

No. 663,666.

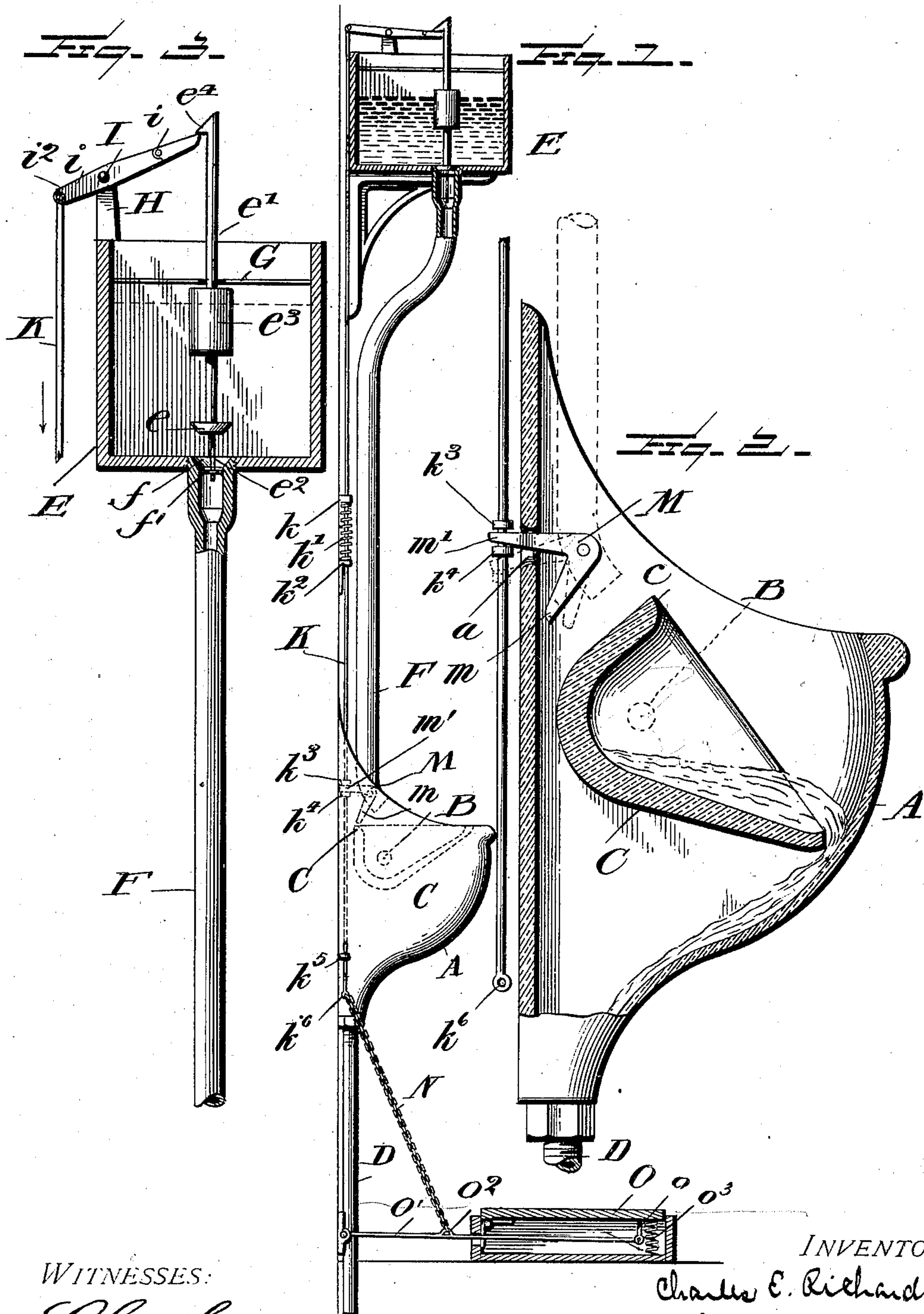
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C. E. RICHARDS.

URINAL.

(Application filed Mar. 12, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## URINAL.

SPECIFICATION forming part of Letters Patent No. 663,666, dated December 11, 1900.

Application filed March 12, 1900. Serial No. 8,344. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. RICHARDS, a citizen of the United States, residing at Boonville, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Urinals; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in urinals; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, which is fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 is a complete view of my urinal, showing the hopper or hood, the flush-tank, and the platform. Fig. 2 is a detail view of the hopper or hood with the dumping-pan in a discharging position, and Fig. 3 is a detail view of the flush-tank.

The object of my invention is to provide a urinal which will be entirely or in a great measure rendered odorless by diluting the urine in water, also to provide a means whereby the said urinal will be automatically flushed while in use and emptied immediately thereafter.

A is a hopper or hood of the usual shape provided with bearings adapted to receive the trunnions B, which are located on the sides of a dumping-pan C, hereinafter described, and also provided with the usual waste-pipe D. The dumping-pan C is constructed in such a manner and the trunnions B so located thereon that it is normally in a horizontal position when empty and has a tendency to dump when filled.

A flush-tank E is provided with a suitable discharge-pipe F, which empties into the dumping-pan C, and a float-valve *e*, adapted to fit a seat *f*, formed in the mouth of said discharge-pipe F. The valve *e* is mounted on a valve-rod *e'* and has a downwardly-extending pin *e<sup>2</sup>*, movable in a central opening located in a web *f'* just below the valve-seat *f*. The valve-rod *e'* is also provided with a float *e<sup>3</sup>* some distance above said valve *e* and an inclined lug *e<sup>4</sup>* at the top thereof. A cross-bar G, attached to the tank E, provided with a

suitable opening, together with the web *f'*, serves as a guide for said valve-rod *e'*.

To a standard H is pivoted the lever I, formed in two parts *i' i*, the forward part *i* being hinged in such a manner as to form with the part *i'* a rigid lifting-lever, but which is adapted to break at the hinged joint when the end of said part *i* comes in contact with the lug *e<sup>4</sup>* in its downward movement. The opposite end *i'* of the jointed lever I is pivotally connected to a vertical rod K, which passes down outside of the flush-tank E and to a point below the hood or hopper A. The lever I is so located with respect to the flush-tank E that the free end *i* will engage the under side of the lug *e<sup>4</sup>*. The rod K is provided with a fixed nut *k*, a spiral spring, and an angle-iron *k<sup>2</sup>*, adapted to be secured to a suitable support, thus acting as a guide therefor, the spring, nut, and angle-iron being so arranged as to force the rod upward. The rod K is also provided with two other fixed nuts *k<sup>3</sup>* and *k<sup>4</sup>*, adapted to receive the bifurcated end *m'* of a bell-crank lever M, hereinafter described. The rod K has also a guide *k<sup>5</sup>* near the lower end thereof and an eye *k<sup>6</sup>* at its lower extremity, adapted to receive a chain or other flexible connection N.

The bell-crank lever M, hereinbefore referred to, is preferably swiveled to the side of the discharge-pipe F in the hood or hopper A, and the bifurcated arm *i'* of said bell-crank lever M extends through an opening *a* in the rear wall of said hood or hopper A to engage the rod K between the fixed nuts *k<sup>3</sup>* and *k<sup>4</sup>*. The bell-crank lever M is located with respect to the hood or hopper A so that the free end *m* of said bell-crank lever M will engage with the rear edge *c* of the dumping-pan C when the bifurcated arm *m'* is at its lowest point, forming a detent and keeping the pan in a horizontal position when filled.

O is a platform capable of being depressed against the tension of a spring and provided on the under side with a depending lug *o*, pivoted to the free end of a lever *o'*, which is secured to the wall under the hood or hopper A. This lever *o'* is provided with a fixed ring *o<sup>2</sup>*, to which is secured the chain or other flexible connection N, the other end of which is fastened to the eye *k<sup>6</sup>* of the rod K.



The operation of my invention is as follows: The user stands on the platform O, thereby compressing the spring  $o^3$  and depressing the lever  $o'$ , which pulls the chain N, operating the rod K, in a downward direction, thereby moving the bifurcated arm  $m'$  downward by means of the fixed nut  $k^3$  bearing down on the top of said arm, and thus throwing the free arm  $m$  into engagement with the edge  $c$  of the dumping-pan C, holding it in a horizontal position, as before described. The upper end of the rod K being pivoted to the lever I moves the hinged portion  $i$  through its arc, lifting the valve-rod  $e'$  by coming in contact with the lug  $e^4$  and raising it until the hinged portion  $i$  passes said lug  $e^4$ , after which the weight of the valve and rod is sustained by the float  $e^3$  until the water has discharged sufficiently to permit the valve to enter its seat. The amount of water conveyed by the discharge-pipe F is just enough to practically fill the dumping-pan C without running over. The tendency of the dumping-pan C, as before mentioned, when full is to dump; but this is temporarily avoided by the engagement of the free arm  $m$  of the bell-crank lever M coming in contact with the edge  $c$  of said pan, as hereinbefore described. Upon the user stepping off of the platform O it resumes its normal position by the upward pressure of the spring  $o^3$ . This releases the rod K, which is moved upward by the pressure of the spring  $k'$  against the fixed pin  $k$ , which movement in turn removes the free arm  $m$  of the bell-crank lever M from engagement with the edge  $c$  of the dumping-pan and allows it to dump, as shown in Fig. 2, and also moves the hinged portion  $i$  in a downward position until it strikes the inclined surface of the lug  $e^4$ , when said hinged portion  $i$  will swing upward until it passes the lug  $e^4$ , after which said hinged portion will resume its normal position, as shown in Fig. 1. It will be seen from the construction of the dumping-pan as hereinbefore described that as soon as the contents are discharged said pan will return to its horizontal position, as shown in Fig. 1, and is again ready for use.

It is obvious that since the trunnions of the dumping-pan are supported in open bearings said pan may be readily removed and cleaned.

It is also very plain that any suitable means of flushing the dumping-pan may be used without departing from the spirit of my invention.

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

1. In a urinal the combination with a dumping-pan constructed to remain in a horizontal position when empty and to dump when full, a detent normally out of engagement with the pan, for preventing it from dumping, a flushing apparatus arranged to discharge into said pan and provided with a valve normally closed, a movable platform adapted to be depressed by the user of the urinal, connections between said platform and said valve for opening the valve when the platform is depressed and connections between said platform and said detent for moving the latter into operative engagement with the pan when the platform is depressed whereby the said pan will be filled with water during its periods of use and will be permitted to dump immediately after use, substantially as described.

2. A urinal consisting of a hood or hopper, a dumping-pan, a flush-tank, a float-valve in said tank, a valve-lever adapted to actuate said valve, a rod connected with said lever, a bifurcated lever adapted to engage with fixed nuts on said rod and adapted to engage with said dumping-pan, a spring to normally hold said bifurcated lever out of engagement, and a device for automatically actuating said rod, substantially as described.

3. A urinal consisting of a hood or hopper, a dumping-pan; a flush-tank, a float-valve in said tank, a valve-lever adapted to actuate said valve, a rod connected with said lever, a bifurcated lever adapted to engage with fixed nuts on said rod and adapted to engage with said dumping-pan, a spring to normally hold said bifurcated lever out of engagement, an actuating-lever flexibly connected to said rod, and a platform adapted to operate said actuating-lever, substantially as described.

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

CHARLES E. RICHARDS.

Witnesses:

N. B. FELSHAW,  
J. P. GRAVES.