

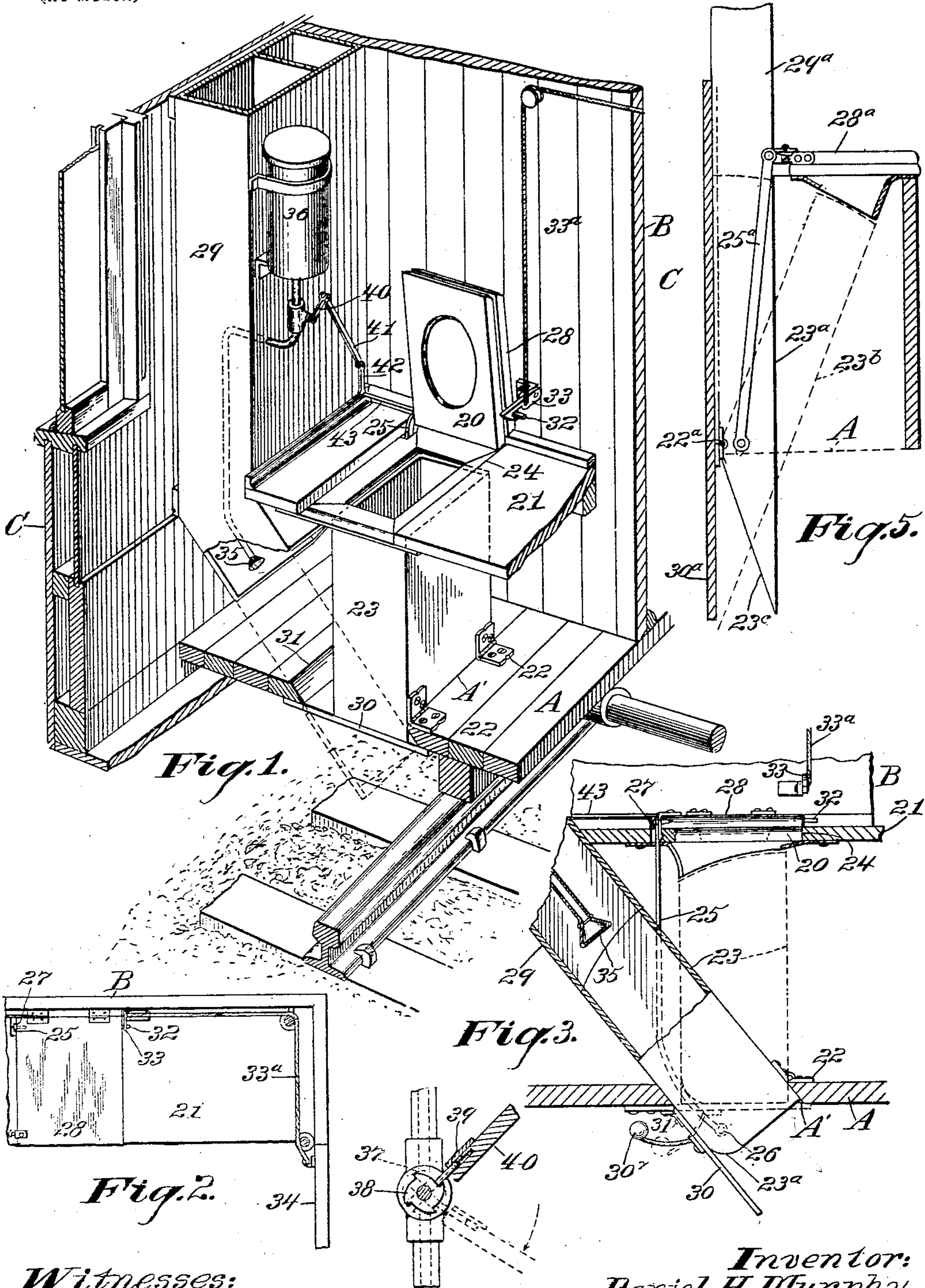
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WATER CLOSET FOR CONVEYANCES.

(Application filed Jan. 10, 1902.)

(No Model.)



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Fig. 4.

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UNITED STATES PATENT OFFICE.

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WATER-CLOSET FOR CONVEYANCES.

SPECIFICATION forming part of Letters Patent No. 710,989, dated October 14, 1902.

Application filed January 10, 1902. Serial No. 89,113. (No model.)

To all whom it may concern:

Be it known that I, DANIEL H. MURPHY, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Water-Closets for Conveyances, of which the following is a specification.

This invention relates to water-closets for railway-cars and other conveyances; and its object is to improve the construction thereof, whereby access of insalubrious cold drafts to the seat is prevented and the flushing and ventilation are improved.

In the accompanying drawings, Figure 1 is a perspective view of the preferred form of my improvements. Fig. 2 is a partial plan. Fig. 3 is a sectional view showing the position of the parts when in disuse. Fig. 4 is a detail of a flushing-valve, and Fig. 5 is a sectional elevation of another form of one part of the invention.

In the several views similar parts are designated by similar characters of reference.

The floor of the car is indicated at A, the end wall thereof at B, and the side wall at C. To the wall B is preferably hinged a closet-seat 20, adapted when down to lie upon a fixed bench 21. Secured to the floor of the car by means of hinges 22 is a vertical box or funnel 23, whose open upper end stands beneath the seat opening or jamb 24 in the bench 21 and whose open lower end protrudes through a floor-opening A'. By means of a link or connecting-rod 25, which is attached at its lower end at 26 to the lower portion of said funnel 23 and at its upper end at 27 to the side edge of a seat cover or lid 28, said funnel may be tipped upon said hinges 22 from the vertical full-line position at Fig. 1 to the inclined full-line position at Fig. 3, at which figure it is shown as forming a continuation or lower section of a ventilating-shaft 29, the upper portion whereof opens into the outer air, preferably at the top of the car.

A valve 30 is connected by hinges 31 to the under side of the car-floor, Fig. 3, and is provided with a counterbalancing-weight 30^x, tending to keep said weight up, so as to close the floor-opening A', one corner of the box, as 23^a, being adapted to bear down upon said

valve and open the same when said box is tipped to the Fig. 3 position.

Upon the cover 28 is provided a pin 32, adapted to be engaged by the latch 33, secured to the end wall B of the car, this latch being preferably connected by a cord 33^a to the door 34 at the entrance to the closet, Fig. 2, so that when the latter is opened the latch is automatically released, thereby permitting or causing the cover to fall and the funnel 23 to tip to the Fig. 3 position.

In the lower portion of the ventilator 29 is provided a spraying or flushing jet 35, communicating with an oil-tank 36, and between said tank and said jet is inserted a four-way valve 37, Fig. 4, having a four-tooth ratchet 38, controlled by a spring-pawl 39, mounted upon a lever 40, said lever being connected by a link 41 to a crank 42, carried by a rock-shaft 43, upon which the cover 28 is mounted, so that when said lid is moved said lever 40, link 41, and crank 42 are operated, thereby turning the ratchet 38 and the valve, and hence permitting the escape of a quantity of oil through the latter into the jet 35, spraying the funnel 23. The valve is closed by the final portion of the movement of the cover 28. The oil does not freeze, and is used in small quantities to spray or flush the funnel, and serves to minimize the adhesion of excrementitious matter to the walls thereof.

At Fig. 1, in which the parts are shown in position for use, it will be observed that the valve 30 closes the floor-opening A', so as to check or prevent ingress of cold exterior air through the funnel to the seat, while the top of the funnel preferably registers with the opening in the bench 21 so closely, as shown by dotted lines at Fig. 3, as to also prevent cold air coming through the ventilator 29 gaining access to the seat, thus rendering the apparatus far less liable to lead to sickness or injury than where the seat communicates by a fixed funnel directly with the outside air, as is customary. In other words, the apparatus as shown in Fig. 1 is in the form of a closed commode, the ventilator 29 at the time preferably serving to purify the air of the closet, while in Fig. 3 position the funnel 23 is entirely out of communication with the closet and wholly in communication with the

ventilator at one end and the open air at the other end, whereby contamination of the air of the closet is wholly avoided.

At Fig. 5 a cover 28^a is shown connected by a link 25^a to a box or funnel 23^a, forming the lower section of a ventilator 29^a, said funnel being hinged at its lower end at 22^a to the side C of the car and being moved by the link at the raising of the lid to the position of use, (shown in dotted lines at 23^b,) at which time the lower end 23^c of the funnel contacts with the wall C, so as to close said funnel and prevent an indraft of air, said end 23^c being cut diagonally for this purpose. It will be observed in this instance that the air valve or trap is fixed to or forms a continuation or portion of the side C of the car, as at 30^a, the movement of the funnel 23^c serving to close and open the valve or at least to put said funnel into or out of communication at its lower end with the outside air for the purposes set forth.

In using herein the term "complete funnel" I mean to distinguish from an open trough or pan. It is to be observed that my funnel is a complete four-sided device, so that the closet is necessarily kept clean and free from odor, which would not be the case with an open trough, and at the same time cold drafts are prevented from gaining access to the seat when in use. It will also be seen that preferably the funnel when out of use forms an entire section of the ventilator. It is not essential in all cases that the funnel be square or box-like in construction so long as it forms a complete inclosure.

Variations may be made within the scope of my invention, and portions of my improvements may be used without others.

Having described my invention, I claim—

1. A closet in a conveyance, comprising, in combination, a ventilator, a hinged tubular funnel, and a closet-seat; said funnel being movable upon its hinge from a position beneath said seat to a position where it communicates with said ventilator.

2. A closet in a conveyance, comprising, in combination, a ventilator, a movable tubular funnel, and a closet-seat; said funnel being movable to and from a position where it forms a continuation of said ventilator.

3. A closet in a conveyance, comprising, in combination, a ventilator, a movable tubular funnel, and a closet-seat; said funnel being movable to and from a position where it forms a continuation of said ventilator, a movable cover for said seat, and means operatively connecting said cover to said funnel.

4. A closet in a conveyance, comprising, in combination, a ventilator; a hinged tubular funnel; a closet-seat; said funnel being movable upon its hinge from a position beneath said seat to a position where it forms a continuation of said ventilator; a hinged cover for said seat; and a link or rod, as 25, pivoted at one end to said cover and at the other end to the lower end of said funnel.

5. A closet in a conveyance, comprising, in combination, a hinged member, such as a seat or cover; a hinged tubular funnel operatively connected thereto; and a ventilator; said funnel being put into communication with either the seat or the ventilator by the movement of said hinged member.

6. A closet in a conveyance, comprising, in combination, a seat, a tubular funnel beneath said seat and opening through the floor of the conveyance, a ventilator, and means for moving said funnel so that it communicates with said ventilator.

7. A closet comprising in combination, a seat; a tubular funnel beneath said seat; an opening through the floor of the closet; a ventilator; means for putting said funnel into communication with said ventilator; and a valve for preventing an updraft of air in the funnel.

8. A closet comprising, in combination, a seat; a tubular funnel; a ventilator; an indraft valve; and means for simultaneously putting said funnel into communication with said ventilator and opening said valve.

9. A closet comprising, in combination, a seat; a funnel beneath said seat; an opening through the floor of the closet; a ventilator; means for moving said funnel so that it communicates with said ventilator; and a valve closing the bottom of the funnel when the funnel is in communication with said seat, and being open when said funnel is in communication with said ventilator.

10. A closet comprising, in combination, a seat; a funnel beneath said seat and opening through the floor of the closet; a ventilator; means for moving said funnel so that it communicates with said ventilator; and a valve for closing the funnel, said valve being opened by the movement of the funnel into communication with said ventilator.

11. A closet, comprising, in combination, a seat; a box or funnel beneath said seat and opening through the floor of the closet; a ventilator opening at the upper portion of the closet; means for moving said box or funnel so that it communicates with said ventilator; and a counterweighted valve normally bearing up against the under side of the closet-floor so as to close the opening therein, and pressed open by said box or funnel when the latter swings into communication with said ventilator.

12. A closet comprising, in combination, a seat; a cover; a funnel beneath said seat; an opening through the floor of the closet; a ventilator; means for moving said funnel so that it communicates with said ventilator; a valve for closing the bottom of the car; and means for enabling said cover to move said funnel and said valve.

13. A closet comprising, in combination, a seat; a ventilator; a tubular funnel adapted to be moved either to said seat or to said ventilator, said funnel opening at its lower end through the bottom of the closet; a tank hav-

ing means for discharging into said funnel; and means moving automatically at the movement of said funnel to said ventilator for causing a flow of liquid from said tank.

5 14. A closet comprising, in combination, a seat; a ventilator; a tubular funnel mounted for movement either to said seat or to said ventilator; said funnel opening at its lower end through the bottom of the closet; a tank
10 having means for discharging into said funnel when the latter is in communication with said ventilator; and means moving automatically at the movement of said funnel to said ventilator for causing a flow of liquid from
15 said tank.

15 15. A closet comprising, in combination, a seat; a tubular funnel connecting said seat to an opening in the wall or floor; a valve closing said opening; a ventilator; flushing means;
20 means for enabling said funnel to move from said seat to said ventilator and also open said valve; and means for flushing or spraying said funnel when in communication with said ventilator.

25 16. A closet comprising, in combination, a seat; a tubular funnel; and a ventilator; said funnel being movable from said seat to said ventilator and in one position forming a con-

tinuation of said ventilator and in the other position forming a closed communication or joint with said seat, thereby preventing ingress of air to the latter.

17. A closet comprising, in combination, a seat; a ventilator; a funnel; and means for enabling said funnel to communicate with
35 either said ventilator or said seat, and means for closing said funnel at its lower end when it is in communication with said seat and for opening said funnel at its lower end to the outer air when it is in communication with
40 said ventilator.

18. A closet comprising, in combination, a seat; a ventilator; a funnel; and means for enabling said funnel to communicate with
45 either said ventilator or said seat, means for closing said funnel at its lower end when it is in communication with said seat and for opening said funnel at its lower end to the outer air when it is in communication with
50 said ventilator, and means for automatically flushing said funnel when it is open to the outer air.

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