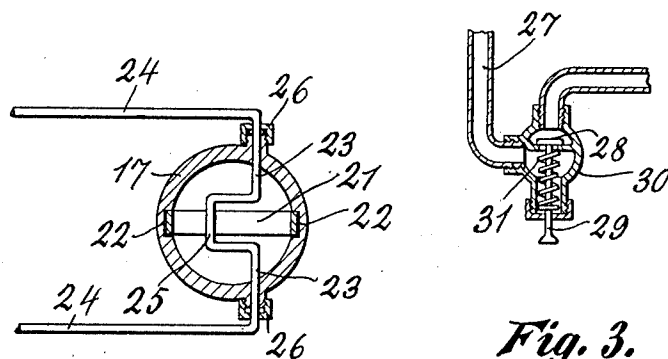
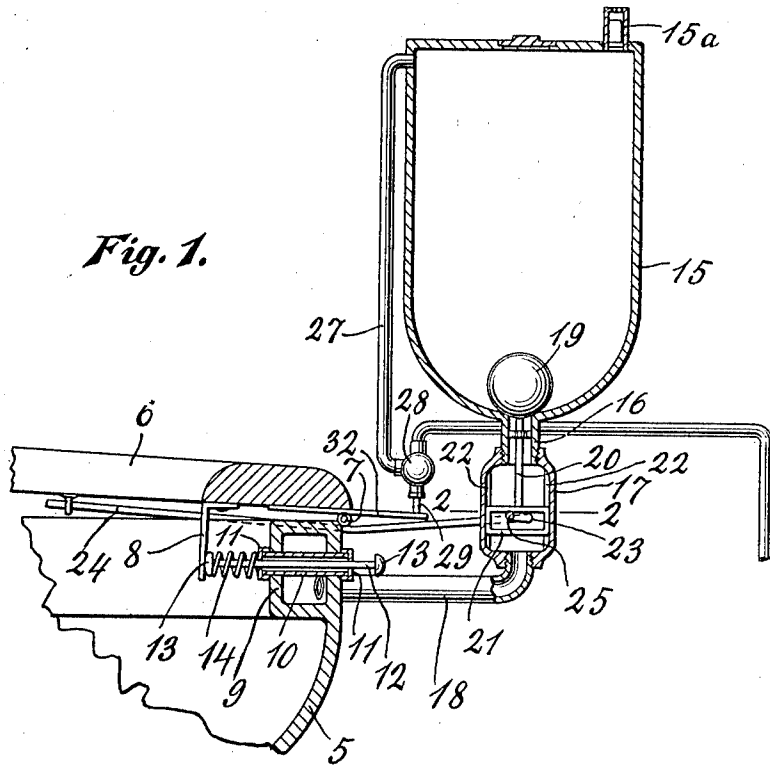


E. KERSEY.
FLUSHING APPARATUS.
APPLICATION FILED OCT. 4, 1912.

1,061,548.

Patented May 13, 1913.



Witnesses
Einar Larson
Ma. Schuster

Inventor:
Edward Kersey.

By *Edward H. Kern*

Attorney

UNITED STATES PATENT OFFICE.

EDWARD KERSEY, OF CHICAGO, ILLINOIS.

FLUSHING APPARATUS.

1,061,548.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed October 4, 1912. Serial No. 723,868.

To all whom it may concern:

Be it known that I, EDWARD KERSEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Flushing Apparatus, of which the following is a specification.

This invention relates to flushing apparatus for water-closets which is automatically operated by the seat of the closet bowl, and it is the object of the invention to provide a simple and efficient valve-actuating mechanism for this purpose.

The object stated is attained by a novel combination and arrangement of parts to be hereinafter described and claimed, reference being had to the accompanying drawing forming a part of this specification, in which drawing—

Figure 1 is a vertical section of the apparatus. Fig. 2 is a plan view, partly in section on the line 2—2 of Fig. 1. Fig. 3 is a sectional view of the supply valve and the operating means therefor.

In the drawing, 5 denotes a fragment of a closet bowl to which the invention is applied. The seat 6 is hinged to the bowl at 7 in any ordinary or preferred manner and carries a depending finger 8 at its rear portion, which finger extends into the bowl.

In the flushing rim 9 of the bowl, at the rear thereof, is mounted transversely a small cylindrical casing 10 which projects at both ends from said rim and has its ends closed by caps 11. Through the casing extends lengthwise and slidable a stem 12 having heads 13 at its ends. The ends of the stem project from the casing and one end is on the outside of the bowl, and the other end on the inside of the bowl in the path of the finger 8. Around the last-mentioned end of the stem, between the head thereof and the corresponding cap 11, is coiled a spring 14, said spring tending to urge the stem forward in the direction of the interior of the bowl. The head on the outer end of the stem prevents the latter from moving out of the casing 10 into the bowl. The function of the spring-actuated stem 12 is to hold the seat 6 partly open and also to throw it upward as will be presently described.

At 15 is indicated a tank which holds a supply of water for flushing the bowl 5. The tank is an upright cylinder having a bottom contracted neck portion 16 which opens into a casing 17, from the bottom of

which latter a pipe 18 leads into the flushing rim 9.

The neck portion 16 forms a seat for a ball valve 19 so constructed that it can float. The valve is operated by a push-stem 20 secured to and rising from a rectangular cross head 21 which is open on two opposite sides. The cross head is slidable up and down in the casing 17, it being guided by grooves 22 in the wall of said casing, on the inside thereof.

Passing transversely through the casing 17 is a rock shaft 23 having an arm 24 at each end. The arms are loosely secured to the bottom of the seat 6 on opposite sides thereof. The rock shaft has a crank bend 25 intermediate its ends which passes through the cross head 21. The casing 17 is provided with suitable stuffing boxes 26 where the rock shaft passes through the wall thereof.

The apparatus operates as follows: When the seat 6 is not occupied it is held slightly elevated by the spring-actuated stem 12. The valve 19 is also normally seated. Now, when the seat is lowered by the weight of the occupant, the stem 12 is pushed rearward by the finger 8 and the spring 14 is compressed, and when the weight is removed from the seat, the spring shoots the stem forward and through the finger 8 throws the seat up. This movement of the seat rocks the shaft 23 and through the crank 25 and cross head 21 moves the stem 20 upward a sufficient distance to strike the valve 19 and dislodge the same from its seat, so that it rises in the water to the top thereof. The tank 15 then discharges into the rim 9 and the valve floats back to its seat, to again engage the same when the tank is empty. The movement of the seat back and forth from closed to its normal, partly open position, is not sufficient to cause the unseating of the valve, the crank 25 being suitably spaced relative to the top and bottom of the cross head 21 for this purpose. The unseating of the valve is effected by the excess upward movement of the seat imparted to it by the spring-actuated stem 12 when the weight is removed from the seat. The tank 15 has an air-vent 15^a, and a supply connection 27, the latter being provided with a valve 28. This valve is a reciprocating one and has a stem 29 which extends from the casing of the valve. The valve also has a closing spring 31. The seat 6 has a finger 32 which

is so located that it strikes the projecting end of the stem 29 when the seat is lowered and thus causes the valve to open. When the seat is elevated, the finger 32 swings 5 away from the stem 29 and permits the spring 31 to close the valve.

It will be evident from the foregoing that the tank 15 is permitted to fill when the closet is in use, and when the seat rises, the 10 water supply to the tank is shut off, and at the same time the closet is flushed.

I claim:

1. The combination with a closet bowl having a hinged seat; of a flushing apparatus 15 comprising a supply-tank, a casing connected to the tank and the bowl, a valve controlling the flow from the tank, a cross head slidably mounted in the casing and open on two opposite sides, a stem projecting from 20 the cross head and adapted to unseat the valve, a rock shaft extending transversely through the casing and having intermediate its ends a crank portion which is located in the cross head, arms extending from the 25 rock-shaft and connected to the seat, a finger extending from the seat, and a spring-actu-

ated slidable stem carried by the bowl and extending into the path of the finger.

2. The combination with a closet bowl having a hinged seat; of a flushing apparatus 30 comprising a supply-tank, a casing connected to the tank and the bowl, a valve controlling the flow from the tank, a cross head slidably mounted in the casing and open on two opposite sides, a stem pro- 35 jecting from the cross head and adapted to unseat the valve, a rock shaft extending transversely through the casing and having intermediate its ends a crank portion which is located in the cross head, arms extending 40 from the rock shaft and connected to the seat, a finger extending from the seat, a casing mounted transversely in the flushing rim of the bowl, and a spring-actuated slid- 45 able stem carried by said casing and extending into the path of the finger.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD KERSEY.

Witnesses:

ROSE M. MINNEGEN,
H. G. BATCHELOR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."