

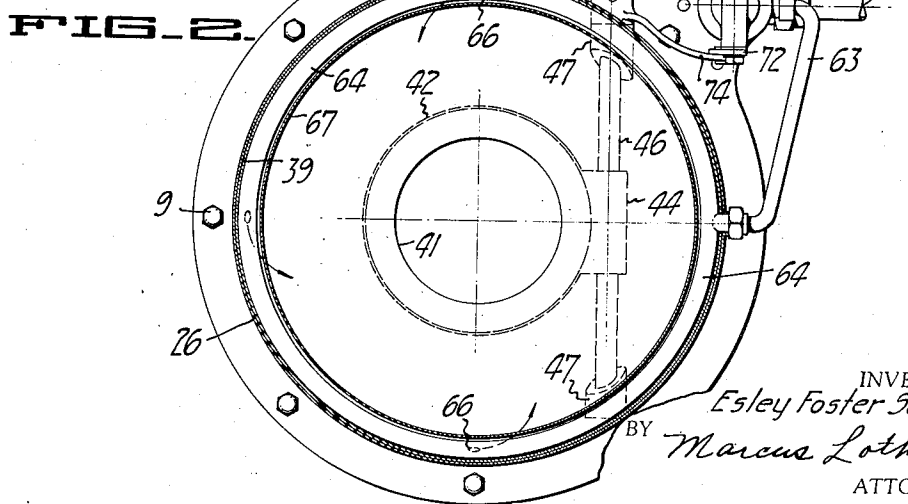
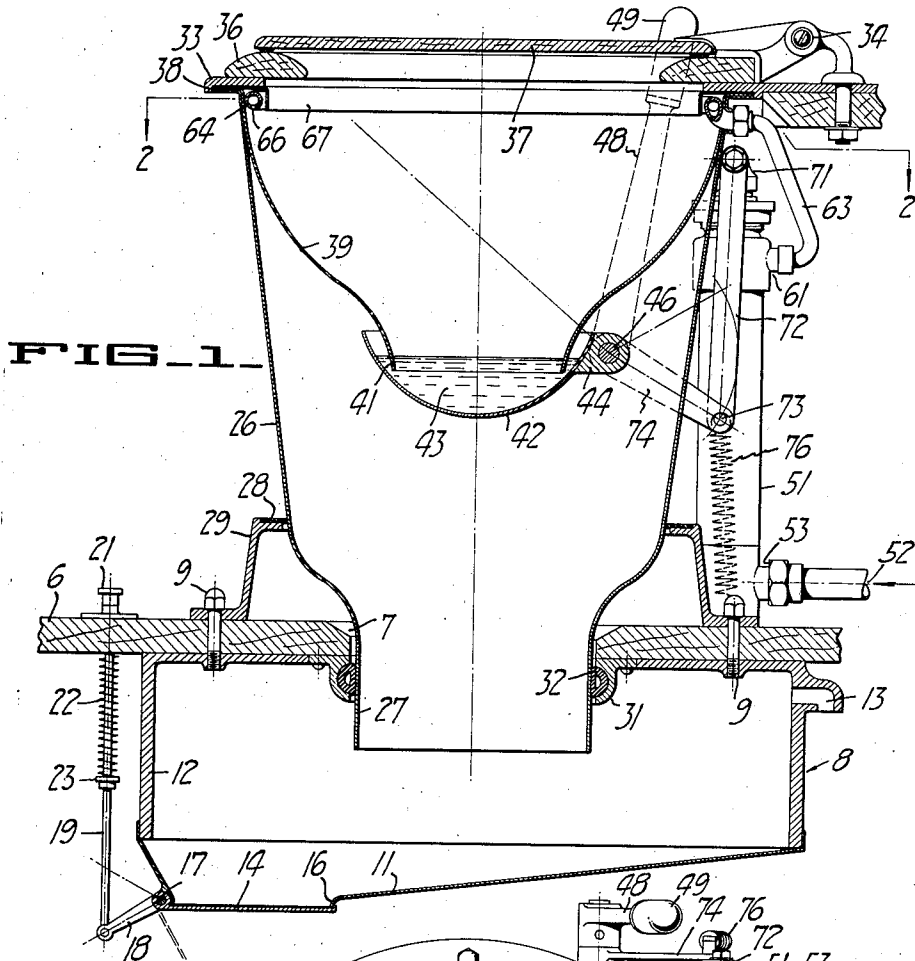
April 27, 1937.

E. F. SALSURY
MOBILE COMMODE

2,078,415

Filed Feb. 24, 1936

2 Sheets-Sheet 1



INVENTOR.
Esley Foster Salsbury
BY *Marcus Lothrop*
ATTORNEY.

April 27, 1937.

E. F. SALSURY

2,078,415

MOBILE COMMODE

Filed Feb. 24, 1936

2 Sheets-Sheet 2

FIG. 3.

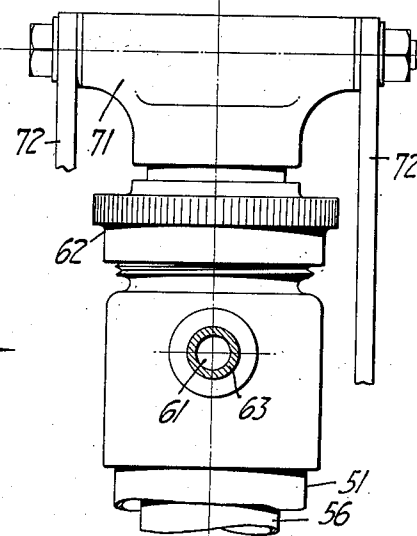
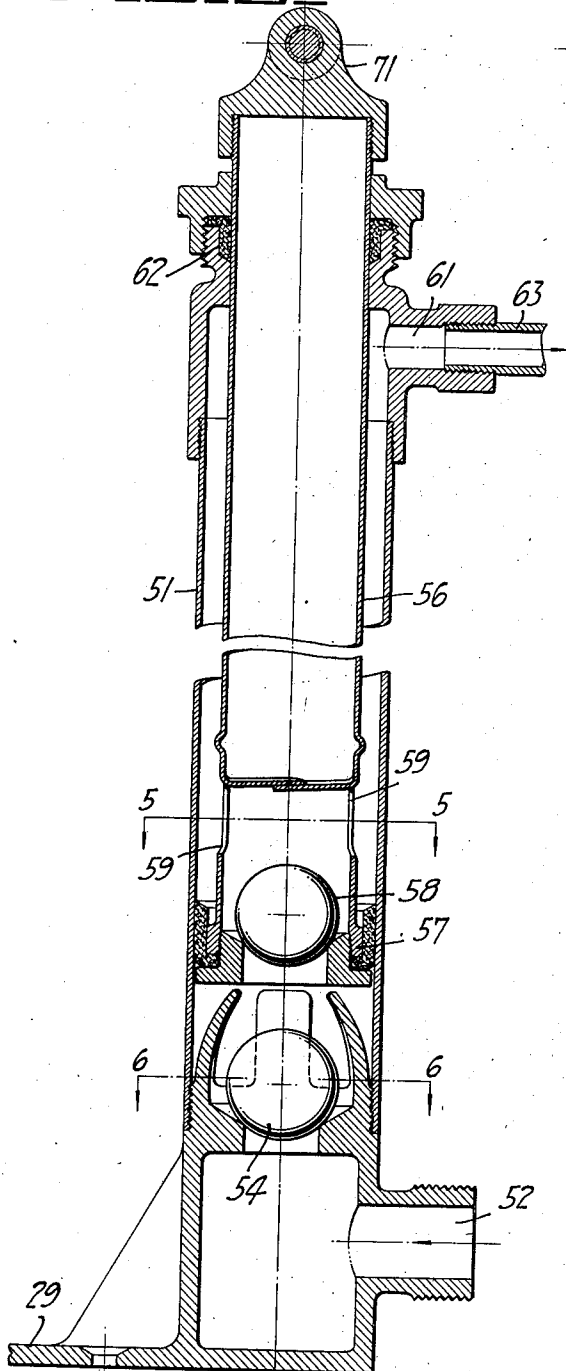


FIG. 4.

FIG. 5.

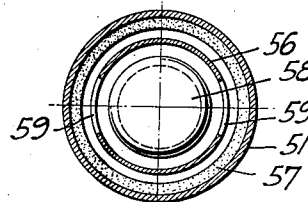
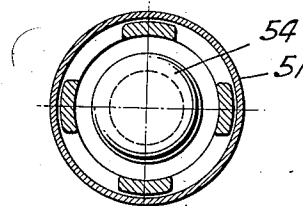


FIG. 6.



INVENTOR.
Esley Foster Salsbury
BY *Marcus Lothrop*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,078,415

MOBILE COMMODE

Esley Foster Salsbury, Orinda, Calif.

Application February 24, 1936, Serial No. 65,325

5 Claims. (Cl. 4-76)

My invention relates to means serving as toilet facilities, particularly on vehicles, and is especially suited for use in automobiles and trailers wherein the supply of water is limited and space is at a premium.

An object of my invention is to provide a mobile commode which will afford satisfactory toilet facilities in a very limited space.

Another object of my invention is to provide a mobile commode which utilizes a small amount of water.

A further object of my invention is to provide a mobile commode which can be installed as a unit in various different environments without material change.

A still further object of my invention is to provide a mobile commode the mechanical operation of which is simple.

The foregoing and other objects are attained in the embodiment of the invention illustrated in the drawings, in which—

Fig. 1 is a cross-section, on a vertical diametral plane, of a mobile commode constructed in accordance with my invention.

Fig. 2 is a cross-section the plane of which is indicated by the line 2-2 of Fig. 1.

Fig. 3 is a cross-section longitudinally on the axis of a pump utilized in the mobile commode of my invention.

Fig. 4 is a side elevation of the upper portion of the pump of Fig. 3.

Fig. 5 is a cross-section the plane of which is indicated by the line 5-5 of Fig. 3.

Fig. 6 is a cross-section the plane of which is indicated by the line 6-6 of Fig. 3.

In its preferred form, the mobile commode of my invention incorporates a septic tank above which is disposed a toilet bowl suitably mounted on a shell extending adjustably into the septic tank and communicating therewith. A movable cup holds a water seal at the outlet of the toilet bowl and is designed to be operated simultaneously with the operation of a water pump for supplying the cup with water.

In the preferred form of mobile commode illustrated in the drawings, the structure is designed for mounting on a floor 6 in any suitable locality. This floor is usually the floor of a vehicle, such as a trailer or a bus, and varies in thickness in different installations. At a suitable location on the floor I provide an aperture 7 below which is mounted a septic tank 8 preferably secured to the floor by suitable fastenings 9. The tank can be fabricated in any desired way and can be of any shape and capacity which are dic-

tated by surrounding circumstances and conditions. In the present instance the tank is provided with a removable bottom member 11, which can be detached periodically for major cleaning or inspection, but which normally is retained tightly in connection with the upper structure 12 of the tank. A combined air vent 13 and liquid overflow is preferably formed integrally with the upper structure 12 to afford a discharge outlet for excessive liquid contents of the tank and to allow air ingress to the tank.

The principal discharge of the tank is preferably through a flap valve 14 located at the bottom of a sump 16 terminating the sloping bottom 11 of the tank. The flap valve 14 is mounted on a hinge 17 and is moved by a lever 18 pivotally joined to an operating rod 19 extending above the floor 6 and terminating in a hand button 21. A coil spring 22, surrounding the rod 19 and interposed between the floor 6 and an abutment 23 on the rod, serves normally to maintain the flap valve 14 in closed position. When the hand button 21 is raised against the urgency of the spring 22, the lever 18 is operated to open the flap valve 14 and to permit the contents of the tank to discharge. If desired, the tank can contain bacterial or chemical agents, according to customary practice with septic tanks.

Mounted above the floor 6 is a supporting shell 26 which preferably is a metal structure somewhat conical in shape and reduced in diameter at its lower end to form a sleeve 27 extending into the interior of the tank 8. The shell 26 is provided with a peripheral flange 28 which rests upon a supporting base 29 secured to the floor by the fastenings 9. Since the thickness of the floor 6 varies in different installations, the sleeve 27 will extend into the tank varying amounts. In order to permit the variable positioning of these two elements and at the same time to provide a tight seal or connection therebetween, I preferably form the upper structure 12 of the tank to provide an annular groove 31 encompassing the sleeve 27 to receive a resilient packing 32, such as a rubber tube, seated within the groove and tightly abutting the external wall of the sleeve 27.

The upper part of the supporting shell 26 is outwardly flanged to support a ring 33, suitably secured thereto and serving as a support for the customary hinge 34 to which a standard toilet seat 36 and cover 37 are fastened. Interposed between the flanged upper end of the supporting shell 26 and the ring 33 is the upper flange 38 of a toilet bowl 39, having an outlet aperture 41 in the lower portion thereof. The toilet bowl 39

communicates through the outlet 41 and through the sleeve 27 with the interior of the septic tank 8, but normally such communication is prevented by a suitable sealing means.

I preferably provide a partially spherical cup 42 to underlie the circular outlet 41 and to contain a body 43 of water rising above the bottom terminus of the outlet 41 to afford a water seal. The cup 42 is provided with a boss 44 fastened to a cross rod 46 mounted in journals 47 on the supporting shell 26. One extremity of the cross rod 46 carries a lever 48 terminating in a handle 49 so that when the handle is suitably manipulated the cup 42 is moved out of its sealing position, the body of water 43 therein is dumped, and communication is established between the toilet bowl and the interior of the septic tank.

The body of water 43 is preferably replenished from any suitable source of water, and in many installations the water can be supplied gravitationally and can be under the control of a butterfly or other type of valve. In other installations it is necessary to lift the water against gravity to a suitable elevation. But in most cases it is desirable to meter or measure the water reasonably accurately to the minimum amount necessary to provide the water seal, since ordinarily the supply of water is not great and the capacity of the septic tank to receive waste water is small. I therefore provide, in accordance with my invention, a means which is not only effective to raise water from a low source, if necessary, but is especially effective to act as a meter to measure out a predetermined quantity of water for each operation of the commode.

Mounted on the base 29 is a pump barrel 51 having an inlet 52 to which a suitable fitting 53 is engageable for connection to any suitable source of water supply. Within the barrel 51 is a foot valve 54, and reciprocable within the barrel 51 is a pump plunger 56 having a piston 57 at the lower end thereof and a discharge valve 58 for controlling the flow of water through apertures 59 into an outlet 61 at the upper end of the barrel 51. A packing gland 62 seals the plunger 56 in the barrel. From the outlet 61 a conduit 63 leads to a distributing tube 64 having outlet apertures 66 therein at suitable locations and disposed within the upper portion of the toilet bowl 39 and protected by a guard band 67 disposed between the flange 38 and the ring 33.

The upper end of the plunger 56 terminates in a cross-head 71 to which links 72 are pivotally attached. The links extend to connections by pivot pins 73 with levers 74 mounted on and pinned to the cross shaft 46, so that the pump plunger 56 is operated when the handle 49 is operated. A coil spring 76 is preferably fastened to the base 29 and to the pins 73 to restore the parts to their inactive position.

The mechanism is normally in the position shown in Fig. 1, but when the lever 49 is moved anti-clockwise, as seen in Fig. 1, the cup 42 is moved out of sealing position, the body of water 43 therein is discharged into the septic tank 8, and the linkage simultaneously lifts the plunger 56 of the pump thereby causing a rapid discharge of a metered amount of water through the various apertures 66 into the toilet bowl 39. When the lever 49 is released, it is restored by rotation in a clockwise direction, as seen in Fig. 1, by action of the spring 76, and the cup 42 returns to its sealing position. The water just discharged from the apertures 66 by this time flows over the

interior surface of the toilet bowl and gathers in the cup 42 to provide a new body of water for sealing purposes. The return stroke of the pump plunger 56 operates the valves 54 and 58 in such a way that a new metered amount of water is induced to flow through the inlet 52 and to occupy a position within the pump valve 51 ready for discharge on a subsequent operation of the mechanism.

In accordance with my invention there is provided a mobile commode which can be installed in various environments with little or no changes thereof, which affords a water seal between the toilet bowl and the septic tank, which utilizes a minimum metered amount of water to provide such seal, and which is readily operated by the simple movement of a single lever. Excessive liquid content of the septic tank discharges automatically to maintain a relatively constant level of liquid therein, while the septic tank can be entirely discharged or emptied from time to time by the simple manipulation of a hand button in a readily accessible location.

I claim:

1. A mobile commode comprising a septic tank, a toilet bowl disposed above said septic tank, a valve interposed between said toilet bowl and said septic tank, a pump for supplying water to said toilet bowl, and means for simultaneously moving said valve to discharge position and said pump to discharge water to said toilet bowl.

2. A mobile commode comprising a floor, a toilet bowl having an outlet therein, means for supporting said toilet bowl above said floor, a cup for holding a body of water to seal said outlet, a pump mounted on said supporting means for supplying water to said toilet bowl, and means mounted on said support for operating said pump to supply water to said bowl and simultaneously moving said cup to unseal said outlet.

3. A mobile commode comprising a septic tank, a rigid supporting shell extending any selected distance into said septic tank, a resilient packing between said tank and said shell and engaging said shell in any selected position thereof, and a toilet bowl mounted in said shell and communicating with said tank.

4. A mobile commode comprising a septic tank, a supporting shell disposed above said septic tank and extending any selected amount thereto, a resilient packing between said tank and said shell and engaging said shell in any selected position thereof, a toilet bowl mounted in said shell and having an outlet communicating with said tank, a cup for holding a body of water to seal said outlet, means mounted on said shell for moving said cup into and out of sealing position, and means controlled by said moving means for supplying said cup with water.

5. A mobile commode comprising a septic tank, a supporting shell disposed directly above said septic tank and extending any selected amount thereto, a resilient packing between said tank and said shell and engaging said shell in any selected position thereof, a toilet bowl mounted centrally in said shell and having an outlet disposed directly above and communicating with said tank, a cup for sealing said outlet, means for moving said cup into and out of sealing position, means controlled by said moving means for supplying said cup with water, a drain in said tank, and means for opening and closing said drain.

ESLEY FOSTER SALSBUURY.