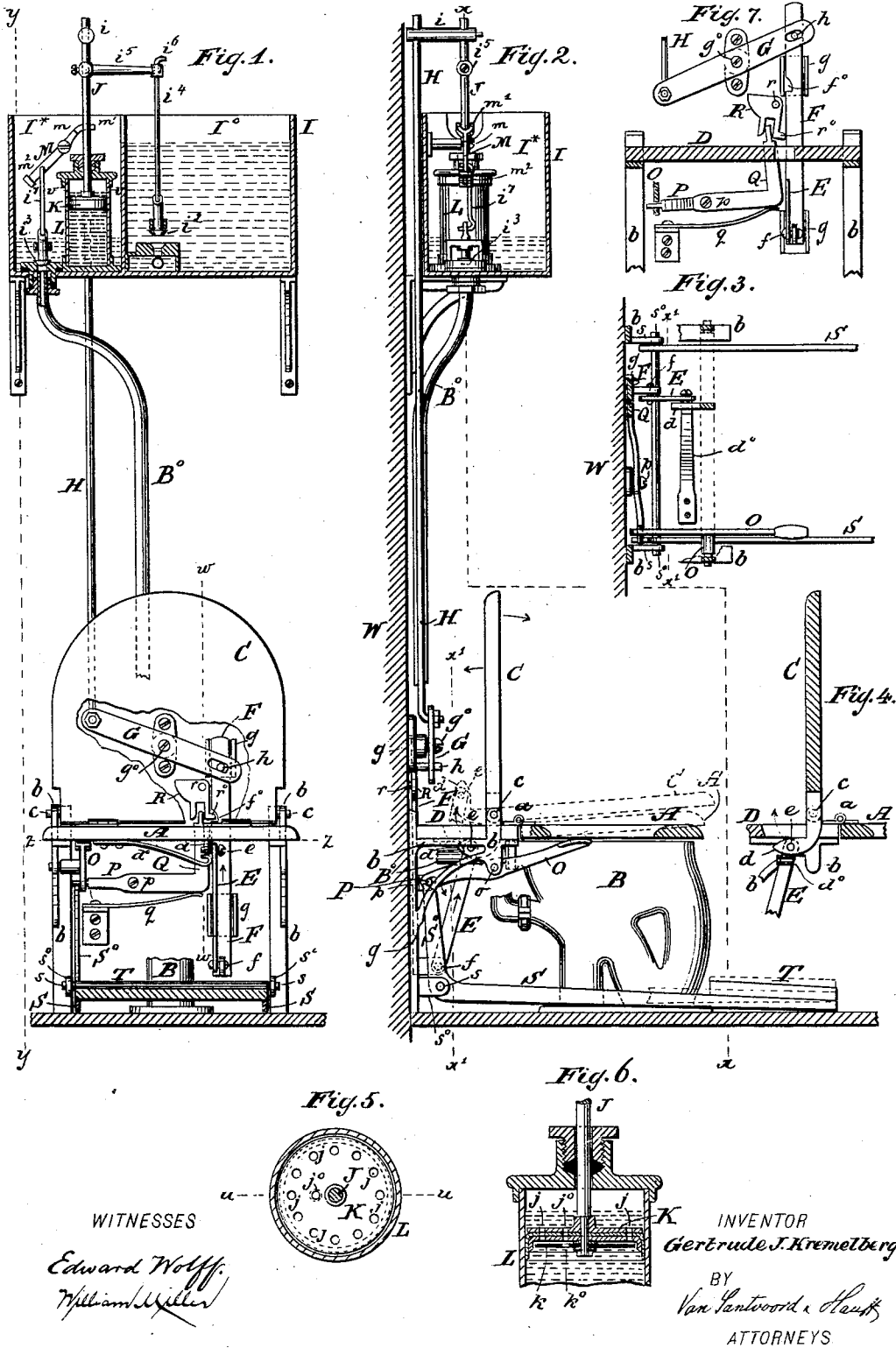


G. J. KREMELBERG.
WATER CLOSET.

Patented Aug. 23, 1892.



UNITED STATES PATENT OFFICE.

GERTRUDE J. KREMELBERG, OF NEW YORK, N. Y.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 481,498, dated August 23, 1892.

Application filed November 12, 1891. Serial No. 411,728. (No model.)

To all whom it may concern:

Be it known that I, GERTRUDE J. KREMELBERG, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Water-Closets, of which the following is a specification.

The object of this invention is to provide a water-closet the cover of which is connected to the piston-rod of a cushioning-cylinder, which controls the water-supply valve and the flushing-valve, said cover being provided with a locking mechanism, which is controlled by the weight of the person occupying the closet, so that when the cover is opened and its locking mechanism exposed to the action of a sufficient weight the water-supply valve is opened and the requisite quantity of water is caused to flow into the flushing-valve chamber, and as soon as the locking mechanism is released from the action of said weight the cover closes down by its own gravity, its downward movement being controlled by the piston of the cushioning-cylinder while the flushing-valve is opened as the cover approaches its closing position.

The peculiar and novel mechanism which forms the subject-matter of my present application for a patent is pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section in the plane $x x$, Fig. 2, a portion of the cover being broken away and the pan of the closet being left off, so as to expose the parts behind. Fig. 2 is a transverse vertical section in the plane $y y$, Fig. 1. Fig. 3 is a horizontal section of the plane $z z$, Fig. 1. Fig. 4 is a vertical section in the plane $w w$, Fig. 1. Fig. 5 is a transverse section of the cushioning-cylinder in the plane $v v$, Fig. 1, on a larger scale than the previous figures. Fig. 6 is a vertical central section of the cushioning-cylinder in the plane $u u$, Fig. 5. Fig. 7 is a transverse vertical section in the plane $x' x'$, Fig. 2, showing the locking mechanism in position when the cover is closed.

In the drawings, the letter A designates the seat of my water-closet.

B is the pan, and C is the cover.

The seat is connected by hinge-joints to a platform or shelf D, which is supported by brackets $b b$, secured to the wall W of the room or structure containing the closet. The

brackets $b b$ form the bearings for gudgeons c , which extend from the edges of the cover C, so that said cover can be opened or closed. From the rear edge of the cover extends a toe d , Fig. 4, which connects by a pivot e with a rod E, the bottom end of which is connected by a pivot f with a slide F, which is guided in brackets $g g$, secured to the wall W. From the slide F extends a stud h , which engages one end of a lever G, which has its fulcrum on a stud g' , and the opposite end of which is pivotally connected to a rod H, which extends up between the wall W and the back of the cistern I, and which is connected by a cross-head i , Fig. 2, with the piston-rod J. The piston K, which carries the rod J, is fitted into the cushioning-cylinder L, and it is provided with a series of holes j near its circumference and with a single hole j' near its center, Fig. 3.

To the inner end of the piston-rod is secured a flexible disk k , of india-rubber or other suitable material, (see Fig. 6,) and this disk is provided with a single hole k' , which registers with the hole j' in the piston K. If the cushioning-cylinder L is filled with liquid—such as glycerine—and the piston K is moved upward, the flexible disk k uncovers the holes j and the liquid passes freely through said holes; but if the piston K is depressed the flexible disk covers up the holes j , the holes j' alone being left open, so that the liquid contained in the cylinder can only pass slowly upward, and consequently the downward motion of the piston K in the cushioning-cylinder L is proportionately retarded. If the cover C is raised, the piston K is carried up to the position shown in Fig. 1 of the drawings, and if the cover is released it closes slowly as the piston K descends in the cushioning-cylinder.

The cistern I is divided by a partition into two compartments I° I^{*} , and in the compartment I° is contained the water-supply valve i^2 , while the compartment I^{*} contains the flushing-valve i^3 , such parts being old and well known. From the supply-valve i^2 extends a rod i^4 through an arm i^5 , which is adjustably secured to the piston-rod J, the rod i^4 being provided at its top end with a hook or stop i^6 , so that when the piston-rod J has been carried up to the position shown in Fig. 1—that is to say, whenever the cover C is raised—the supply-valve i^2 is opened. The flushing-valve i^3 connects by a rod i^7 with a double-

armed lever M, which has its fulcrum on pivot *m*, Fig. 1, and one end of which is provided with a fork *m'*, which embraces the piston-rod J, while its opposite end carries a weight *m*², which has a tendency to depress the flushing-valve *v*³ into the seat. Whenever the cover C is thrown open, therefore, a fresh supply of water is admitted into the cistern (provided such is required) and when the cover C closes, as the piston K descends in the cushioning-cylinder L, the arm *v*³ strikes the forked end of the lever M, the flushing-valve is opened, and the contents of the flushing-compartment I* flow down into the pan B through the pipe B°. The seat A bears upon the front end of a lever O, which has its fulcrum on a pivot *o*, secured in one of the brackets *b*. The rear end of this lever engages the longitudinal arm P of a bell-crank lever P Q, Figs. 1 and 3, which has its fulcrum on a pivot *p*, and the vertical arm Q of which engages a dog R, which is suspended from a pivot *r* and provided with a nose *r*^o in such position that the same can be thrown in engagement with a notch *f*^o in the slide F whenever said slide has been moved down to the position shown in Fig. 1. A spring *q* has a tendency to force the vertical arm Q of the bell-crank lever P Q upward. When the cover C is closed, the slide F occupies the position shown in Fig. 7; but when the cover is opened the slide F is carried down to the position shown in Fig. 1, and the nose *r*^o of the dog R is thrown into engagement with the notch *f*^o of the slide F as soon as the seat A is depressed, whereby the front end of the lever O is forced down and the end of the arm P of the bell-crank lever P Q is moved up, causing the arm Q of said bell-crank lever to throw the dog R into the position shown in Fig. 1. In order to effect this movement before the person entering the closet has time to depress the seat A, I have provided two levers S, which swing on pivots *s*, which have their bearings in lug *s*^o, projecting from the brackets *b*, and said levers support a platform T, situated in front of the pan B. From one of the levers S extends an arm S^o, which bears against the inner end of the lever O. As soon as the person on entering the closet steps upon the platform T the inner end of the lever O is forced upward and the bell-crank lever P Q is caused to press against the dog R, so that when the cover C is opened the nose *r*^o engages the notch *f*^o of the slide F as soon as said notch reaches the position shown in Fig. 1, and the cover is prevented from closing down as long as the weight remains on the platform T. If the person in the closet occupies the seat A, so that the weight is taken off from the platform T, the weight acting on the seat and on the lever O retains the dog R in engagement with the slide F; but as soon as the weight is taken off from the seat and from the platform T the spring *q*, which acts on the bell-crank lever P Q, throws the dog R out of engagement with the slide F and the cover C closes down

slowly, its downward movement being controlled by the cushioning-cylinder L and piston K. During the downward movement of the piston K the flushing-valve *v*³ is opened and the pan B is washed out. The closing movement of the cover C, however, does not depend merely on the gravity of said cover; but a spring *d*^o is provided, Figs. 1, 3, and 4, which acts on the toe *d* of the cover and causes said cover to begin its closing movement as soon as the slide F is released by the dog R.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a water-closet, the combination, with the pan, the seat, and the cover, of a cushioning-cylinder, a piston fitted into said cylinder, a piston-rod extending from said piston and constructed to actuate the water-supply valve and the flushing-valve, and means for locking the cover in its open position by the weight of the person occupying the closet and for releasing said cover when the weight is removed, substantially as described.

2. In a water-closet, the combination, with the pan B, the pivoted seat A, and the seat-cover C, of a vertical slide F, connected with the seat-cover, the elevated cushioning-cylinder L, the piston K, arranged in the cylinder, the piston-rod J, connections between the piston-rod and the vertical slide, the supply-valve *v*², connected with and operated by the piston-rod, the flushing-valve *v*³, the lever M, connected with the flushing-valve and operated by the piston-rod, the pivoted lever O, arranged beneath and exposed to the action of the pivoted seat, the bell-crank lever P Q, having one end connected with the lever, and the dog R, engaging the other end of the bell-crank lever and adapted to engage the vertical slide, substantially as described.

3. In a water-closet, the combination, with the pan B, the seat A, and the seat-cover C, of the vertical slide F, connected with the seat-cover, the elevated cushioning-cylinder L, the piston K, arranged in the cylinder, the piston-rod J, connections between the piston-rod and the vertical slide, the supply-valve *v*², connected with and operated by the piston-rod, the flushing-valve *v*³, the lever M, connected with the flushing-valve and operated by the piston-rod, the levers S, arranged below the seat and provided with a platform T, the arm S^o, connected to one of the levers S, the bell-crank lever P Q, adapted to engage the arm S^o, and the dog R, engaging the bell-crank lever and adapted to engage the vertical slide, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GERTRUDE J. KREMELBERG.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.