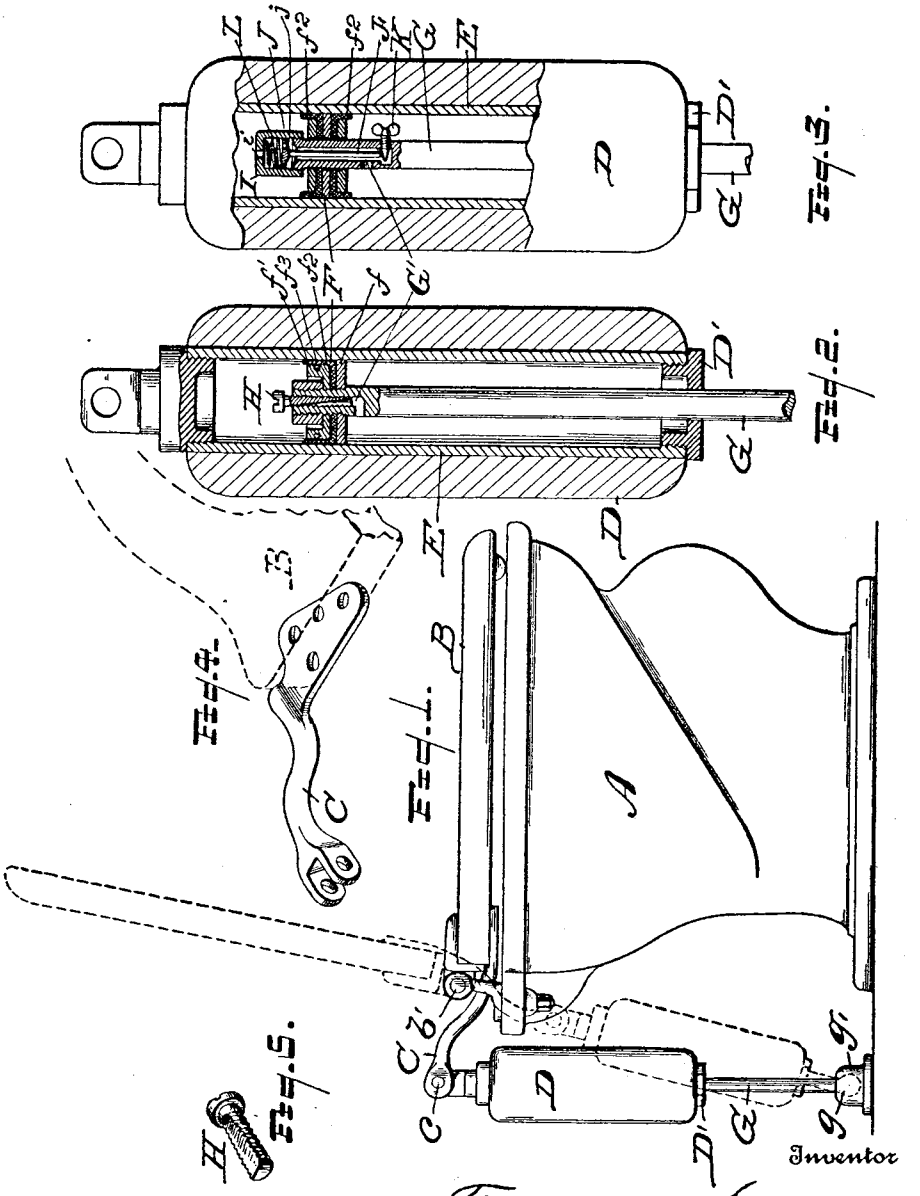
F. A. SCHOSSOW.

WATER CLOSET.

APPLICATION FILED OCT. 20, 1911.

**1,031,876.** Patented July 9, 1912.

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# UNITED STATES PATENT OFFICE.

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## WATER-CLOSET.

1,031,876. Specification of Letters Patent. Patented July 9, 1912.

Application filed October 20, 1911. Serial No. 655,689.

*To all whom it may concern:*

Be it known that I, FREDERICK A. SCHOSSOW, citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Water-Closets, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in water closets, its object being to provide means for automatically raising the seat to a substantially vertical position whereby suitable flushing mechanism (not shown) may be actuated and also to adapt it for use as a urinal.

A further object is to provide means whereby the raising or lowering of the seat is accomplished gradually, under check, to avoid noise and jar or injury to the bowl, tank, or seat.

Other advantages and improvements will hereafter appear.

In the drawings accompanying this specification:—Figure 1 is a side elevation of a closet and the seat controlling mechanism, showing in dotted lines the seat elevated, also the corresponding position of the seat controlling mechanism. Fig. 2 is a longitudinal section with parts in elevation, of the seat check and weight. Fig. 3 is a similar view of a modification. Fig. 4 is a perspective view of the bracket arm secured to the seat from which the check weight is suspended. Fig. 5 is a perspective view of the air regulating screw carried by the check plunger.

Referring now to the letters of reference placed upon the drawings:—A indicates a closet bowl. B its seat hinged at $b'$ to the bowl.

C is a bracket arm secured at one end to the seat B.

D is a weight suspended from a pivot pin $c$ mounted in the outer end of the bracket arm. The weight D is of annular form surrounding a tube or cylinder E within which reciprocates a plunger F.

G is a plunger rod provided at its lower end with a suitable ball joint $g$ (shown in dotted lines in Fig. 1) housed within a suitable floor socket $g'$. The plunger F is constructed with two annular disks $f$, $f'$, mounted on the plunger rod G between which is housed a leather or other cup-washer $f^2$.

$f^3$ is an expansion ring set in the flange of the disk $f'$ to force the flange of the cup-washer in contact with the cylinder E. The end of the plunger rod G is provided with an air passage G', opening into the cylinder on opposite sides of the plunger F.

H is a wedge-shaped regulating screw for governing the passage of air through the port G' and thereby the speed at which the weight is permitted to travel.

In the modification shown in Fig. 3, a plunger provided with a pair of cup-washers $f^2$ is indicated held between suitable annular disks sleeved on the plunger rod G. Mounted on the end of the plunger is an adjustable cap I perforated at $i$ for the passage of air. Housed within the cap is a disk J perforated for the passage of air, having an inverted cone-shaped underface $j$ and a depending stem J' extending into the air passage G'. K is a tapering thumb screw supported in the wall of the plunger rod upon which the end of the stem J' rests. L is a spring lodged within the cap I (by adjusting which the tension may be regulated), one end of the spring bearing upon the disk J to force the end of its stem into abutting relation with the thumb screw K. It will be seen that by adjusting the screw K the disk J may be raised against the action of the spring L and the air passage through the plunger regulated by the cone-shaped underface of the disk thus providing for a slow upward movement of the seat under check in comparison with a relatively quicker return movement of the seat but under check. It being obvious that the air passing through the plunger will raise the disk J against the action of the spring with comparative freedom, permitting the seat to be quickly returned to its horizontal position, but when the air passes through the plunger from above (the course taken upon the seat being raised) the seat movement will be checked to a greater extent due to the degree of adjustment afforded by the screw K governing the passage of air down through the plunger.

Having indicated the several parts by reference letters, the construction and operation of the device will be readily understood. Assuming the seat to be in the position indicated in Fig. 1,—upon being released from

this position the weight D will serve to rock the seat on its hinge pivots causing it to swing to the position shown by the dotted lines, its speed being regulated however through the action of the plunger F in the cylinder E. The movement of the plunger is controlled by adjusting the wedge-shaped screw H governing the passage of air through the plunger.

It will be seen that the construction shown in Fig. 2, provides against a too rapid upward movement of the seat due to careless handling or maliciousness, which may result in injury to the wall, tank or seat,—while in the modification shown in Fig. 3, the movement of the seat is held under check when traveling in either direction thereby protecting in addition the bowl from injury.

By housing the means employed to regulate the speed or travel of the weight within the weight itself and by providing a relatively large and narrow closure cap D', making it necessary to use a suitable wrench before access to the plunger and its speed regulating screw can be obtained, I provide in a great measure against malicious tampering by mischievous or unauthorized persons, heretofore regarded as a serious objection to devices of this character when employed in connection with closets installed in schools or other public buildings.

Having thus described my invention, what I claim is:—

1. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended from the seat for elevating the latter, a reciprocating plunger housed within the weight having a rod projecting beyond the end of the weight adapted for flexible connection with an engaging member, said plunger also provided with an air passage opening into the annular weight on opposite sides of the plunger, and means for regulating the passage of air through the plunger.

2. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended from the seat for elevating the latter, a reciprocating plunger housed within the weight, a rod upon which the plunger is mounted adapted for flexible engagement with an engaging member, said rod provided with an air passage having its entry and discharge ports within the annular weight and on opposite sides of the plunger, and means for regulating the capacity of said air passage.

3. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended from the seat a cylindrical lining for said weight, a reciprocating plunger housed within the lining having a rod projecting beyond the end of the weight adapted for flexible connection with an engaging member, said rod provided with an air passage opening into said lining on opposite sides of the plunger, and means for regulating the delivery of air through said passage.

4. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended from the seat, a cylindrical lining for said weight, a reciprocating plunger housed within the lining having a rod projecting beyond the end of the weight adapted for flexible connection with an engaging member, said rod provided with an air passage opening into said lining on opposite sides of the plunger, and a regulating screw for controlling the exit of air through said passage.

5. In a device of the character described, a closet bowl, a hinged seat, a bracket arm secured to the seat, an annular weight suspended from the arm, a reciprocating plunger housed within the weight provided with an air passage through the plunger and a rod projecting beyond the end of the weight adapted for flexible connection with a floor engaging member, the floor engaging member, and a closure cap for the end of the weight encircling said rod.

6. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended with the seat for elevating the latter, a reciprocating plunger housed within the weight, a rod upon which the plunger is mounted adapted for flexible engagement with an engaging member, said rod provided with an air passage having its entry and discharge ports within the annular weight and on opposite sides of the plunger, and means whereby said seat may be actuated more rapidly in one direction than when traveling in the opposite direction.

7. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended from the seat for elevating the latter, a reciprocating plunger housed within the weight, a rod upon which the plunger is mounted adapted for flexible engagement with an engaging member, said rod provided with an air passage having its entry and discharge ports within the annular weight and on opposite sides of the plunger, and means for controlling said air passage whereby the air may pass through the plunger more rapidly when the plunger is moving in one direction than when traveling in the opposite direction.

8. In a device of the character described, a closet bowl, a hinged seat, an annular weight suspended from the seat, a cylindrical lining for said weight, a reciprocating plunger housed within the lining having a rod projecting beyond the end of the weight adapted for flexible connection with an engaging member, said rod provided with an air passage opening into said lining on op-

posite sides of the plunger, a spring controlled check valve in the air passage, and a regulating screw for controlling the exit of air through said passage.

9. In a device of the character described, a closet bowl, a seat hinged to the bowl, means carried by the seat and bodily movable therewith for automatically raising the latter and a dash pot within the aforementioned means for checking the raising movement of the seat.

10. In a device of the character described, a closet bowl, a seat hinged to the bowl, means for elevating the seat, and means disposed within the afore-mentioned means for checking the raising action of the seat.

11. In a device of the character described, a closet bowl, a seat hinged to the bowl, a weight for automatically raising the seat, and means in the weight for cushioning the seat upon the raising action.

In testimony whereof, I sign this specification in the presence of two witnesses.

FREDERICK A. SCHOSSOW.

Witnesses:
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