(No Model.) 3 Sheets—Sheet 1.

J. T. ROBBINS.

APPARATUS FOR THE DISPOSAL OF NIGHT SOIL.

No. 347,383. Patented Aug. 17, 1886.

Fig. 1

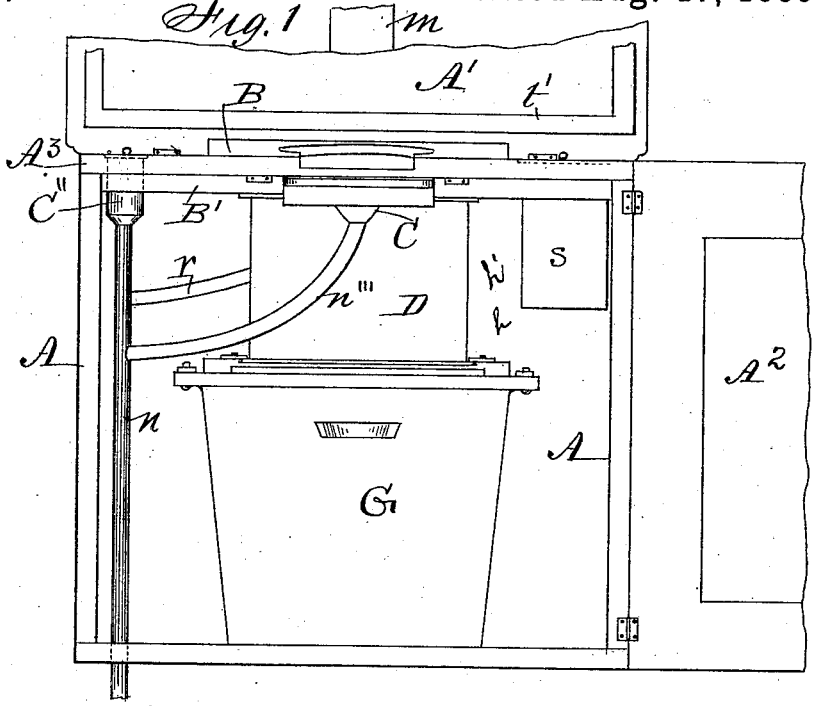

Fig. 2

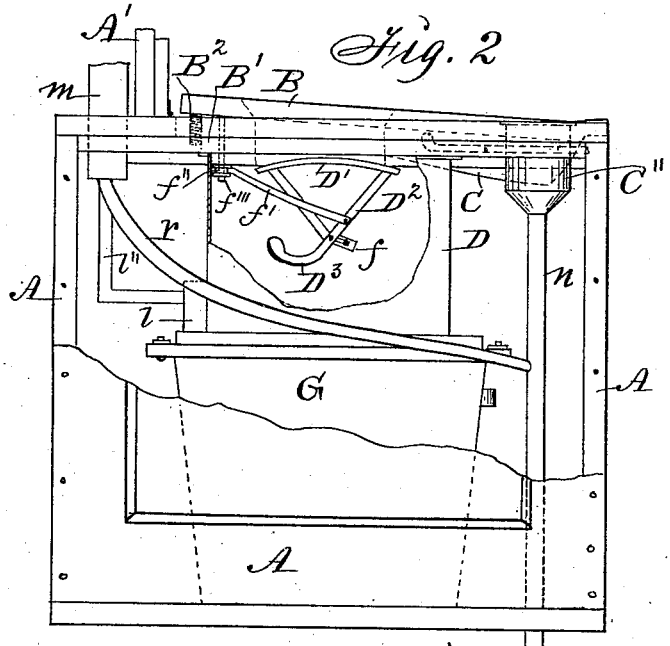

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Fig. 3

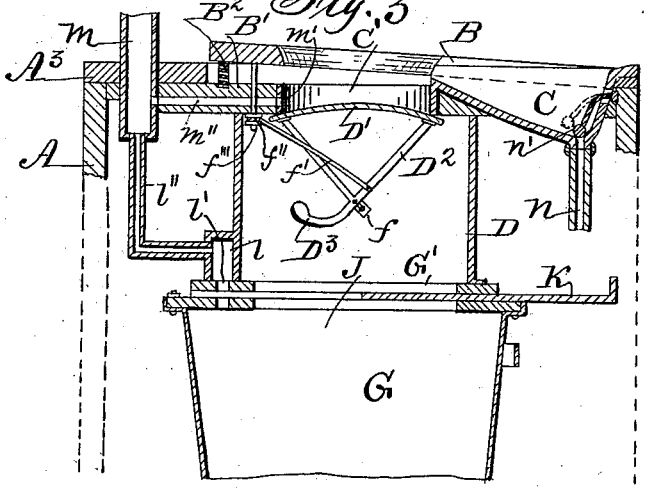

Fig. 4

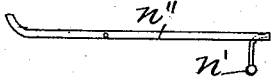

Fig. 5

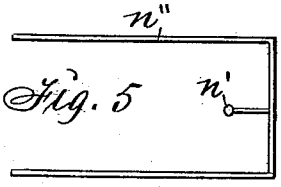

Fig. 6

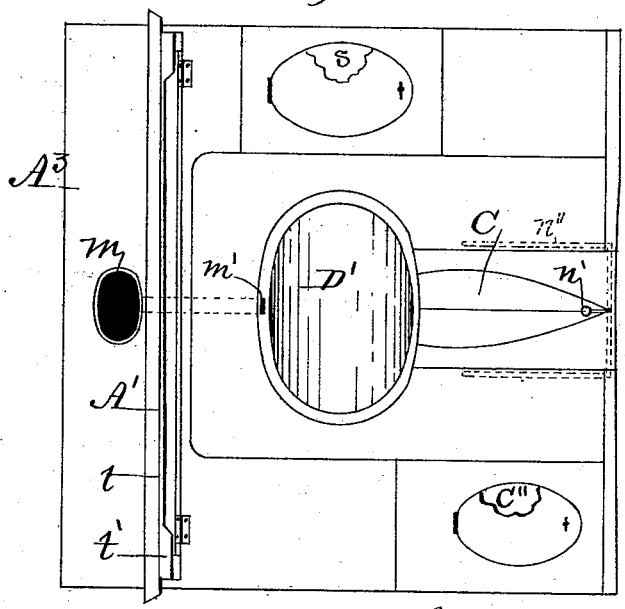

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Fig. 7

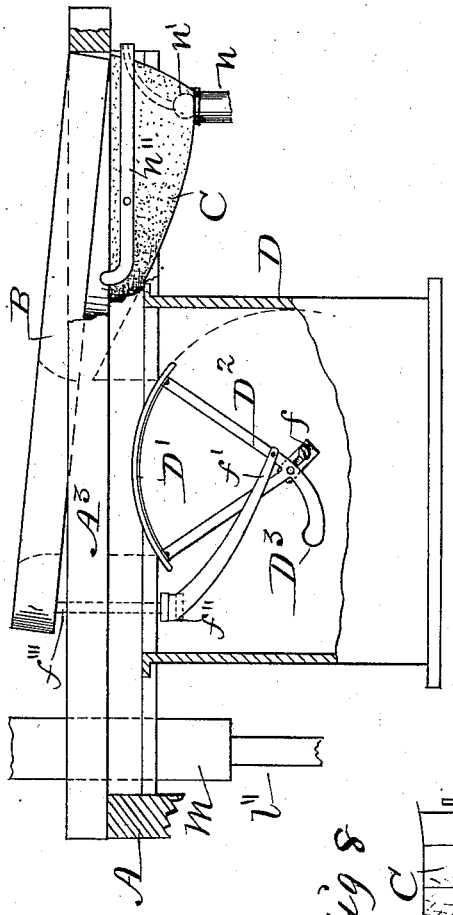
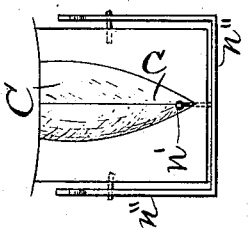


Fig 8



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UNITED STATES PATENT OFFICE.

JOSEPH T. ROBBINS, OF NEWTON, IOWA.

APPARATUS FOR THE DISPOSAL OF NIGHT-SOIL.

SPECIFICATION forming part of Letters Patent No. 347,383, dated August 17, 1886.

Application filed September 1, 1885. Serial No. 175,889. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. ROBBINS, a citizen of the United States of America, and a resident of Newton, in the county of Jasper and State of Iowa, have invented an Apparatus for the Disposal of Night-Soil, of which the following is a specification.

My object is to avoid much of the expense, danger, and annoyances incident to the disposal of human excrements by providing means for keeping the fecal matter separate from the urine for the purpose of facilitating the removal of the fecal matter from buildings, towns, and cities, and for disposing of the urine without handling it; and my invention consists in the construction and operation of a self-adjusting seat, a fixed valve-chamber, an oscillating valve, fixed urinals, a removable reservoir, and tubes for conveying odors from the urinals and valve-chamber and reservoir, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my apparatus, showing a section of a hinged cover and also of a hinged door. Fig. 2 is a view taken from a point at right angles relative to Fig. 1, showing part of the outside wall broken away. Fig. 3 is a transverse section of the seat and valve-chamber, and operative devices combined therewith. Fig. 4 is a side view, and Fig. 5 a top view of a frame or lever carrying a valve in the urinal. Fig. 6 is a top view, showing the adjustable seat and urinal uncovered. Fig. 7 is an enlarged sectional view of the valve-operating mechanism, and Fig. 8 a top view of the urinal and the frame, carrying a valve pivoted to the opposite sides of the urinal.

A represents a box adapted to support my adjustable seat and to inclose all the devices used in combination therewith.

A′ is a hinged cover adapted to conceal the adjustable seat and urinal.

A^2 is a hinged door on the front side of the box, through which access is gained to the removable reservoir.

A^3 is the fixed top of the box.

B is the self-adjusting wooden seat, hinged to the front edge and top of the box to extend rearward in a corresponding opening in the fixed top A^3.

B′ is a block fixed to the under side of the top A^3, and B^2 are springs that rest upon the block B′ in such a manner that they will, in their normal condition, keep the rear end of the hinged seat elevated.

C is an elongated urinal, preferably made of porcelain, fixed to the front and center of the top A^3.

C′ is a valve-seat formed integral with the urinal, and extends horizontally therefrom into an opening of corresponding shape and size formed in the fixed top. The seat B is provided with a circular opening that coincides with the open valve-seat C′, and is also provided with an angular opening that admits the urinal C to project up through the hinged and adjustable seat when it is depressed by the weight of a person occupying it.

D is a four-sided and open-ended valve-chamber, preferably made of cast metal, fixed to the under side of the fixed top of the box by means of screws passed through the flange at its top and into the wood.

D′ is a valve in the form of a concavo-convex metal plate, adapted to engage and close the under side of the open valve-seat C′, as clearly shown in Fig. 3.

D^2 are frames fixed to the under side and opposite ends of the valves.

D^3 are weighted arms extending horizontally from the frames D^2, to balance the valve and frames when pivoted to the walls of the chamber D by means of pins projecting from the frames into bearings *f*, that are adjustably fastened to the walls by means of set-screws.

f′ are arms that extend from a horizontal bar, *f″*, and are pivoted to the frames D^2.

f‴ is a rod fixed to the seat B, to extend down through bores in the fixed top portion, B′, to be rigidly fastened to the horizontal bar *f″* by means of clamping-nuts on their screw-threaded ends or in any suitable way, in such a manner that when the seat is depressed the arms *f′* will swing the pivoted frames D^2 and the valve D′ forward as required to open the passage between the seat B and the reservoir under the valve-chamber. When the pressure on the seat is removed, the springs B^2, aided by the weighted arms D^3, cause a reverse movement of the valve as required to close the passage-way.

G is a moveable reservoir, preferably made

of metal detachably connected with the flanged bottom of the valve-chamber D.

G′ is a cover fitted in the flanged open top of the reservoir and secured thereto by means of screw-bolts, as clearly shown in Fig. 3.

h h (shown in Fig. 1) are turn-buttons pivoted on top of the cover, so that they can be pressed over the flange *h′* on the bottom of the valve-chamber D, to clamp the reservoir fast to that chamber and to produce an air-tight connection between them by pressing elastic packing fast between the two parts as required to prevent odor from escaping.

J represents an opening in the central part of the cover G′, through which fecal matter is dropped into the reservoir.

K is a slide that moves in bearings formed in the cover G′, as required to open and close the reservoir G.

l is an open-bottomed small chamber formed integral with the valve-chamber D.

l′ is a vent in the cover G′, that coincides with the open bottom of the chamber *l*.

l″ is a tube that extends from the chamber *l* to a ventilating-flue, *m*, that is connected with the box A, and extends from thence into a chimney or to the top of the building in which the apparatus is located.

m′ is a vent in the valve seat C′, that coincides with a bore, *m″*, in the fixed top portion, B′, which opens into the flue *m*.

n is a tube connected with an auxiliary urinal, C″, attached to the top A, to convey urine into a drain or sewer outside of the building or wherever desired.

n′ is a ball-valve attached to the frame *n″*, (shown in Figs. 4, 5, 8, and 9,) and the frame is pivoted to the sides of the urinal C in such a manner that the valve will be projected into the urinal, and the parallel bars of the frame extend rearward at the sides of the urinal and their bent free ends against the under side of the seat B.

n‴ is a tube extending from the vent in the urinal C to the tube *n*.

r is a tube extending from the tube *n* to the flue *m*, to carry off odor.

s represents a covered chamber, adapted to retain deodorizing material.

t is an opening in the under side of the cleat *t′*, fixed to the under side of the hinged cover A′. When the cover is closed down flat upon the top A³, air will pass from the outside inward through the opening in the cleat, to ventilate the vacant spaces under the cover and to carry off any odor that may be there through the vent *m′* in the valve-seat C′ and from thence into the flue *m*.

In the practical use of my apparatus, when the hinged cover A′ is turned up and the seat B occupied by a person, the weight of the person will compress the springs B², depress the seat, and thereby actuate the valve-operating devices as required to automatically operate the valve D′ and to allow the fecal matter to drop into the reservoir G when the slide K has been previously removed. The same movement of the seat will automatically operate the valve *n′*, as required to allow urine to flow from the urinal C. To remove the reservoir, I first replace the slide K and turn the buttons *h*, and then pull it out of the box and carry it to the place where it is to be emptied of its contents.

I am aware that a pan has had a urinal on a level with its top surface and a hinged valve at its square bottom edge operated by means of a hinged cover and a rotating shaft, pinions, and springs; but a urinal having a valve-seat extending horizontally therefrom in a plane lower than the top edge of the urinal, and a hinged cover having an opening corresponding in shape with the urinal and valve-seat, and a rotary valve formed and combined as set forth is novel and advantageous.

I claim as my invention—

1. The hinged seat B, the springs B², the urinal and valve-seat C C′, the valve-chamber D, fixed bearings *f*, the valve D′, having fixed frames D², the frame *f′ f‴*, and the rods *f‴*, and the frame *n″*, carrying the valve *n′*, arranged and combined with the fixed top of the box or other suitable privy-seat support, to operate in the manner set forth, for the purposes specified.

2. The valve *n′*, carried by the frame *n″*, in combination with the urinal C, the tube *n*, and the hinged cover B, for the purposes stated.

3. The urinal C″, the valve-seat C′, having a vent, *m′*, the tube *n*, the tube *r*, and the flue *m*, arranged and combined as and for the purposes specified.

4. In an apparatus for the separation and disposal of human excrements, the combination of a privy-seat having a circular opening in its central portion and an oblong opening extending forward from the central opening, in combination with a urinal having an open valve-seat extending horizontally therefrom, to operate in the manner set forth.

5. An apparatus for the disposal of human excrements, composed of the following elements, to wit: a urinal having a valve-seat extending horizontally, a privy-seat having a circular central opening and an intersecting opening to admit the urinal to extend upward therein, a reciprocating valve fitted to the under side of the valve-seat and inclosed in a pendent valve-chamber, valve-operating mechanism, a portable reservoir detachably connected with the lower end of the valve-chamber, and a tube connected with the urinal, to operate in the manner set forth.

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