(No Model.)

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CLEAN OUT TRAP FOR RANGE CLOSETS.

No. 598,899. Patented Feb. 15, 1898.

Fig 2

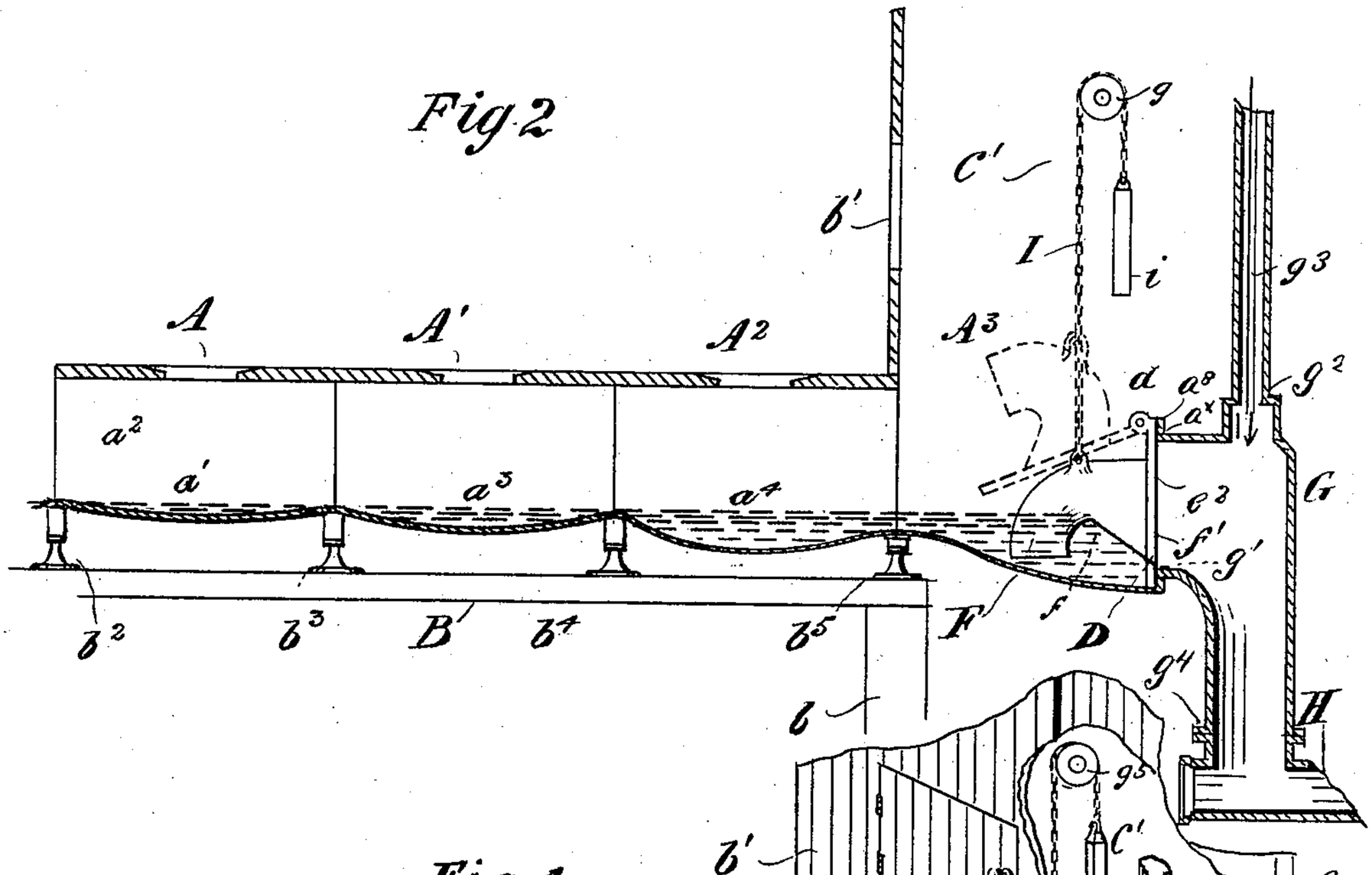

Fig 1

Fig 3.

Fig 4.

Witnesses

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CLEAN-OUT TRAP FOR RANGE-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 598,899, dated February 15, 1898.

Application filed April 9, 1897. Serial No. 631,474. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. BRADY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Clean-Out Traps for Range-Closets; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

My invention has for its object, primarily, to cause the rapid discharge of the sewage from the discharge-basin in a latrine immediately after flushing the basins; second, to enable the water in the discharge-basin to be lowered in degrees, and, third, to afford a free passage of the floating material when the trap and valves are raised in position.

My invention consists in the novel construction and combination of parts, such as will first be fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is an isothermal view showing the range of closets or latrine with the walls of the ventilating-chamber broken away, showing the discharge-basin, the receiver, and the downdraft-pipe, and the improved water trap and valves within the basin in a closed position. Fig. 2 is a vertical sectional view of the range-closets, the ventilating-chamber, the receiver and pipe, and the clean-out trap, as seen in Fig. 1. Fig. 3 is a cross-sectional view of the discharge-basin, showing the rear end wall, the hinge-plate or valve, and the trap. Fig. 4 is a perspective view in detail of the end wall of the discharge-basin, showing alternate hinged plates or valves in a partially-open position.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings, A A′ A^2 represent separate range water-closets employed in apartments of public buildings and form what is commonly termed a "latrine," the seats of which closets are arranged in a horizontal plane.

B represents the floor of the compartment in which the closets are arranged, and b represents the interior wall supporting one end of the floor.

b' is a partition-wall in a vertical line with the wall b, which forms the inner side wall to the ventilating-chamber.

C′ is the ventilating-chamber, and C is the outer wall to said chamber.

The front and rear sides a a^2 and bottom a' of the basin or closet A in cross-section is in one piece, the front side a extending from the upper edge of the basin A downwardly a short distance in a straight line, and thence continued in a single outwardly-curved line to form the bottom a' of the basin, the back a^2 of the basin being inclined rearwardly and at an oblique angle to the front portion a of said basin, as in the ordinary construction of these closets. The front and rear sides and bottom of the basins of the closets A A′ A^2 forming the latrine are continued in a longitudinal direction from the sides a a' and bottom a^2 of the basin of closet A, the extreme far end of the basin a^4 of the closet A^2 extending through the partition b' of compartment C′, so as to form a continuous conduit of the water to the trap hereinafter described. The bottom of the basin in the closet A is also depressed and extended in a single outwardly-curved line in the longitudinal direction of and nearly the length of said closet. The bottom of the basin a^3 and the bottom of the basin a^4 is also depressed in the same manner as the basin of the closet A.

The closets A A′ A^2 of the latrine are supported at a suitable height above the floor by the standards b^2 b^3 b^4 b^5, the standard b^5 supporting the end of the closet A^2 extending within the ventilating-chamber C′. The height of the bottom of the latrine is increased from the floor as beneath the basin or closet A and the other basins in a corresponding degree in order to decrease the depth of water in the basins and enable the conduit to discharge fully the sewage into the basin A^3.

In the ventilating-chamber C′ is the discharge-basin A^3, which is composed of the front side a^5, bottom a^6, and rear inclined side portion a^7, the forward end of which portions of the said basin conform in dimensions to the extreme inner end of the basin a^4 of closet A^2 of the latrine in the said chamber C′ and are rigidly connected with said basin. The bottom a^6 of the discharge-basin extends downwardly and rearwardly from the point of con-

nection with the basin a^4, in a single curved line below the level of the bottom of basin a^4, to the rear end wall a^8, which extends upwardly from the bottom a^6 the corresponding height of the sides of the said basin A^3 and from one side a^5 to the other side a^7. In the rear end wall a^8 is an opening $a^\times$ of considerable width, and which extends to within a short distance of the bottom of the basin in one direction and to within a short distance of the upper end of the said wall in the other direction.

Upon the outer side of the wall a^8 is a sewage-receiver G, which consists of an upright circular case, upon one side of which, near the upper end of said case, is an extension g at right angles to the case G, in which is an opening g', the sides of which extension are fitted to the sides of the opening $a^\times$ in the end a^8, the lower side of which extension extends downwardly from the end wall a^8 in a single curved line. In the upper end of the case G is an opening g^2, in which is fitted one end of a downdraft-pipe g^3, the other end of which pipe is exposed to the open-air shaft of the building. The lower end of receiver G extends downwardly to the sewer-pipe H, leading to the street, and is provided with a flanged opening g^4, which is connected with a like opening in the sewer-pipe.

On the inner side of the discharge-basin A^3 and extending over the opening $a^\times$ in the end wall a^8 is a valve D, which is hinged at the upper end by the hinge d to the upper end of wall a^8. In the valve D, at a short distance below the hinge d, is an opening f for the sewage. To the inner side of the valve D is attached one end of a trap or elbow F, which extends around the opening f in said valve, the lower inner side of which end portion of the elbow inclines downwardly at an acute angle to end wall g^8. The other end of the elbow F extends downwardly nearly to the bottom of the discharge-basin A^3.

In the ventilating-chamber C', directly above the trap F, is a pulley g^5. With the upper end portion of the trap F is connected one end of a chain, the other end of which chain is extended over the pulley g^5, and upon said end is a weight i.

For the purpose of gradually diminishing the discharge of the water from the basin A^3 I employ the construction as seen in Fig. 4, in the end wall of which basin I make an opening d^2, larger in dimensions than the opening $a^\times$ in the end wall a^8 of the basin A^3, said opening extending to within a short distance of the front side a^5, bottom a^6, and rear side a^7 of the basin A^3. Extending over said opening is a valve D', which is hinged to the upper end of the wall d^3, as follows: In the valve D' is an opening e of considerable dimensions and which extends through the upper end of the valve in one direction and to a point in a downward direction a short distance from the lower edge of the valve and is comparatively narrow in width. Over the opening e extends a valve E. In the valve is an opening for the sewage, which extends nearly to the upper end of the valve in one direction and to within a short distance of the lower edge of said valve, over which opening extends one end of an elbow or trap F', the other end of which trap extends downwardly in the direction of the bottom of the discharge-basin. In this construction the separate upper ends of the valve D' are hinged to the separate hinges d^0 and $d^\times$ on the upper part of the end wall of the basin. The valve E is hinged at d^3 to a portion of the end wall between the separate hinges d^0 $d^\times$ and which extends inwardly beyond the said hinges, thus permitting the closing of valve E over the opening e. The valve D' and trap F' are each provided with separate elevating-chains K and L, respectively, which extend over separate pulleys in the same manner as over the pulley g^5.

In the operation the basins of the closets A A' A^2 are flushed or furnished with a supply of water, either in large quantities or in small quantities intermittently, which flows into the basin of closet A from its source and in seeking its level in the succeeding basins in the series of basins is rapidly discharged into the basin A^3 in the chamber C, carrying with it the sewage from each basin. In this operation the inflowing water will fill the basin A^3 to the bend in the trap and then discharge over the bend through the said trap. Should it rise above the bend in the trap, it will discharge through said trap as fast as the caliber will permit until the water reaches the level of the bend, which is the normal water-level.

In order to free the discharge-basin from an accumulation of rubbish, which is frequently thrown into the basins and is prevented from entering the trap F, the valve D is raised in position, as seen in dotted lines in Fig. 2, and so held by the weight i, thus enabling the entire contents of the basin A^3 to be discharged into the receiver G and thence to the sewer-pipe H. The receiver G being water-tight, the valve D is kept closed by its own weight and the weight of the water against it, so that the water, once started, will discharge the water in the basin A^3 until the water is lowered to its normal height.

In large latrines it is important to lower the water in the discharge-basin in degrees in order to recover articles of value which will finally be deposited in the discharge-basin A^3, this being accomplished with the discharge-basin fitted with the valves and trap, as in Fig. 4, the ordinary height of the water in the basin employing said valves being in excess of that in basin A^3 with the valve D. In the form of the valve, as in Fig. 3, a certain amount of filtration or strainage may be conducted before the final washout of the basin.

Having fully described my invention, what I now claim as new, and desire to secure by Letters Patent, is—

1. In a latrine composed of separate water-closets and basins in each closet connected with each other, a discharge-basin at the end of said latrine, and a rear end wall to said basin, having an opening for the sewage, a receiver for the sewage having an extension within the said opening in said end wall, and a sewer-pipe connected with said receiver, a valve within the discharge-basin extending over the said opening in the end wall, and also having an opening for the sewage through said valve, and a trap connected with said valve, having one end extending around said opening, and a downdraft-pipe connected with the said receiver, as and for the purpose described.

2. In a discharge-basin for a latrine, the combination with the rear end wall, having an opening for the passage of the sewage, of separate valves within said basin, each valve having an opening for the passage of the sewage and separately hinged to the said rear end wall, and a trap or elbow, having one end connected with one of said valves and extending around the opening in said valve, as and for the purpose described.

3. In a discharge-basin for a latrine, the combination with the vertical rear end wall, having an opening for the passage of the sewage, of a valve within said basin, hinged at its upper end to the upper end of said end wall, and having an opening for the passage of the sewage, and a trap or elbow within said basin connected at one end with said valve and extending around the opening in said valve and the inner side portion of said end of said trap inclined downwardly and rearwardly at an angle to the said end wall, as and for the purpose described.

4. In a latrine composed of a series of basins connected with each other in the longitudinal direction of the latrine, and having a suitable source of supply of water, a discharge-basin at the end of said latrine, connected with said basins, having a rear end wall provided with an opening for the passage of the sewage, and the bottom to said basin inclined downwardly and rearwardly in the direction of said end wall, a receiver for the sewage, having an extension near its upper end extending within the opening in said end wall and connected with the sewer at its lower end, a downdraft-pipe connected with the upper end of said receiver, and a valve within said discharge-basin hinged at its upper end to the end wall, extending over the opening in said end wall, and also having an opening for the sewage, a trap or elbow having one end connected with said valve and extending around said opening in said valve, and the other end in the direction of the bottom of said basin, said trap or elbow having its inner side and rear end portion inclined at an angle to the said end wall, as and for the purpose described.

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Witnesses:
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