

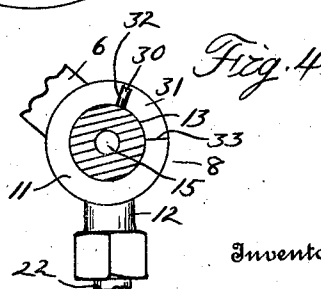
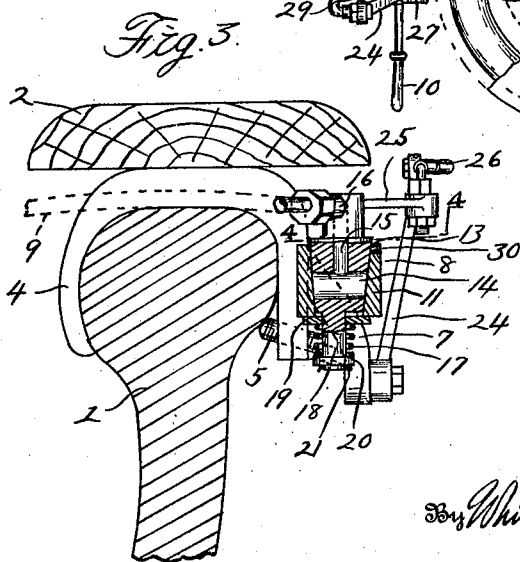
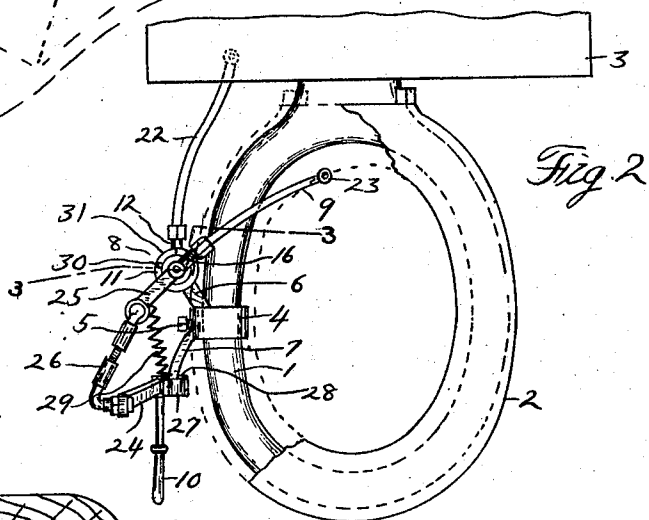
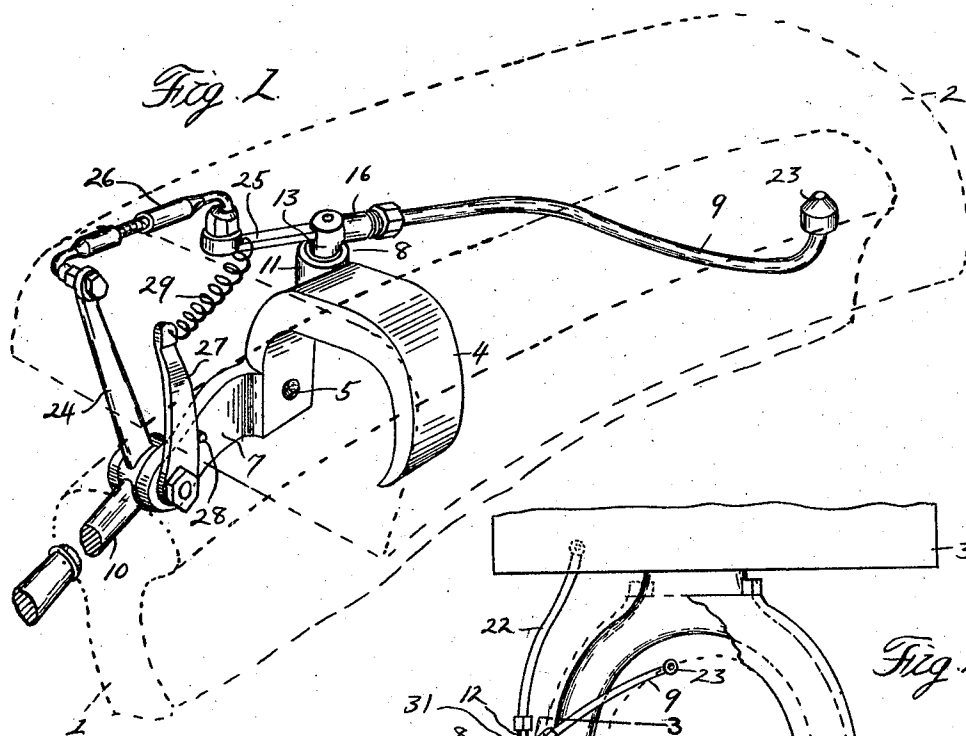
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H. S. KOPPIN.

SANITARY SPRAY

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UNITED STATES PATENT OFFICE.

HENRY S. KOPPIN, OF DETROIT, MICHIGAN.

SANITARY SPRAY.

Application filed May 10, 1922. Serial No. 559,798.

To all whom it may concern:

Be it known that I, HENRY S. KOPPIN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Sanitary Sprays, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to sanitary sprays designed to be used with toilet bowls, and has for its object the provision of a sanitary spray attachable to a toilet bowl and having a liquid discharge or nozzle movable from inoperative to operative positions. Another object is to provide a valve for automatically closing the liquid discharge when in inoperative position, and opening the same when in operative position. A further object is the arrangement of the spray so that the operation of but one lever moves the liquid discharge from inoperative position to operative position, and at the same time moves the valve from closed position to open position. Other objects of the invention reside in the novel features of construction and combinations and arrangements of parts as more fully hereinafter set forth.

In the drawings:

Figure 1 is a perspective view of a sanitary spray embodying my invention;

Figure 2 is a plan view thereof showing the same attached to a toilet bowl with part of the seat broken away;

Figure 3 is a cross section on the line 3—3 of Figure 2;

Figure 4 is a cross section on the line 4—4 of Figure 3.

1 is the toilet bowl, 2 the seat, and 3 the flushing tank. My sanitary spray is attachable to the toilet bowl at one side thereof, and has the yoke 4 which extends over and embraces the edge of the bowl and is secured thereto by means of the set screw 5 which engages over the enlargement at the edge of the bowl. 6 and 7 are lateral arms extending in opposite directions from the outer side of the yoke 4, the arm 6 carrying the valve 8 and liquid discharge 9, and the arm 7 carrying the lever 10 for actuating the valve and liquid discharge.

The valve 8 comprises the valve casing 11 having the laterally extending nipple 12 and also the valve body 13 which is rotatable within the casing and has the transverse bore 14 adapted to register with the bore in

the lateral nipple 12 and also the longitudinal bore 15 communicating with the transverse bore 14 and extending upwardly within the valve body and communicating with the bore in the lateral nipple 16 above the valve casing. The valve is of the tapered type and its body is held in liquid tight engagement with the casing by means of the coil spring 17 surrounding the shank 18 depending axially of the valve body and abutting the washer 19 resting against the lower end of the valve casing, and the washer 20 held upon the shank by suitable means such as the cotter 21 extending transversely through the lower end of the shank. The nipple 12 of the valve casing is connected by the pipe 22 to the intake pipe of the flushing tank 3. The liquid discharge 9 is connected to the lateral nipple 16 of the valve body and freely passes between the toilet bowl and the seat, and has at its outer end, the upwardly extending discharge nozzle 23.

The lever 10 is preferably in the form of a bell crank and is pivotally mounted upon the lateral arm 7 and the upwardly extending arm 24 of this bell crank is connected to the lever 25 extending from the valve body 13 by the longitudinally adjustable linkage 26, the opposite ends of which are pivotally connected to the arm 24 and lever 25. The lateral arm 7 also carries the lever 27 which is connected to this lateral arm preferably by the same pivot that connects the lever 10 thereto. However, to hold the lever 27 from rotation toward the valve 8, there is the pin 28 extending from the lateral arm 7 and engaging the lever 27. 29 is a coil spring between the upper end of the lever 27 and the lever 25, the arrangement being such that both the valve 8 and liquid discharge 9 are yieldably maintained in their normal or inoperative positions.

The liquid discharge 9, when in its inoperative position, extends below the seat 2 and when this liquid discharge is in its inoperative position, the valve 8 is closed. However, when the liquid discharge is swung to its operative position which is near the center of the toilet bowl, the valve 8 is open so that at this time, water flows through the pipe 22, lateral nipple 12, transverse bore 14, longitudinal bore 15, lateral nipple 16, and liquid discharge 9, upwardly through the nipple 23. For the purpose of limiting the rotation of the

valve body 13 relative to the valve casing 11, and at the same time limiting the swinging of the liquid discharge 9, the valve body is provided with the outwardly extending pin 30 which engages in the recess 31 in the upper edge of the valve casing and is adapted to abut the shoulders 32 and 33 at the ends of this recess. The shoulder 32 is located to limit the rotation of the valve body and the swinging of the liquid discharge under the influence of the coil spring 29 when the valve is closed and the liquid discharge is in its inoperative position and below the seat, while the shoulder 33 limits the rotation of the valve body and the swinging of the liquid discharge in the opposite direction under the influence of the lever 10 when the valve is open and the liquid discharge is in its operative position.

From the above description, it will be readily seen that I have provided a simple construction of sanitary spray which is attachable to a toilet bowl without the necessity of mutilating or damaging the same. Also, that the liquid discharge of my sanitary spray extends between the toilet bowl and seat and in its normal and inoperative position, lies below the seat. Furthermore, with my construction, the liquid discharge is automatically closed when in its inoperative position, and open when in its operative position, this being accomplished by the actuation of but one lever which rotates the valve body and at the same time swings the liquid discharge.

What I claim as my invention is:

1. The combination with a toilet bowl and a seat spaced thereabove, of a sanitary spray comprising a yoke removably secured to said bowl and extending between said bowl and seat, a valve carried by said yoke, a swinging liquid discharge carried by said yoke and extending between said bowl and seat, said discharge in its inoperative position being below said seat, a lever carried by said yoke outside said bowl and adapted to move said discharge from its inoperative position to operative position, and means carried by said yoke for normally retaining said discharge in inoperative position.

2. The combination with a toilet bowl and a seat spaced thereabove, of a sanitary spray comprising a yoke resting upon said bowl and extending between said bowl and seat, a valve carried by said yoke, a swinging liquid discharge carried by said yoke and extending between said bowl and seat, said discharge in its inoperative position being below said seat, a lever carried by said yoke outside said bowl and adapted to move said discharge from its inoperative position to operative position, and means carried by said yoke for normally retaining said discharge in inoperative position.

3. The combination with a toilet bowl and a seat spaced thereabove, of a sanitary spray comprising a yoke resting upon said bowl and extending between said bowl and seat, a valve carried by said yoke, a swinging liquid discharge carried by said yoke and extending between said bowl and seat, an arm upon said yoke outside said bowl, a lever pivotally mounted upon said arm outside said bowl and connected to said discharge to move the same from its inoperative position to operative position, a lever nonrotatably secured to said arm and yieldable means connected to said lever and to said discharge to normally retain said discharge in inoperative position.

4. The combination with a toilet bowl, a sanitary spray having a liquid discharge movable from inoperative to operative position, a valve for controlling the flow of liquid through said discharge, and means for actuating said discharge and valve, and a yoke upon which is mounted the liquid discharge valve in common with the actuating means removably secured to said bowl.

5. The combination with a toilet bowl, of a yoke removably secured to said bowl, a sanitary spray having a liquid discharge movable from inoperative to operative position, a valve for controlling the flow of liquid through said discharge, and means for actuating said discharge and valve, said liquid discharge, valve, and actuating means, being carried by said yoke.

In testimony whereof I affix my signature.

HENRY S. KOPPIN.