I. L. HAMMOND.

URINAL.

APPLICATION FILED DEC. 29, 1910.

1,008,328. Patented Nov. 14, 1911.

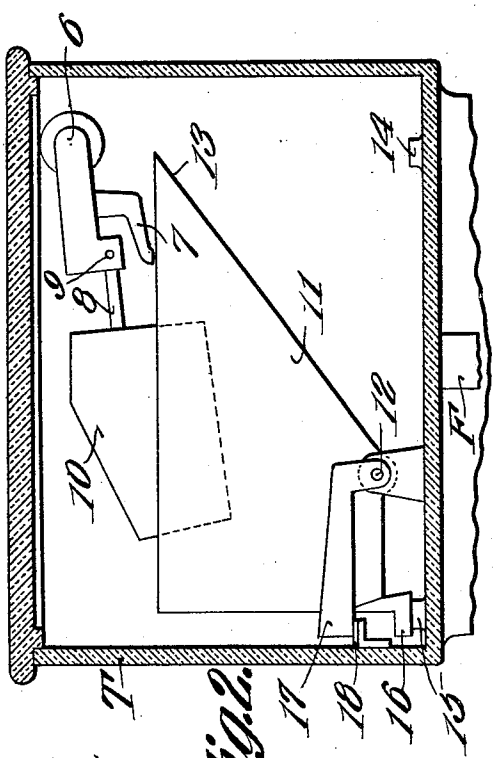

Fig. 2.

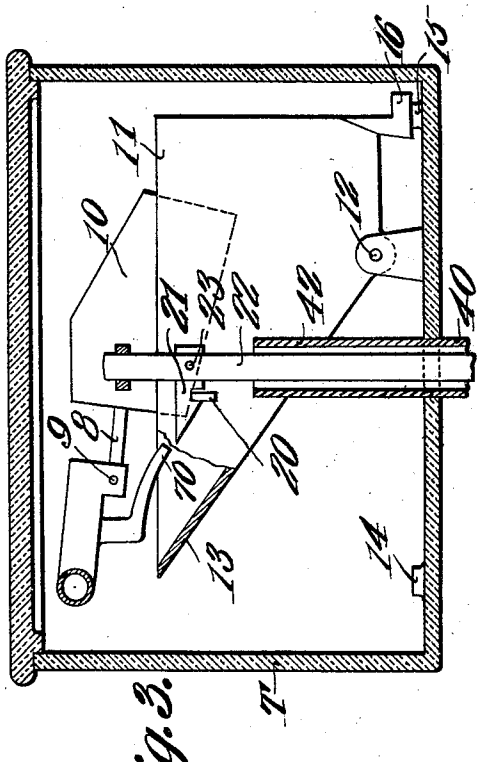

Fig. 3.

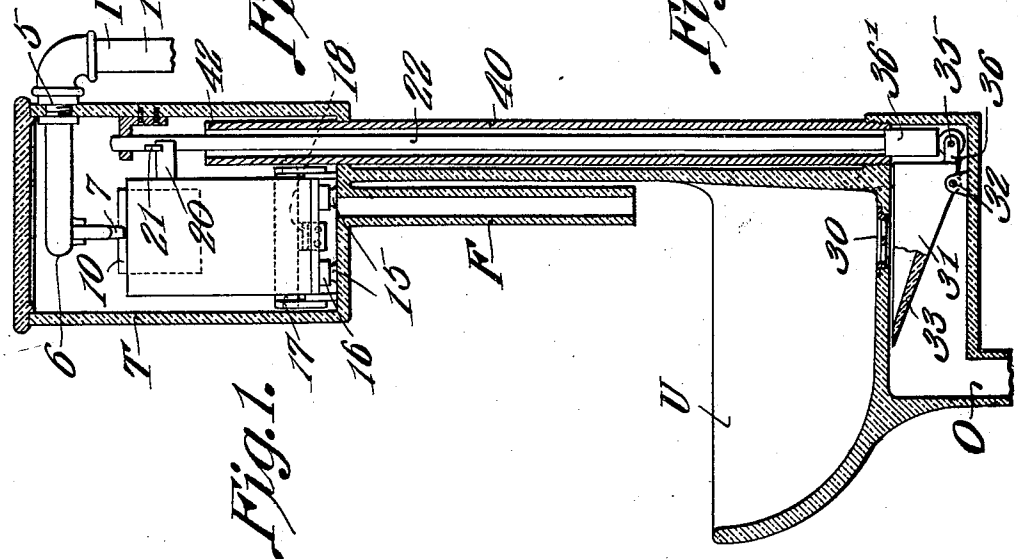

Fig. 1.

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Witnesses

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IRVING L. HAMMOND, OF LEWISTON, MAINE.

URINAL.

1,008,328. Specification of Letters Patent. Patented Nov. 14, 1911.

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To all whom it may concern:

Be it known that I, IRVING L. HAMMOND, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented a new and useful Urinal, of which the following is a specification.

This invention relates to baths and closets, and more especially to a urinal; and the object of the same is to provide automatic means for flushing the urinal which will require no attention on the part of the user or any one else.

The invention consists broadly in a gravity pan mounted within the tank above the urinal and adapted to deliver its water therein at times, and a trip mechanism for permitting the discharge of the water from said pan, said mechanism being automatically actuated in the manner which will be described below, the whole as illustrated on the drawings wherein,—

Figure 1 is a central vertical section of this mechanism complete. Fig. 2 is an enlarged vertical section of the tank and its contained mechanism, taken on a line at right angles to the sectional line in Fig. 1. Fig. 3 is a sectional view similar to that shown in Fig. 2, but illustrating a slight modification.

In the drawings, the letter U designates a urinal and T a tank located at a suitable point above the urinal and fed by an inlet water pipe I, F is the flushing pipe leading from the tank downward to and into the urinal, and O is the outlet pipe from the latter; all of these parts being of the usual and of any approved pattern and operating in the well known manner. My present invention contemplates the use of a gravity pan disposed within said tank and held by a latch in such position that it will retain a charge of water, a tripping mechanism for releasing said latch, and a hinged or supplemental pan positioned beneath the outlet from the urinal and so finely set that the addition of just a little water thereto will actuate it, thereby causing the movement of the trip and the release of the latch, and the latter causing the dumping of the pan so as to flush the urinal. The details of construction which enter into this mechanism may be varied, but I will now describe my preferred arrangement of pan and one slight modification.

The inlet pipe 1 is here shown as passing through the side of the tank T at the point 5, then making a bend at 6, and terminating in a nozzle 7 which may be directed downward as shown in Fig. 2 or which may be directed obliquely as shown in Fig. 3 and as will be described below. This inlet is controlled by a valve not necessary to illustrate, because well known in this art, and the valve in turn is controlled by a lever 8 pivoted at 9 to the inlet, and carrying a float 10 which is herein shown as of a contour to conform with the balance of the mechanism, although it might be round or otherwise.

The numeral 11 designates what I call a "gravity pan," preferably shaped so that its center of gravity will be to the left of the pivot 12 in Fig. 2, and to the right of this pivot its bottom is inclined up to a spout 13 which is adapted to strike a rubber block 14 when the pan is tilted. Other blocks 15 rising from the bottom of the tank at its opposite end support feet 16 beneath the other end of the pan, and which normally rests thereon. The arrangement of parts is such that the nozzle 7 delivers the inflowing water into said pan, and as its level rises therein it raises the float 10 until the inlet of water is cut off. In Fig. 2 the nozzle 7 delivers the water downward onto the inclined bottom of the pan, whereas in Fig. 3 the nozzle 70 delivers the water in an oblique direction toward the pivot 12 so that its headway will not tend to tilt the pan upon its pivot. The former construction may necessitate the use of counterbalancing weights 17 which rest on stops 18 when the pan stands upright as shown in Fig. 2 but rise off the same as the pan is tilted. Fig. 3 illustrates a somewhat more simple construction in that these counterweights are omitted, and in that case the nozzle 70 is preferably directed as shown. The flushing pipe F leads out the bottom of the tank and to and into the urinal in the well known manner, and it is obvious that when the pan is tilted and its charge of water delivered into the tank, it will run out of the same through the flushing pipe and flush the urinal.

In order to hold the pan reliably against accidental tilting, I provide a trip mechanism consisting of a stud 20 projecting from one side of the pan, a catch 21 which normally engages said stud, and a rod 22 to which the catch is pivoted as at 23; and it is obvious that when said rod is raised the

catch will disengage the stud to release or trip the pan, and the latter will then tilt upon its pivot and deliver its charge of water. Although this rod may be manipulated by hand, I have also shown and preferably employ means for automatically raising it and which I will now describe.

The numeral 31 indicates a somewhat smaller pan pivoted at 32 within the wall of the urinal bowl beneath the outlet 30 of the latter, its forward end being inclined along its bottom as at 33 and directed toward the waste pipe O. Its rearward end has a foot 36 connected in some manner as by a pivot 35 with the lower end of the rod 22, and if necessary said rod may be weighted as at 36 to cause it to stand reliably in depressed condition and also to cause the pan 31 to stand reliably in raised position as shown. With this construction, the pan 31 stands usually partially full of water, but when additional water is admitted thereto through the urinal outlet 30, the pan is tilted over its pivot 32 and the water therein is delivered out the waste pipe O. Such tilting raises the foot 36, which in turn raises the rod 22 and operates the trip so as to release the gravity pan 11. The latter then tilts upon its pivot 12 and its charge of water is dumped then into the tank, and from the same it runs out the flush pipe F. The descent of the water level within the pan 11 permits the fall of the float 10, and the latter opens the inlet valve, so that the tank is refilled in a manner well understood. While this is going on, the charge of water within the tank escapes and the pan 11 rights itself to the position shown in the drawings, so that the inflowing water refills the pan to a point sufficient to raise the float and thus cut off the inlet. The water that may splash over within the tank will run out the flushing pipe F, and in order to prevent what is spattered therein from running down the rod, I preferably inclose the latter within a tube 40 as shown in Fig. 1, the tube rising rather high within the tank as at the point 42.

The parts are of any desired sizes, shapes, and proportions.

What is claimed is:—

In a device of the class described, a urinal comprising a bowl having an opening; a pan fulcrumed intermediate its ends upon the urinal, and located below the opening; a slidably mounted rod acting gravitationally against one end of the pan, to lift the other end of the pan, and to maintain said end of the pan in close proximity to the bowl; a tank having an outlet discharging into the bowl; a second pan tiltably supported within the tank; a locking mechanism for holding the second pan in liquid-retaining position, the lock being operatively connected with the rod; the first named pan being tiltable under the added increment of the material to be flushed away, to raise the rod and to release the latch, whereby the second pan will be set free to dump its contents.

In testimony that I claim the foregoing as my own, I have hereunto affixed my signature in the presence of two witnesses.

IRVING L. HAMMOND.

Witnesses:

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DANA S. WILLIAMS.