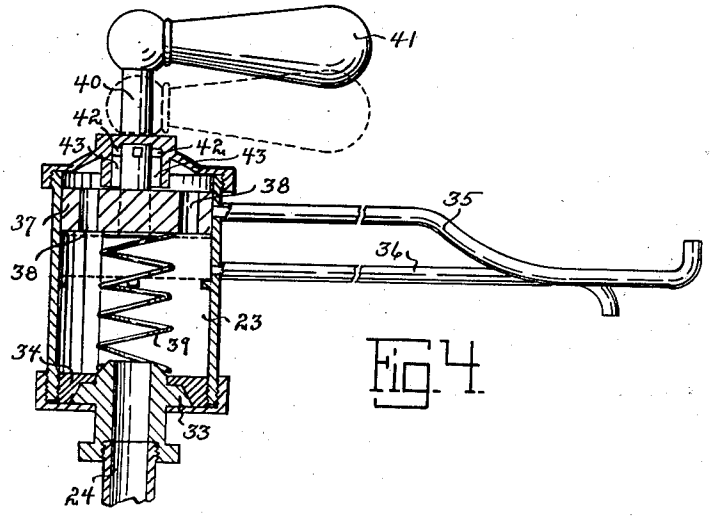


Fig. 4

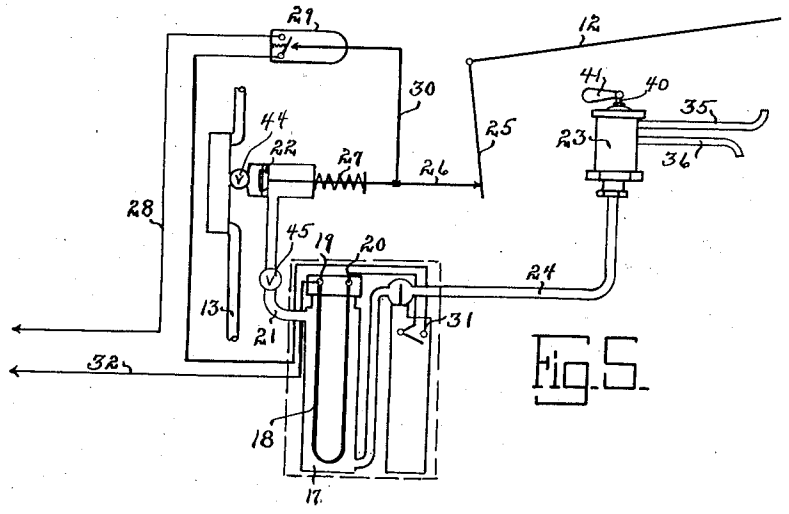


Fig. 5

INVENTOR.
C. L. HEALD

BY M. Talbert & Dick
ATTORNEY.

Patented Sept. 28, 1937

2,094,170

UNITED STATES PATENT OFFICE

2,094,170

DEVICE TO BE USED IN CONNECTION WITH TOILET BOWLS

Clarence L. Heald, Sigourney, Iowa

Application May 28, 1937, Serial No. 145,264

7 Claims. (Cl. 4—7)

The principal object of my invention is to provide an attachment for toilet bowls that is capable of furnishing a regulated stream of water or other cleansing fluid, at suitable temperatures, for washing and cleansing the anus.

A further object of this invention is to provide a washing device for attachment on toilet bowls that may be easily and quickly operated by the user.

A still further object of my invention is to provide a washing attachment for toilet bowls that may be easily attached to or detached from the ordinary toilet bowl now in general use.

A still further object of my invention is to provide a washing device for attachment on toilet bowls that is refined in appearance, economical in manufacture, and durable in use.

These and other objects will be apparent to those skilled in the art.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Fig. 1 is a side view of my complete device installed on a toilet bowl and ready for use.

Fig. 2 is a top plan view of a toilet bowl showing a portion of my device installed on the same.

Fig. 3 is a side sectional view of the hinged portion of the closet seat of the device.

Fig. 4 is a side sectional view of the hand operated valve mechanism and kindred elements of the device.

Fig. 5 is a schematic showing of my attachment with some of the parts shown in conventional form.

Referring to the drawings, I have used the numeral 10 to designate an ordinary toilet bowl having the rim 11 and hinged seat 12. The numeral 13 designates a water pipe designed to have one of its ends communicating with a source of water or like under pressure and its other end communicating with the inside of the usual toilet reservoir 14. The numeral 15 designates the toilet lid.

It is to such plumbing that I have installed my device, or to which it is to be installed, and which I will now describe. I have used the numeral 16 to designate a cabinet for housing a part of the mechanism of the device. The purpose of this cabinet is to get as much of the operating mechanism of the device as possible in one base container, thereby making for safety, compactness, ease of installation, and refined appearance. In the drawings, I show this cabinet directly under the reservoir 14. Inside the cabinet 16 is a small electric liquid heater 17. As is well known, such heaters consist of a jar member through which the water to be heated flows and in which is resistance wire 18 as shown in Fig. 5 and which is designed to be in communication with a source of electrical energy. I have used the numerals 19 and 20 to designate the two terminal connections of the heating unit.

The numeral 21 designates a pipe having one end communicating with the inside of the pipe 13 and its other end communicating with the inlet opening of the heating unit 17. The numeral 22 designates a valve interposed in the pipe 21 for controlling or preventing the flow of a fluid through the pipe 21. The numeral 23 designates a cylindrical container positioned at one side of the bowl rim 11 as shown in Fig. 2 and which forms the basis for the manually operated control valves and mechanism which will hereinafter be explained. The numeral 24 designates a pipe having one end communicating with the outlet port of the heating unit 17 and its other end communicating with the inside of the container 23. The numeral 25 designates an arm operatively rigidly secured against movement to the seat 12. This arm 25, therefore, moves with the seat 12 and extends substantially downwardly at the rear of the bowl 10 when the seat 12 is in a lowered position as shown in Fig. 1. The numeral 26 designates a reciprocating shaft having one end connected to the valve mechanism of the valve 22 and its other end capable of being engaged by the arm 25 as shown in Fig. 1. The numeral 27 designates a coil spring having one end operatively connected to the shaft 26 and its other end engaging the housing of the valve 22 for yieldingly holding the shaft 26 toward the bowl 10. By this construction, it will be noted that the seat 12 will be normally held in a position as shown in Fig. 1 and slightly above the rim of the bowl 11. Obviously, when weight is placed on the seat 12, the arm 25 will move rearwardly, forcing the shaft 26 rearwardly and against the action of the spring 27, thereby opening the valve 22 and permitting water to pass into the heating unit 17. The numeral 28 designates an electric lead wire designed to be connected to a positive terminal of a source of electrical energy, having its other end connected to the terminal 20 as shown in Fig. 5.

The numeral 29 designates a momentary electric switch imposed in the electric lead line 28. This

switch has the operating arm 30 which is rigidly secured to the shaft 26. By this arrangement of parts, when weight is placed on the seat 12 not only will water pass into the heating unit 17 but the switch 29 will be closed, thereby resulting in the connecting of the resistance wire 18 with the source of electric energy, provided the water inside the heating unit is below a pre-determined temperature. This control of the temperature of the water inside the heating unit is controlled by an ordinary electric switch thermostat 31, which is also imposed in the electric lead line 28, and positioned inside a container also holding the heat unit 17. This thermostat 31 is imposed in the pipe 24 at a point past the heat unit 17. Obviously, when the temperature of the water inside the heating unit 17 reaches a pre-determined temperature, the automatic thermostat 31 will break the circuit of the electric lead wire 28 and prevent the resistance wire 18 from further heating the water inside the heating element. When the water inside the heating unit is below the predetermined temperature, the automatic thermostat 31 will close the circuit and permit a flow of electrical energy to reach the resistance wire 18. The numeral 32 designates the second electric lead line having one end connected to the terminal 19 and its other end designed to be in communication with the negative side of the source of electrical energy.

Returning to the cylinder container 23, it will be noted that the lower end of this member is horizontally rotatably mounted on the upper end of the pipe 24. This is accomplished by the pipe 24 having a peripheral flange 33 located between the bottom of the container 23 and a flange nut 34 threaded in the bottom of the container 23, as shown in Fig. 4. The numeral 35 designates a pipe having one end rigidly secured to the inside of the container 23 and communicating with the inside of that member at a point near its top. This pipe 35 extends into the bowl 10 by passing between the rim 11 and seat 12 and its length is such that when the member 23 is rotated to a given position, its discharge end which extends directly upwardly, will be near the center of the bowl 10 as shown in Fig. 2. When the member 23 is rotated to the left, this pipe 35 will be carried to an inoperative out-of-the-way position under the edge of the seat and adjacent the rim of the toilet bowl as shown by dotted lines in Fig. 2. The numeral 36 designates a short pipe having one end rigidly secured to the container 23 and communicating with the inside of that member at a point slightly below the point of communication of the pipe 35 as shown in Fig. 4. This pipe 36 also extends into the bowl 10 by passing between the seat 12 and rim 11, and discharges downwardly into the bowl, the purpose of which will hereinafter be understood. The numeral 37 designates a piston member slidably mounted inside the cylindrical container 23. The numeral 38 designates passageways extending vertically through the member 37. The numeral 39 designates a coil spring inside the container 23 having its lower end in engagement with the bottom of the container 23 and its upper end in engagement with the bottom of the piston member 37. This coil spring 39 yieldingly holds the piston 37 in an elevated position for closing the communicating points of the pipe 37 from the inside of the container 23. When the piston member 37 is in this position, water passing through the pipe 24 may pass into the inside of the container 23 and out through the drain pipe 36. The numeral 40 designates a vertical valve shaft slidably extending through the top of the container 23 and having its lower end secured to the piston member 37. The numeral 41 designates a handle member secured to the top of the shaft 40. In order that the shaft 40 will be prevented from independent rotation relative to the container 23, I have provided horizontal lugs 42 on the shaft 40 which engage vertical groove-ways 43 in the upper end of the housing 23.

The practical operation of my device is as follows: When the user places his weight on the seat 12, the seat will be depressed to a horizontal position as shown by dotted lines in Fig. 1. As herebefore pointed out, this will depress the valve 22 to an open position, thereby permitting the water to enter the heating unit 17. The action also will close the electric circuit and the water passing through the heating unit 17 will be heated. This heated water will pass through the pipe 24, through the member 23, and out into the toilet bowl 10 through the pipe 36. As the pipes 35 and 36 will be in an inoperative position during the use of the toilet bowl, the heated water will slowly discharge in a downward direction into the toilet bowl. Obviously, the thermostat will regulate the temperature of the water flowing through the device. It will be noted, however, that when weight is not on the seat 12, water will not be permitted to drain into the bowl 10 and neither will the water be heated in the heating unit 17. When it is desired to use my device, the water will not be too hot nor too cold, and to use the device, it is merely necessary for the operator to grasp the handle 41 and horizontally move it to a position where the pipe 35 is at the center of the bowl as shown in Fig. 2, and then depress the same vertically downwardly. By thus actuating the handle 41, the piston 37 will be moved downwardly to a point where it will close the communication point of the pipe 36 to the inside of the container 23, leaving the pipe 35 to freely communicate with the inside of the container 33. The warm water passing into the container 23 will pass upwardly through the passageways 38 and out through the pipe 35 where it will be discharged upwardly on the parts to be washed. By such construction, the warm water will not be discharged upwardly from the pipe 35 until the user has properly positioned the pipe 35 and forced the shaft 40 downwardly by the use of the handle 41.

By merely releasing pressure on the handle 41, the spring 39 will move the piston 37 upwardly, thereby closing the communication point of the pipe 35 with the inside of the container 23. When sufficient use of the device has been had, the handle 41 is then rotated to bring the pipes 35 and 36 to an inoperative position as shown in Fig. 2. As soon as one releases the downward pressure on the seat 12, the action of the spring 27 will move the shaft 26 outwardly, close the valve 22 and break the electric circuit. The automatic thermostat 31 will act as a safety for preventing the water in the heating unit 17 from becoming too hot.

The numeral 44 designates a shut-off valve in advance of the valve 22 and may be placed in a closed position at times when it is not desired to have the water flow through the apparatus. The numeral 45 designates a regulating valve imposed in the pipe 21 for adjusting the flow of the water into the heating unit.

Some changes may be made in the construction and arrangement of my improved device for use

in connection with toilet bowl without departing from the real spirit and purpose of my invention and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. In combination with a toilet bowl having a movable seat, a pipe having one end communicating with a source of water supply, an electrical heating element interposed in said pipe, an electrical circuit connecting said electrical heating element to a source of electrical supply, a switch interposed in said circuit and actuated by the movement of said seat, a valve interposed in said pipe actuated by the movement of said seat, a discharge pipe having one end discharging into said bowl and its other end capable of communicating with the inside of the said first-mentioned pipe at times, a second pipe having one end discharging into said bowl and its other end capable of communicating with the inside of said first-mentioned pipe at times, and manually operated valve mechanism for selectively causing water in said first-mentioned pipe to flow through either said first or second discharge pipe.

2. In combination with a toilet bowl having a movable seat, a pipe having one end communicating with a source of water supply, an electrical heating element interposed in said pipe, an electrical circuit connecting said electrical heating element to a source of electrical supply, a switch interposed in said circuit and actuated by the movement of said seat, a valve interposed in said pipe actuated by the movement of said seat, a discharge pipe having one end discharging into said bowl and its other end capable of communicating with the inside of the said first-mentioned pipe at times, a movably mounted discharge pipe having one end discharging upwardly in the area of said toilet bowl and its other end capable of communicating with the inside of said first mentioned pipe at times, valve mechanism for selectively permitting water from said first mentioned pipe to flow through either of said discharge pipes, and a single handle member for manually operating said valve mechanism and moving said second-mentioned discharge pipe.

3. In combination with a toilet bowl having a movable seat, a pipe having one end communicating with a source of water supply, an electrical heating element interposed in said pipe, an electrical circuit connecting said electrical heating element to a source of electrical supply, a switch interposed in said circuit and actuated by the movement of said seat, a valve interposed in said pipe actuated by the movement of said seat, a yielding means for yieldingly holding said switch in an open position and the said valve in a closed position, a discharge pipe having one end discharging into said bowl and its other end capable of communicating with the inside of said first-mentioned pipe at times, and manually operated valve mechanism for selectively causing water in said first-mentioned pipe to flow through either said first or second discharge pipe.

4. In combination with a toilet bowl having a movable seat, a housing, a pipe extending into said housing and in communication with a source of liquid supply, an electrical heating unit inside said housing and interposed in said pipe, an electrical circuit connecting said heating unit with a source of electrical supply, a switch interposed in said circuit inside said housing operatively connected to said seat and capable of being closed by said seat when said seat is forced downwardly, a means for operatively connecting said valve to said seat for opening said valve when said seat is forced downwardly, two discharge pipes each having one of their ends discharging into said bowl and their other end communicating with the inside of said first-mentioned pipe at times, and valve mechanism for selectively preventing or permitting the flow of liquid from said first-mentioned pipe to flow through said two discharge pipes.

5. In combination with a toilet bowl having a movable seat, a pipe having one end communicating with a source of water supply, an electrical heating element interposed in said pipe, an electrical circuit connecting said electrical heating element to a source of electrical supply, a switch interposed in said circuit and actuated by the movement of said seat, a discharge pipe having one end discharging into said bowl and its other end capable of communicating with the inside of the said first-mentioned pipe at times, a second pipe having one end discharging into said bowl and its other end capable of communicating with the inside of said first-mentioned pipe at times, and manually operated valve mechanism for selectively causing water in said first-mentioned pipe to flow through either said first or second discharge pipe.

6. In combination with a toilet bowl having a movable seat, a pipe having one end communicating with a source of water supply, a valve interposed in said pipe actuated by the movement of said seat, a yielding means for yieldingly holding said valve in a closed position, a discharge pipe having one end discharging into said bowl and its other end capable of communicating with the inside of the said first-mentioned pipe at times, a second pipe having one end discharging into said bowl and its other end capable of communicating with the inside of said first-mentioned pipe at times, and manually operated valve mechanism for selectively causing water in said first-mentioned pipe to flow through either said first or second discharge pipe.

7. In combination with a toilet bowl having a movable seat, a housing, a pipe extending into said housing and in communication with a source of liquid supply, an electrical heating unit inside said housing and interposed in said pipe, an electrical circuit connecting said heating unit with a source of electrical supply, a switch interposed in said circuit inside said housing operatively connected to said seat and capable of being closed by said seat when said seat is forced downwardly, a means for operatively connecting said valve to said seat for opening said valve when said seat is forced downwardly, two discharge pipes each having one of their ends discharging into said bowl and their other end communicating with the inside of said first-mentioned pipe at times, an automatic thermostat interposed in said circuit and in communication with the inside of said pipe, and valve mechanism for selectively preventing or permitting the flow of liquid from said first-mentioned pipe to flow through said two discharge pipes.

CLARENCE L. HEALD.