Aug. 24, 1926. 1,597,129

L. L. WATTERS

BED PAN CLEANSER AND STERILIZER

Filed Oct. 17, 1924 2 Sheets-Sheet 1

Fig. 1.

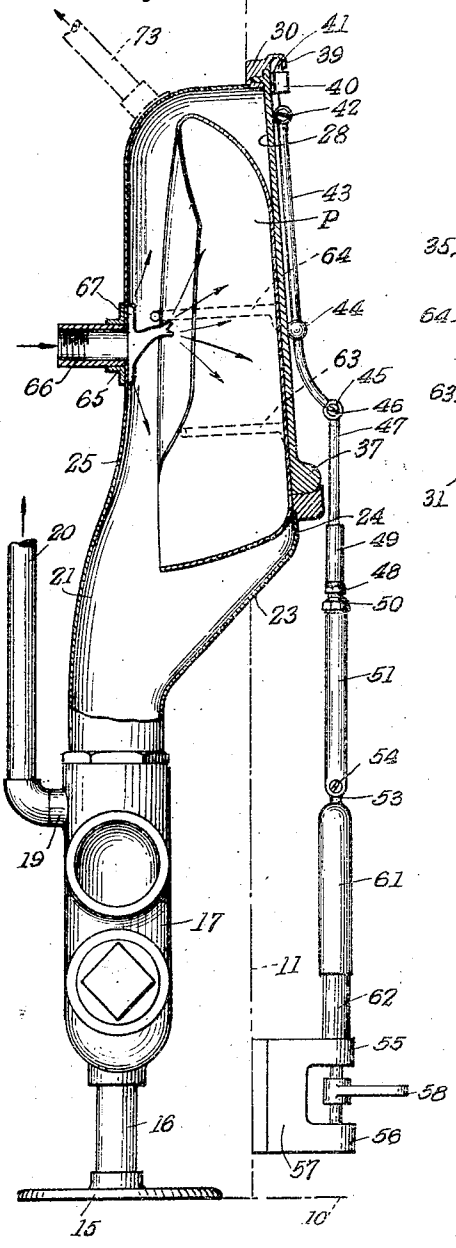
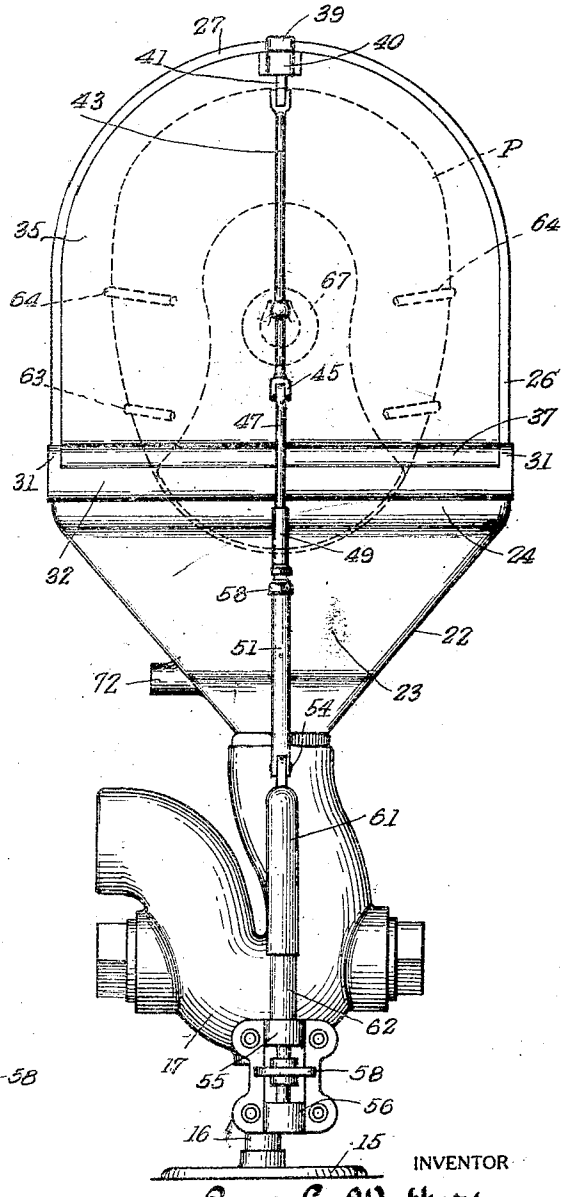



Fig. 2.




INVENTOR

Leon L. Watters

BY Charles L. Wright

ATTORNEY.

Aug. 24, 1926. 1,597,129

L. L. WATTERS

BED PAN CLEANSER AND STERILIZER

Filed Oct. 17, 1924 2 Sheets-Sheet 2

Fig. 3.

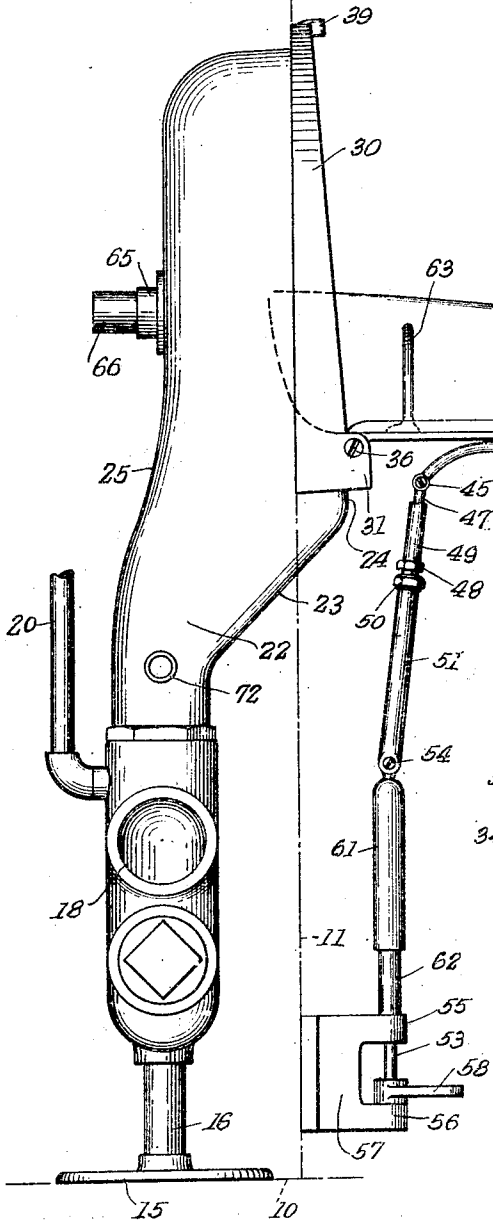



Fig. 4.

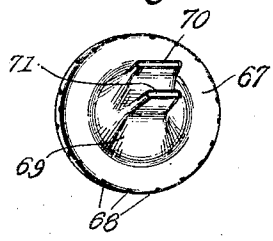



Fig. 5.

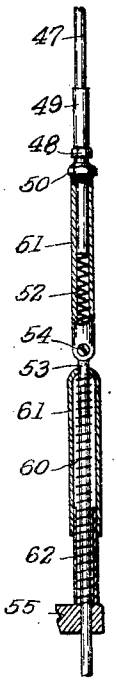
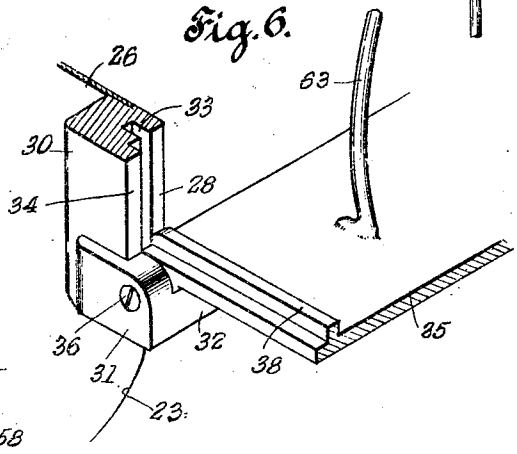



Fig. 6.




INVENTOR

Leon L. Watters

BY

Charles L. Wright

ATTORNEY

Patented Aug. 24, 1926. 1,597,129

# UNITED STATES PATENT OFFICE.

LEON L. WATTERS, OF NEW YORK, N. Y., ASSIGNOR TO HOSPITAL SUPPLY COMPANY AND WATTERS LABORATORIES, CONSOLIDATED, OF NEW YORK, N. Y.

## BEDPAN CLEANSER AND STERILIZER.

Application filed October 17, 1924. Serial No. 744,299.

This invention relates to devices for emptying and washing bedpans, especially in hospitals and similar institutions for the sick, and which, as hitherto constructed have been subject to several criticisms.

The apparatus has been unduly large and cumbersome, occupying valuable space, requiring careful effort to keep clean and showing a considerable amount of exposed metal surfaces and piping. This has been avoided by making the apparatus smaller and so arranging it that it is possible to conceal the entire trap, piping and most of the apparatus in the wall.

Probably the most serious objection to the existing type of bedpan washers is in the difficulty which the nurse or attendant has in inserting the bedpan into the hopper of the apparatus. When a bedpan contains any considerable amount of urine, douching fluid and other liquids, with or without feces, it is carried with difficulty by the nurse to prevent spilling and it is necessary that the nurse or attendant employ both hands in carrying, holding and inserting it into the apparatus.

It is difficult for the nurse either to hold the pan in one hand while releasing or opening the cover of a washer with the other, or to get one hand free for loosening a catch or other device on any frame or holder and in inserting the bedpan in any movable frame wholly or partly contained inside of the hopper or any frame which swings or is movable. A nurse or attendant is subject to the possibility of soiling fingers, hands or cuffs, dress and premises, getting the fingers caught or spilling the contents.

These difficulties are overcome by making it possible for the nurse to have control of both hands in disposing of the bedpan. To this end it is only necessary to press the pedal whereby the cover is dropped to a horizontal position. This makes it convenient for the nurse or attendant to lay the bedpan down almost wholly outside of the apparatus, on a flat horizontal shelf, and all possibility of spilling, soiling the person or clothing, or catching the hands or fingers in the mechanism is avoided.

Furthermore, no springs, catches or other parts are necessary to be manipulated, for once the pan is laid down on the horizontal cover, it is held by four or more simple, bent uprights. This freedom from complicated fastenings or catches eliminates parts which might collect or hold feces and are difficult in cleaning. Once the pan is laid down, the nurse has both hands free to close the door or lid and turn on the water. By making the shape of the hopper conform rather closely to the shape of the bedpan, not only is the space occupied by the apparatus very much reduced, but the sprays are brought into closer contact with the bedpan and the interior of the hopper itself, so that cleaning is more easily and thoroughly accomplished and with less water than is ordinarily necessary.

One of the objects of the invention is in the provision of means for readily receiving the pan from the hands of an operator, raising the pan into a vertical position, whereby its contents are automatically emptied into a hopper, and finally to thoroughly cleanse the pan by controlled water sprays.

It is a further purpose to produce a device that can be conveniently disposed almost wholly within an opening in the wall of a building, occupying substantially no space in the room and is trap connected with a sewer, flushed by adequate and properly directed streams of water, and so arranged with a cover that no effluvia passes into the apartment in which the attendant operates.

Another aim is in the provision of a scientifically constructed, highly hygienic apparatus amenable to sterilization by steam, easily controlled and operated in an effective manner, with a minimum of physical labor, and with unusual convenience.

These aims and objects are accomplished by the novel design, construction and arrangement of parts hereinafter described and shown in the accompanying drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a partial side elevational, partial vertical section showing an embodiment of the apparatus, with a conventional type of bed pan therein.

Figure 2 is a front elevational view of the same, the cover being closed.

Figure 3 is a side view of the apparatus with the cover open and a pan positioned thereon.

Figure 4 is an enlarged perspective view of the spray head used in the apparatus.

Figure 5 is a fragmentary longitudinal sectional view of the cover actuating connections.

Figure 6 is an enlarged fragmentary perspective view of the cover and its associated parts.

Sanitation in a hospital is of the utmost importance and it must be obvious that the projecting portions of the washer and wall in which it is set, are far more readily cleansed than a washer wholly disposed in a room.

The matter of time and labor in cleansing a washer nearly enveloped in a wall is greatly reduced over one disposed in the open and necessitating approach from all directions.

In the drawings the numeral 10 designates the floor line and 11 a partition or vertical wall, shown in dot and dash lines, and having a recess in which the apparatus is set, so that its front only is seen.

In the present embodiment a flange 15 rests upon the floor or like supporting surface, from the hub of which extends a tubular post 16 supportingly engaging the lowermost portion of a trap 17, the same having a lateral outlet 18 connecting the usual manner with a sewer inlet.

The inlet opening of the trap is disposed in a horizontal plane and below its edge is a lateral element 19 connected with a vent pipe 20 extending preferably above the roof of the building and open at its upper end to discharge freely into the atmosphere.

Secured in the trap inlet opening is the lower end of a hopper 21 its side walls 22 diverging equally upward and its front wall 23 extending angularly forward and outward, passing into the room through the wall 11 and continuing to a horizontal plane 24.

The rear wall 25 curves inwardly towards the front to about the same height, and thereafter substantially straight up, blending with the parallel sides 26 to form a complete arch 27 at the top with which the rear wall is joined by curves, as shown.

The front face 28 of the hopper is inclined rearwardly from the plane 24 to the top 27 and is surrounded by a frame 30 having lugs 31 at its lower corners extending outwardly and to the front, these lugs being joined by an integral cross bar 32.

Formed in the face of the frame 30 is a circuitous groove 33 on its outer edge is a circumambient ledge 34.

An essentially flat cover or lid 35 is pivoted between the lugs 31, on the inner ends of the screws 36, which extend into a rolled base portion 37 of the cover, acting as a hinge, and seating against a corresponding longitudinal recess in the cross bar 32, the cover when so extended acting in the manner of a flat horizontal shelf.

The edges of the cover 35 are shaped to neatly conform to the interior of the frame 30 at the sides and top and interjacent the edges is a raised tongue or tenon-like member 38 fitting the groove 33 so closely as to prevent the passage of water, air or gases when the cover is closed.

Extending forward from the center of the arcuate frame 30 is a keeper 39 and fixed on the adjacent portion of the cover 35 is a guide bracket 40 in which is a slidable bolt 41 having a bevelled end adapted to engage in the manner of a latch with the keeper 39 when the cover is closed.

The opposite, inner end of the bolt 41 is connected by a pivot 42 between the prongs of a clevis formed on the end of a rod 43 which passes through a guide 44 fixed on the cover, thereafter being curved outwardly and formed into a clevis 45 pivoted by a pin 46 to a plunger rod 47 which passes through a packing nut 48 having a sleeve 49 and stuffing box 50 into a cylinder 51, the base of the nut 48 resting on the top of the stuffing box 50 when the cover is open, as will be more fully described.

The inner end of the rod 47 acts as a dashpot piston in the cylinder 51 in which is contained a quantity of liquid, as oil or glycerine, acting to check the descent of the plunger which is normally pressed outward by a coiled compression spring 52 abutting the lower end of the piston within the cylinder.

The cylinder 51 is engaged at its lower end to a rod 53 by a pivot 54 and the rod is guided by passing through guides 55 and 56 formed on a bracket 57 supported by the wall 11.

Fixed to the rod 53, between the guides 55 and 56 is a pedal plate 58 to receive the foot of an operator when the cover is to be opened; the action of the pedal is cushioned by a compression spring 60 encircling the rod 53 between the upper guide 55 and the interior of a tubular guard 61 fixed to the rod near its upper end, and being movable telescopically over the lower guard 62 secured to the guide 55.

It will now be clear that if pressure be applied to the pedal when the parts are in the position shown in Figure 1, the latch-bolt 41 will be withdrawn from the keeper, and coincidentally, the cover caused to turn on its pivots 36 past its center of gravity and thereafter drop to the position shown in Figure 3, this drop however being retarded by the checking means described.

Similarly, to close the cover, the foot is removed from the pedal and the hands, now free of the pan, used to raise the cover until the latch bolt has reengaged its keeper.

The bed pan P when deposited on the cover 35, at that time turned down into a horizontal plane, is set on the cover between two pairs of curved arms, respectively 63

and 64, by which the pan is firmly held to the inner side of the cover and supported, when the cover is raised, to deposit the contents of the pan directly into the hopper, as best shown in Figure 1, the hopper in general conforming to the outlines of the pan with a marginal space therearound, as shown best in Figure 2.

Fixed on the rear wall 25 of the hopper, at a point substantially central thereof, is a flanged collar 65 through which passes a pipe 66 to which attachment is made with a water supply system.

On the inner surface of the wall 25 is a hollow flange 67 containing a plurality of peripheral perforations 68 directing streams of water to all the interior surfaces of the washer and the outer surface of a pan "P" therein; and a raised angular extension 69 is provided with elongated diffusing openings 70 and 71 directing streams of water to impinge on the interior surface of the pan at both ends and in various directions, effectually loosening any accumulations, which are washed away and drop into the lower part of the hopper to be carried through the trap into the sewer.

It will be apparent that steam connections may be made with the inlet pipe 66 for sterilizing purposes, but it is preferred to utilize an extending inlet 72 for making such connections, and it will be understood that all such connections are provided with control means arranged conveniently for access by the attendant.

In addition to the foregoing a vent pipe 73 may be entered at the upper part of the hopper, as indicated by the broken lines in Figure 1, the same being open to the atmosphere, either directly or in connection with the vent pipe 20.

It will be understood that during the flushing and sterilizing operations the cover 35 will be closed, and, due to the interengaging elements at its edges, and corresponding groove in the frame 30, no passage of water, air, gasses or moisture takes place.

Although the invention has been shown and described with considerably detail, it is to be understood that minor modifications and changes may well be made without departing from the general scope of the invention as expressed in the appended claims.

Having thus described the invention and set forth the manner of its construction, application and use, what I claim as new and desire to secure by Letters Patent, is:—

1. A bed pan washer comprising an upright hopper set within a wall, the mouth of said hopper having a surrounding flange disposed against the face of the wall, a cover hinged on a horizontal axis in the lower portion of said flange to cover the hopper mouth, a pedal movable in a straight line, means operated by said pedal to release and lower said cover, and opposed pairs of inreaching curved arms rigidly attached at one end on opposite sides of said cover to embrace a pan and retain it on said cover while being raised and lowered.

2. A bed pan washer comprising a vertical hopper set within a wall and having its face inclined rearwardly at the top, a cover hinged on a horizontal axis to swing over the face of the hopper in one position and present a shelf receptive of a bed pan when in another position, and pedal means for first releasing and thereafter initially actuating the cover permitting it to drop by gravity into a horizontal position.

3. A bed pan washer comprising a vertical hopper disposed within a wall and having a body corresponding interiorly to the pan, the face of the body inclining rearwardly at the top outwardly beyond the wall, a cover hinged on a horizontal axis to cover the opening to said hopper, means for embracing a bed pan to the inner surface of the cover, and foot operated means for releasing the cover, said cover opening by gravity upon its release.

4. A bed pan washer comprising a vertical hopper having a body corresponding interiorly to the pan, a vented trap communicating with the hopper at the lowermost portion thereof, said hopper having an opening at the front, a cover hinged below the opening to swing thereover, means on the cover to positively embrace a bed pan thereto pedally operated means for releasing the cover, and means for retaining the cover when closed.

5. A bed pan washer comprising an enclosed vertical hopper having a body corresponding interiorly to the pan, a vented trap communicating with the hopper at the lowermost portion thereof, said hopper having an opening at the front, a cover hinged in a horizontal plane below the opening to cover the same, means on the cover to positively engage a bed-pan thereto, means for retaining the cover when closed, and pedally operated means including a spring and dash pot for releasing and opening the cover.

6. A bed pan washer comprising a substantially vertical hopper having a body containing an arcuate opening at the front, a frame surrounding the opening, said frame having a raised flange on its outer edge, a cover hinged to the bottom of said frame to closely fit within the flange, a spring catch to retain said cover when closed, and pedally operated means to release said catch turn the cover past its center of gravity, and allow it to assume a substantially horizontal position.

7. A bed pan washer comprising a casing partially enclosed within a wall, adapted to receive a bed pan, a cover pivoted to swing

on a horizontal axis into a substantially closed vertical or an open horizontal position, a snap catch for locking the cover when in a closed position, means for resiliently supporting the cover at its lower side when in an open position and pedally actuated means for releasing said catch and coincidentally opening the cover.

8. A bed pan washer comprising a wall enclosed casing adapted to receive a bed pan and generally conforming thereto in size and shape, a cover pivoted to swing on a horizontal axis into a substantially vertical or a horizontal position at the front of said casing, means for locking the cover when in a closed vertical position, means for supporting the cover when in an open horizontal position, and curved arms arranged in pairs on opposite sides of said cover to receive and secure the pan upon the cover when open, said arms each being fixed at one end and shaped to engage a pan at the other.

9. A bed pan washer comprising a wall enclosed vertical hopper having a partially open front, a frame surrounding the opening, said frame including a transverse bar at the bottom, and outstanding marginal flange on said frame, a circuitous groove in said frame, a cover hinged to said frame adjacent the bar, the edges of said cover being adapted to engage within the flange, inreaching ledges on said cover to engage within the groove a spring catch carried on the cover to engage a keeper on said frame when the cover is raised, and means for supporting said cover when in a position to receive a pan.

10. A bed pan washer comprising a wall enclosed vertical hopper having a partially open front, a frame surrounding the opening, said frame including a transverse bar at the bottom, an outstanding marginal flange on said frame, a circuitous groove in said frame, a cover hinged to said frame adjacent the bar, the edges of said cover being adapted to engage within the flange, inreaching ledges on said cover to engage within the groove, a spring catch carried on the cover to engage a keeper on said frame when the cover is raised, means for supporting said cover when open, and a roll on the lower edge of said cover in constant engagement with said transverse bar.

11. A bed pan washer comprising a wall enclosed vertical hopper having a partially open arcuate front, a frame surrounding the opening, said frame including a transverse bar at the bottom, an outstanding marginal flange on said frame, a circuitous groove in said frame, a cover hinged to said frame adjacent the bar, the edges of said cover being adapted to engage within the flange, inreaching ledges on said cover to engage within the groove, pedally actuated means for releasing and opening said cover, and jointed resilient means for checking the opening motion of the cover.

12. A bed pan washer adapted to be partially embedded in a wall and having a partially open, arcuate front, a flanged frame surrounding the opening in the body of said washer, a cover pivoted at its lower edge to engage over the opening, said frame and cover having co-operative means to prevent the passage of air and water, said cover engaging with the flange of said frame, means to automatically lock said cover when raised, means to check the cover during the descent, and means carried by the cover to engage with and support a pan.

13. A bed pan washer adapted to be partially embedded in a wall and having a partially open, arcuate front, a flanged frame surrounding the opening in the body of said washer, a cover pivoted at its lower edge to engage over the opening, said frame and cover having co-operative means to prevent the passage of air and water, said cover engaging with the flange of said frame, means to automatically lock said cover when raised, means to check the cover during its descent, means carried by the cover to engagingly support a pan, means for spraying the pan from within the body of the washer, and means for sterilizing the pan and the interior of the body.

14. A bed pan washer adapted to be partially embedded in a wall and having a partially open, arcuate front, a flanged frame surrounding the opening in the body of said washer, a cover pivoted at its lower edge to engage over the opening, said frame and cover having co-operative means to prevent the passage of air and water, said cover engaging with the flange of said frame, means to automatically lock said cover when closed, means for releasing and lowering the cover, said means being foot operated, means for retarding the opening of the cover, means for supporting a pan on said cover, and means for spraying jets of water into and outside the pan when the cover is closed.

15. A bed pan washer adapted to be partially embedded in a wall, a cover pivoted to extend in the manner of a shelf horizontally outward, said cover when turned upward forming a tight joint with the opening in the washer body, pairs of curved arms fixed on said cover to firmly engage a bed pan, a pedal operatively connected with said cover, a dash-pot associated in the pedal connections, and a plurality of spring elements in the connections acting to cushion the descent of the cover.

16. A bed pan washer adapted to be partially embedded in a wall, a cover pivoted to extend in the manner of a shelf horizontally outward, said cover when turned

upward forming a tight joint with the opening in the washer body, pairs of curved arms fixed on said cover to firmly engage a bed pan, means for entering and directing water sprays within the washer body, independent means for entering steam, vents for said washer body, and cushioned pedally actuated means for releasing and lowering said cover.

17. In a bed pan washer the combination with a hollow body and a cover having means to engage a bed pan, of a spray head composed of a hollow body having peripheral openings for concurrently spraying the exterior of the pan and interior of the washer body, and elongated nozzles extending integrally from said body to wash the interior of the pan, said nozzles dispensing divergent jets of water.

18. A bed pan washer having a body set partially within a wall, a door hinged at its bottom to said body and movable from a vertical to a horizontal position, a pedal movable in a straight line to initially actuate said door, said door and pedal extending beyond the wall, operative connections between said pedal and said door and springs arranged in said connections to cushion the descent of the door.

19. A bed pan washer having a door forming a shelf when opened and pairs of inreaching curved arms fixed at one of their ends on opposite sides of said shelf and extending immovably thereover for holding a bed pan in position on said shelf.

20. A bed pan washer comprising a body provided with a door hinged on a horizontal axis to swing through an angle of 90 degrees, a spring locking device on said door a pedal and link connections to said pedal to progressively release said locking device and open said door from a vertical to a horizontal position to receive a bed pan.

In testimony whereof I have signed my name to this specification.

LEON L. WATTERS.