

Dec. 31, 1957

R. J. STIFT
MOBILE COMFORT STATION

2,817,846

Filed May 3, 1956

3 Sheets-Sheet 1

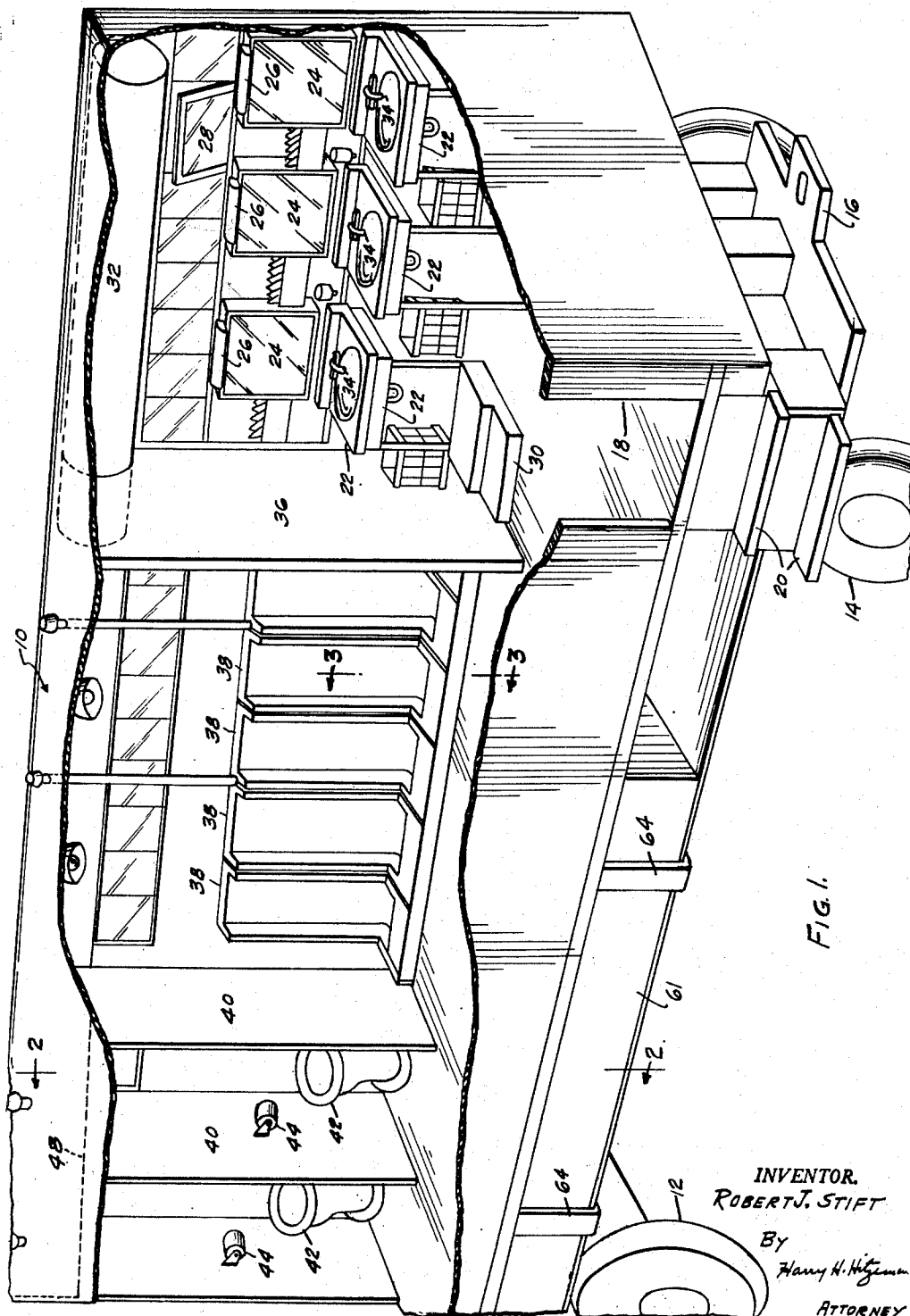


FIG. 1.

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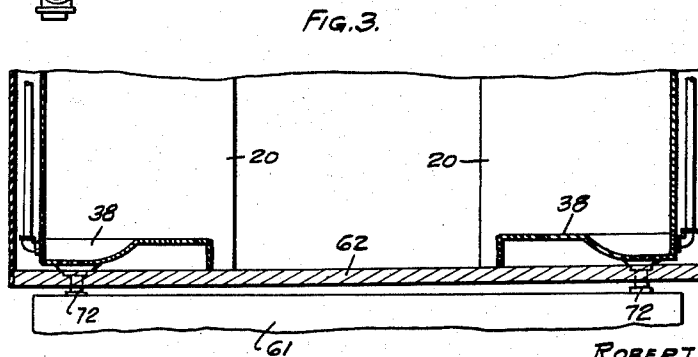
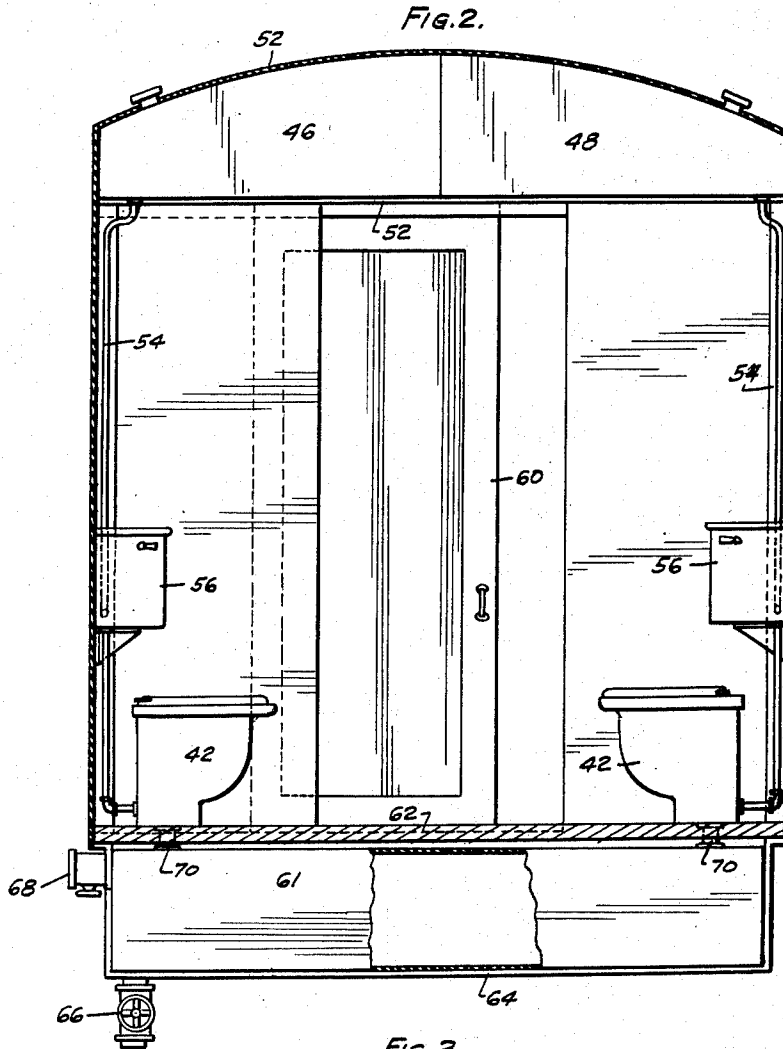
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Filed May 3, 1956

3 Sheets-Sheet 2



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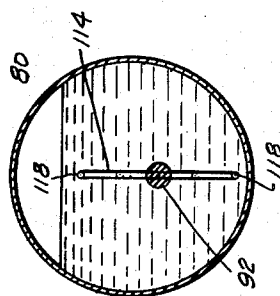
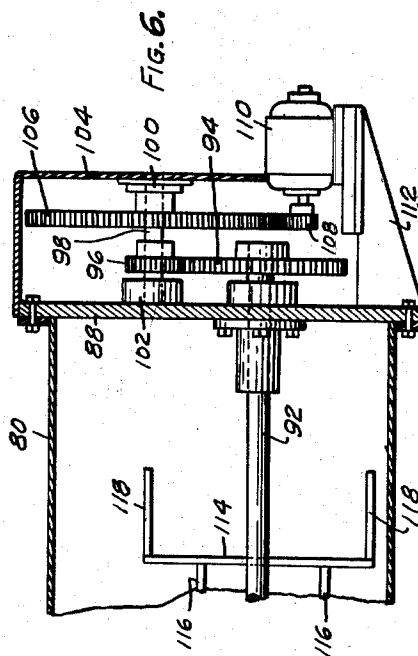
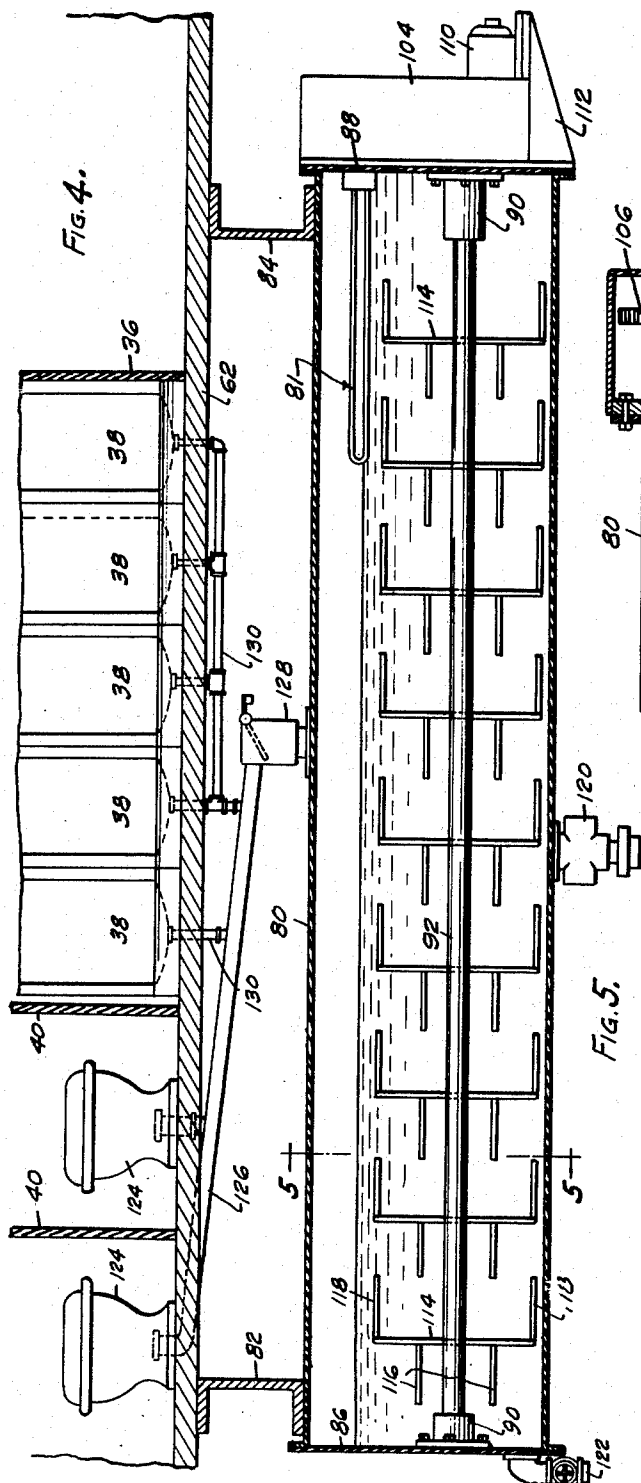
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MOBILE COMFORT STATION

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3 Sheets-Sheet 3



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MOBILE COMFORT STATION

Robert J. Stiff, Chicago, Ill.

Application May 3, 1956, Serial No. 582,545

3 Claims. (Cl. 4—1)

My invention relates to improvements in the construction of mobile comfort stations.

My invention relates more particularly to comfort stations of the type described which are easily transportable either by hauling with a truck or with a self-contained power plant.

Mobile comfort stations of the type to which I refer are especially adapted to use with traveling circuses, camp meeting, chautauquas, and road building or construction gangs. In addition, they will also become popular in forest preserves for picnics and other large gatherings, and along beaches during the swimming season.

Mobile comfort stations present problems which are not present when lavatory and toilet facilities are installed in the average home or other buildings. In a mobile unit, hot and cold water are required, including reservoirs for the same and either a chemical disposal tank or water tank is required, depending on the type of installation desired. The reservoirs must be of sufficient capacity to accommodate a plurality of wash bowls, water closets and urinals, and provision must be made for accessible and easy evacuation of the disposal tank and the replenishment of the water supply tank.

The principal objects of the present invention is to provide an improved construction of mobile comfort station.

A further object of the invention is to provide a mobile comfort station which may have a plurality of wash bowls, urinals and toilet bowls so that large numbers of people can be expeditiously accommodated.

A further object of the invention is the provision in a unit of the type described of water reservoir and refuse disposal tanks so arranged that they are generally concealed from view, yet readily accessible for replenishment and evacuation.

Other objects and advantages will be more apparent from the following description wherein reference is had to the accompanying drawings, upon which

Fig. 1 is a generally side perspective view of a mobile comfort station with portions of the front and side walls broken away to show the general arrangement of the interior of the same;

Fig. 2 is a cross-sectional view thereof taken generally on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary sectional view through one of the urinals, taken generally on the line 3—3 of Fig. 1;

Fig. 4 is a fragmentary longitudinal sectional view through the floor and a portion of the mobile comfort station showing the adaptation of the same for use with a chemical disposal tank positioned below the floor of the same;

Fig. 5 is a cross-sectional view through the chemical disposal tank taken on the line 5—5 of Fig. 4; and

Fig. 6 is a cross-sectional view through the front end of the disposal tank showing the motor and drive for the agitators in the same.

In the embodiment of the invention which I have chosen to illustrate and describe the same, the unit may

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consist of a truck body 10 which is provided with the usual support wheels 12 and 14 at the front and rear of the same, together with a hitch 16 so that the comfort station may be pulled about by a truck or other prime mover.

The unit may include a doorway 18 at one end of the same with a plurality of steps 20 leading up thereto. In the front end of the unit I provide a plurality of wash bowls 22 arranged with mirrors 24 and suitable lighting fixtures 26 thereabove. I provide a row of windows 28 above the same which may be opened as desired for ventilation; also suitable soap dispensers, towel racks, towels, and waste baskets placed on the floor adjacent the wash bowls. I also provide a step 30 adjacent one of the wash bowls so that children may have access to the wash bowl.

Water for the wash bowls may be carried in a convenient tank 32 located above the windows 28 and connected by suitable piping to the faucets 34 of the wash bowls.

A wall 36 may separate the wash room section of the comfort station from a row of urinal toilets 38 which may be aligned against both side walls of the unit, and water from the tank 32 may be supplied to the same in the usual manner.

Additional walls 40 may be provided on both sides of the unit for separating the toilet bowls 42, each being provided with the usual toilet paper rolls 44. Water for flushing the toilet bowls may be provided in suitable reservoirs 46 and 48 mounted on cross-supports 50 below the roof 52 of the unit. Suitable piping 54 may extend from the reservoirs to the flush tanks 56 of the toilet bowls, with additional piping 58 extending down from the flush tanks in the usual manner to the toilet bowls 42. A sliding door 60 may be provided in the back of the unit for egress from the comfort station.

The fecal disposal tank or reservoir 61 is preferably mounted below the floor 62 and is supported therebeneath by suitable hangers 64. I provide a dumping gate valve 66 adjacent one side and near the rear of the unit. This valve is opened when it is desired to empty the fecal tank to permit the waste and water to be drained into an open sewer. When it is desired to pump out the contents into a tank car or other vehicle for transporting the same, the gate valve 68 is employed, the same being capable of being opened so that a suitable nozzle may be inserted into the fecal tank for pumping out the same. The discharge from the toilet bowls 42 may be through suitable conduits 70 which extend down through the floor and connect to the top of the fecal disposal tank 61. In a similar manner, the flow from the urinals 38 may be through conduits 72 into the top of the tank 61.

In the modified construction shown in Figs. 4 to 6 inclusive, I have provided a chemical fecal disposal tank 80 which is supported beneath the floor 62 by suitable brackets 82 and 84 adjacent the front and rear of the unit. The tank 80 may be cylindrical in shape and provided with suitable end walls 86 and 88. Each of the end walls is provided with a bracket 90 for supporting a longitudinal agitator shaft 92. The shaft 92 may extend through the end wall 88 at the front of the tank and be securely fastened to a face gear 94 which is driven by a pinion 96 mounted on a stub shaft 98 that is supported in suitable brackets 100 mounted on the inside of a casing 104 and bracket 102 mounted on the outside wall 88. The shaft 98 carries a face gear 106 which is driven by the pinion 108 on the shaft of an electric motor 110. The motor is supported upon a suitable bracket 112 which extends from the end wall 88 of the tank.

The agitator shaft 92 is provided throughout its length with spaced vertical rods 114, the rods 114 carrying

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transversely extending prongs 116 and 118. The purpose of the shaft and prongs is to agitate the chemical and fecal material in the tank so that it is brought to a fluid stage and can thus be easily discharged through the gate valve 120 or through a suitable valve connection 122 which may be coupled to a suction pipe when it is desired to draw the material into a tank car or other receptacle to be driven to a disposal destination. As previously stated, the lower gate valve may be opened to discharge the contents into a manhole if desired.

The chemical which is preferable in use with a disposal unit of this type is creolin, because it produces no odors or fumes that would be harmful to the eyes or nostrils of users of the comfort station.

Deposits from the chemical toilets 124 may be through a conduit 126 to which each of the toilets may be connected, the conduit generally sloping down to a sanitary check valve 128 mounted on the top of the tank 30. Suitable conduits 130 may also extend from the bowl of the urinals 38 to the discharge conduit 126.

The chemical fecal tank 30 is also preferably provided with a heating element 31 which includes heating coils that may be used when the material is being agitated for the purpose of evacuating the tank.

From the above and foregoing description, it can be seen that I have provided a mobile comfort station which can be moved to any desired location, such as at various circuses or other outdoor gatherings, and can be used during the day by a large number of people. When the water reservoirs or tanks are empty, it is a simple matter to attach a hose or other suitable filling conduit and replenish the supply as required. The tanks which I prefer to use for the storage of water should preferably hold from 500 to 700 gallons each, and the fecal disposal tank should have a capacity of approximately 1800 gallons in connection with the use of the other tanks described. By this relationship the disposal tank will never become completely filled, even though all the water in the reservoirs has been used.

While I have illustrated and described a specific embodiment of the invention, it will be apparent to those skilled in the art that changes and modifications may be made in the exact details shown and I do not wish to be limited in any particular; rather what I desire to secure and protect by Letters Patent of the United States is:

1. A mobile comfort station comprising a wheeled vehicle having a floor, an entrance door and an exit door, a plurality of wash bowls positioned along one wall of the same, a partition wall, a plurality of urinals disposed in alignment with said wash bowls, a plurality of toilet bowls arranged in alignment with said urinals and wash bowls, a pair of water reservoirs positioned in said unit below the roof of the same, conduits therefrom to said wash bowls, urinals and toilet bowls, a longitudinally extending cylindrically shaped fecal disposal tank posi-

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tioned below the floor of said unit, and conduits extending from said wash bowls, said urinals and said toilet bowls to said tank, said tank having a shaft therein extending from end to end of the same and spaced agitator rods connected to said shaft.

2. A mobile comfort station comprising a wheeled vehicle having a floor, an entrance door and an exit door, a plurality of wash bowls positioned along one wall of the same, a partition wall, a plurality of urinals disposed in alignment with said wash bowls, a plurality of toilet bowls arranged in alignment with said urinals and wash bowls, a pair of water reservoirs positioned in said unit below the roof of the same, conduits therefrom to said wash bowls, urinals and toilet bowls, a longitudinally extending cylindrically shaped fecal disposal tank positioned below the floor of said unit, and conduits extending from said wash bowls, said urinals and said toilet bowls to said tank, said tank having an axially located shaft therein extending from end to end of said tank, spaced agitator rods connected to said shaft and having forks extending parallel to said shaft, a support on the front end of said tank, a motor and gear reducing drive mounted on said support and connected to said shaft.

3. A mobile comfort station comprising a wheeled vehicle having a floor, an entrance door and an exit door, a plurality of wash bowls positioned along one wall of the same, a partition wall, a plurality of urinals disposed in alignment with said wash bowls, a plurality of toilet bowls arranged in alignment with said urinals and wash bowls, a pair of water reservoirs positioned in said unit below the roof of the same, conduits therefrom to said wash bowls, urinals and toilet bowls, a longitudinally extending cylindrically shaped fecal disposal tank positioned below the floor of said unit, and conduits extending from said wash bowls, said urinals and said toilet bowls to said tank, a heating element fastened to an end wall of said tank and extending into said tank, said tank having an axially located shaft therein extending from end to end of said tank, spaced agitator rods connected to said shaft and having forks extending parallel to said shaft, a support on the front end of said tank, a motor and gear reducing drive mounted on said support and connected to said shaft.

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