

No. 700,719.

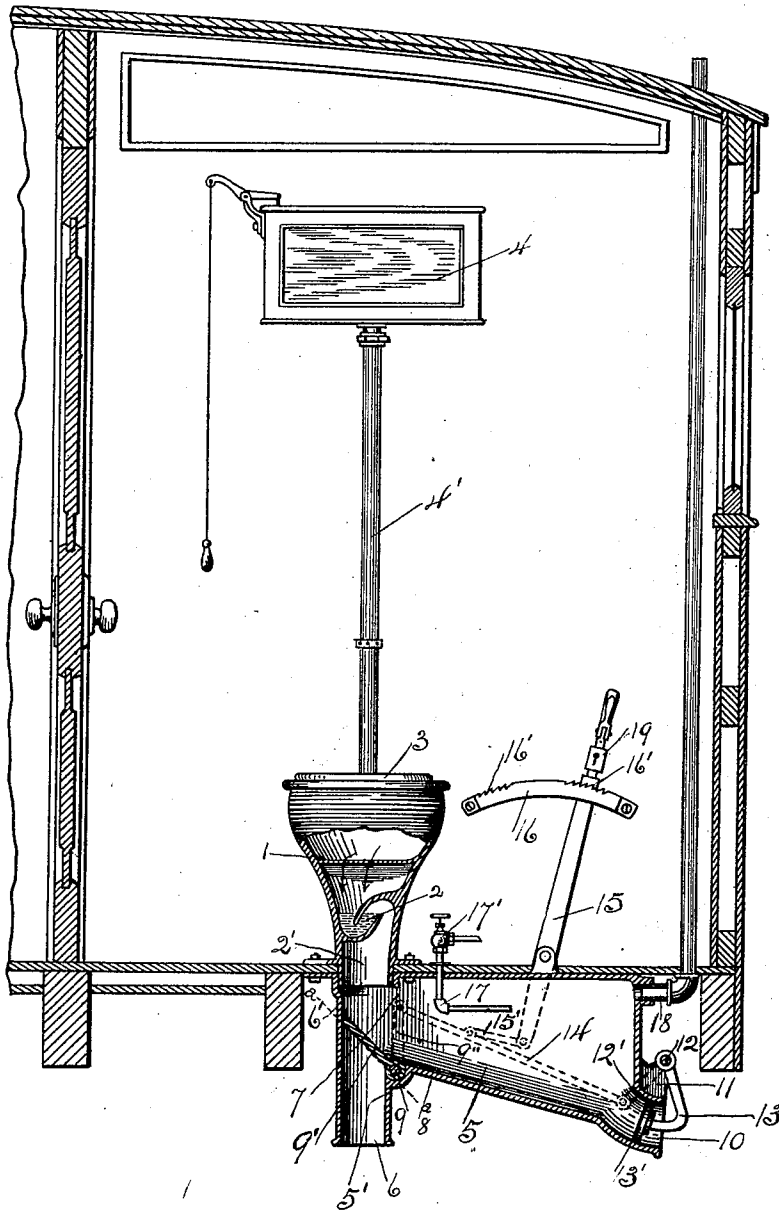
Patented May 27, 1902.

P. A. ALLEN & J. W. MCKENZIE.

WATER CLOSET RECEPTACLE FOR RAILWAY CARS.

(Application filed Jan. 13, 1902.)

(No Model.)



WITNESSES:

Wm C. Mitchell
Correll Schreiber

INVENTORS

Patrick A. Allen &
John W. McKenzie
By O'Brien & O'Brien
their attorneys,

UNITED STATES PATENT OFFICE.

PATRICK A. ALLEN AND JOHN W. MCKENZIE, OF TOLEDO, OHIO.

WATER-CLOSET RECEPTACLE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 700,719, dated May 27, 1902.

Application filed January 13, 1902. Serial No. 89,470. (No model.)

To all whom it may concern:

Be it known that we, PATRICK A. ALLEN and JOHN W. MCKENZIE, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Water-Closet Receptacles for Railway-Cars; and we 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, reference being had to the accompanying drawing, and to the figures of reference marked thereon, which forms a part of this specification.

Our invention relates to certain improvements in water-closet receptacles for use on railway-cars and the like; and it consists of the usual bowl, water-tank, and connections secured above the floor of the car and of a retaining tank or reservoir having inlet and outlet passages, secured to the under side of the car and contiguous to the outlet of the bowl and communicating therewith. The openings in said tank are provided with valves, which are opened and closed by means of a lever extending through and above the floor of the car, and also with vent-pipe and steam-injector, which latter insures a free circulation of steam through the tank, thus carrying off the foul odor and effluvia and preventing freezing in cold weather.

The object of our invention is to provide a simple and cheaply-constructed water-closet of the class described whereby the excretions may be retained within a receptacle secured to the under side of the car until suitable places are reached at which it is wished to deposit the same, thus obviating the necessity of locking the door of the closet when the car is at a station or within the limits of a city, and thereby preventing the hardship, especially to women and children, frequently occasioned by reason of the door being locked. When desired, however, the deposits may be directly expelled by way of the straightway chute.

In our improved water-closet the foul air and gases are carried off by means of the vent-pipe and steam-injector, the necessity of depositing the excretions and foul matter along the line of travel is obviated, the spreading and contracting of filth diseases is lessened

very considerably, and numerous other sanitary conditions are promoted.

The invention also prevents currents of cold air from striking the body, thereby subjecting the occupant to less inconvenience and rendering him less liable to contract colds and kindred troubles.

While the essential features of the invention are necessarily susceptible of modification, still the preferred embodiment thereof is illustrated in the accompanying drawing.

The drawing is a detailed vertical view of our improved water-closet and retaining-tank as attached to a car and shows the inlet-passage open, the passage in the straightway chute closed, and the discharge-passage of the tank closed, this being the required position of the valves when it is desired to retain the excretions in the tank.

In the drawing, 1 represents the bowl, which is provided with the usual trap 2 and cover 3 and having the outlet-passage 2' extending downwardly therefrom and through and slightly below the floor of the car. We do not confine ourselves to any particular shape or kind of bowl, as our invention may be attached to any of the ordinary make.

The figures 4 and 4' represent the usual tank and pipe leading therefrom to the bowl, the tank being equipped with trip-valve and string.

To the under side of the floor, beneath the bowl 1, is secured the tank 5, and integral with said tank is the downwardly-projecting chute 5', which is provided with the opening 6 at its lower end and the opening 6' at its upper end, into which latter opening the downwardly-extending portion 2' of the bowl 1 is inserted. We do not wish to confine ourselves, however, to the use of a tank with the straightway chute 5' integral therewith, as an opening may be made in the side of the usual chute with which cars are equipped to conform to the opening 7 in the tank and the tank 5 then secured to the side thereof, thus performing the same object as it would were the tank and chute integral.

The bottom 7 or lower portion of the tank 5 is rounding in its general contour and forwardly inclined, thus forming a trough whereby the excretions as they enter the tank through the opening 7 between the tank 5

and the chute 5' are more easily carried to the lower portion of the tank and facilitating the dumping or discharge of said excretions from the tank. In the angle formed by the floor 8 and the wall of the chute 5' is journaled the shaft 9, to which is rigidly secured the valve or gate 9', which is adapted to close the opening 7 between the tank 5 and the chute 5' when in a vertical position and to close the outward passage in the chute 5' when in an inclined position, as shown in the drawing, thereby causing the deposits to be carried into the tank 5. To one end of the shaft 9 and at the side of the tank is secured the crank-arm 9'.

At the rear and lower portion of the tank 5 is the neck or nozzle 10, through which the excretions in said tank are discharged. To the ear 11 above the said nozzle is journaled the shaft 12, to one end of which is rigidly secured the L-shaped arm 13, carrying the valve 13', which is adapted to fit snugly in the opening or nozzle 10. To the outer end of the shaft 12 is rigidly secured the crank-arm 12'. Pivottally attached to the crank-arms 9'' and 12' and connecting the same is the link or rod 14. (Shown in the drawing by the dotted lines.)

To the floor of the car and adjacent to the side of the tank on which the rod 14 is located is fulcrumed the lever 15, which extends above and slightly below the same. The lower end of said lever is connected to the rod 14 by means of the link 15'. The oscillating movement of said lever 15 is limited by the segment or guide-plate 16, said segment being provided on its upper edge with the teeth 16', with which the clutch on the lever engages.

The steam-pipe 17, having the stop-cock 17' thereon, projects through the floor of the car and into the upper portion of the tank 5, the end within the pipe being provided with an elbow turned in the direction of the vent-pipe 18. This elbow may be dispensed with, however, if desired. Thus it will be seen that the steam-pipe performs the double purpose of preventing freezing in cold weather and insuring a perfect circulation within the tank, whereby the foul air and gases are carried off through the vent-pipe 18. We wish it understood, however, that we do not confine ourselves to this means of circulation, as the same object may be attained by numerous other modes.

When the water-closet is in use and it is desired to retain the excretions, as in case the car is at a station, the lever is thrown over to the position shown in the drawing. When in this position, the valve or gate 9' closes the straightway chute 5' and the deposits are carried into the tank 5 and retained therein by valve 13', which is in closed position. When it is desired to dump the excretions or to expel them through the straightway chute 5' directly onto the ground, the lever is drawn over toward the bowl 1, thus

causing the rod 14 to move in the opposite direction, thereby throwing the valve 9' to its vertical position, closing the passage 7 and opening the passage 10. The lever 15 is provided with the lock 19, whereby the lever may be locked in either the open or closed position.

In case it is desired at all times to use the tank 5 and not discharge the deposits by way of the chute 5', the extended portion of the said chute may be cut off at the dotted line *aa* and the floor 8 extended on an upward angle to the opposite wall of the chute, thereby performing the object of the valve 9' when in its inclined position. Should this be done, the valve 9', the crank-arm 9'', and the rod 14 could be dispensed with and the link 15' be connected directly with the crank-arm 12'.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a water-closet of the class described, the combination, with a bowl and a chute arranged beneath said bowl in such manner as to receive deposits directly therefrom and expel them through an opening provided for that purpose, of a tank attached to the side of said chute and independent thereof, an opening provided between said chute and tank, a gate in said opening and adapted when open to close passage in chute and cause deposits to enter said tank, substantially as described.

2. In a water-closet, the combination of a bowl, a chute arranged directly beneath said bowl, a tank arranged at the side of said chute, the said chute adapted to be used independently of said tank and to expel excretions directly therefrom without first entering tank, inlet and outlet openings provided in said tank, gates in said openings, the gate in said inlet-opening being adapted, when in open position, to close passage in chute and cause deposits to enter said tank, and means for opening and closing said gates.

3. In a water-closet adapted to be used on railway-cars, the combination, with a bowl and a chute directly connected to said bowl and having two outlet-openings, of a tank arranged at the side of said chute and having an inlet and outlet opening, said inlet-opening communicating with one of said outlet-openings in said chute, a valve in each of said openings in tank and each adapted to alternately open outwardly, the said valve in the inlet-opening of said tank being adapted when open to close passage in chute and cause deposits to enter tank, and means, comprising crank-arms on said valves, a rod connecting said arms and a lever attached to and adapted to reciprocate said rod, provided to operate said valves.

4. In a water-closet, the combination of a bowl, a straightway chute contiguous to said bowl and having a direct outlet-passage, a tank, having inlet and outlet openings, attached to the side of said chute and adapted

to be used only when it is desired to retain the excretions, gates in said openings, one of said gates adapted to swing outwardly and downwardly and close the passage in said chute in such manner as to cause excretions to change their course, when being expelled therethrough, and enter said tank, and means provided for causing the gate in said outlet-passage to open outwardly and upwardly, substantially as described.

5. In a water-closet of the class described, the combination with a bowl and straightway chute, of a tank having a circular and forwardly-inclined floor, said tank being provided with a passage communicating with said chute and an outlet-passage, valves adapted to alternately open and close said passages, the valve in said inlet-passage adapted to open outwardly and downwardly and close passage in said chute and means for operating said valves, said means comprising arms attached to said valves, a rod connecting said arms, and a lever fulcrumed to floor of car and connected with said rod, substantially as specified.

6. In a water-closet of the class described, the combination with a bowl, a straightway chute projecting downwardly therefrom and having an opening in its side, of a retaining-reservoir having inlet and outlet passages, said inlet-passage communicating with opening in side of said chute, a forwardly-inclined floor in said tank, a shaft mounted at the forward end of said floor, a valve on said shaft and adapted to close the chute when in open position and cause deposits to enter said reservoir through the said inlet-passage, a shaft on the rear of said tank, a stem secured to said shaft, a valve on said stem and adapted to fit snugly in the outlet-opening in said tank, and means for alternately opening and closing said valve, substantially as specified.

7. In a water-closet, the combination of a bowl, a straightway chute connecting directly with said bowl and having a direct and indi-

rect discharge-opening, a tank contiguous to said indirect discharge-opening and having communication, through said opening, with bowl, an independent outlet-opening provided in said tank, valves mounted in the openings in said tank, one of said valves being adapted to open outwardly and upwardly and the other to open outwardly and downwardly and close direct discharge-opening in chute, and means provided for operating said valves.

8. In a water-closet, the combination, with a bowl, of a receptacle having a direct outlet-opening in a vertical line with said bowl and a second outlet-opening at an angle to said bowl, valves mounted adjacent to said openings, the said valves being adapted to simultaneously close said openings and retain matter in said receptacle.

9. In a water-closet, the combination, with a bowl, of a receptacle contiguous to said bowl and having two compartments, one of said compartments being in a vertical line with said bowl and adapted to receive matter directly therefrom and having a direct outlet-opening, the other compartment having a downwardly and outwardly declined floor and an outlet-opening at its lower extremity, a valve interposed between the said compartments and adapted when open to close outlet in the said vertical compartment and cause the matter received from said bowl to enter the said other compartment and be retained therein by means of a valve mounted in the said opening at its lower extremity, and means for opening and closing said valves, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

PATRICK A. ALLEN.
JOHN W. MCKENZIE.

Witnesses:

DONN C. MITCHELL,
CORNELL SCHREIBER.