June 24, 1930. G. F. HALL 1,766,629

BEDPAN CLEANER

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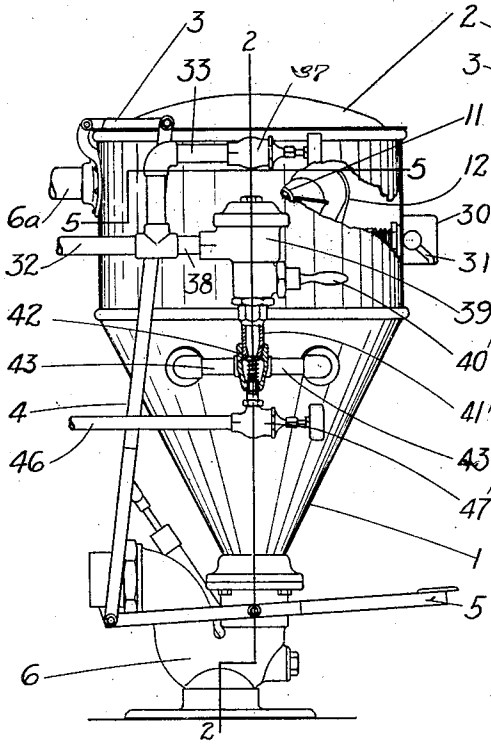


Fig.1

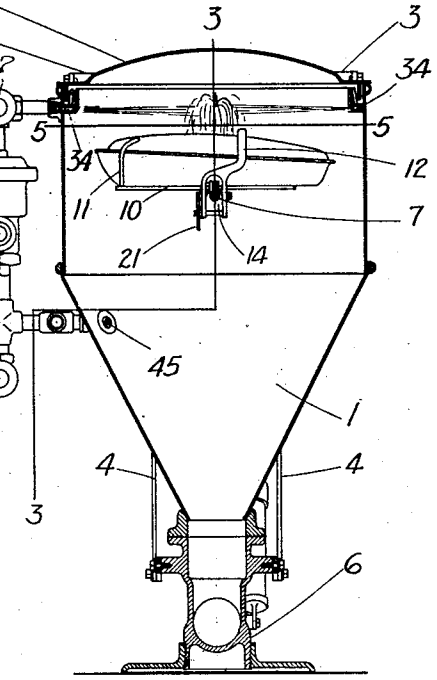


Fig.2

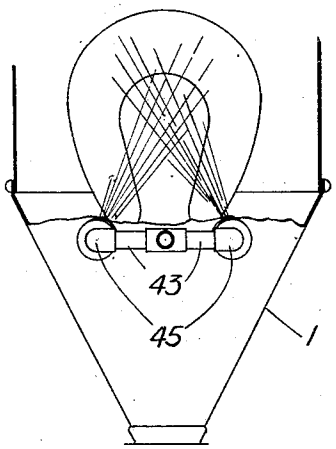


Fig.3

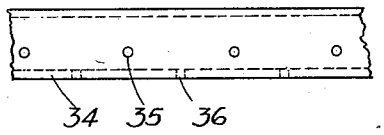


Fig.4

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BEDPAN CLEANER

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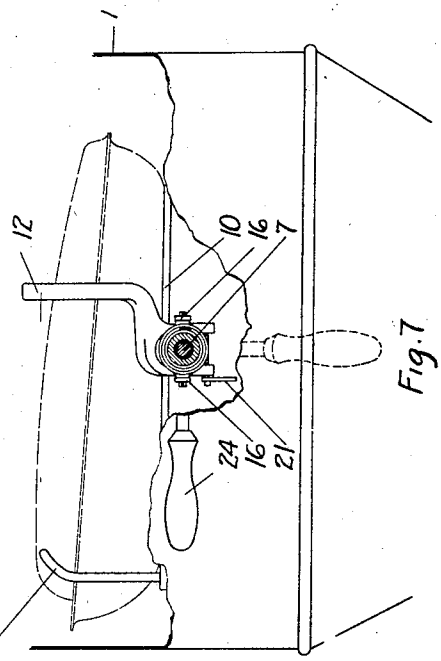


Fig. 7

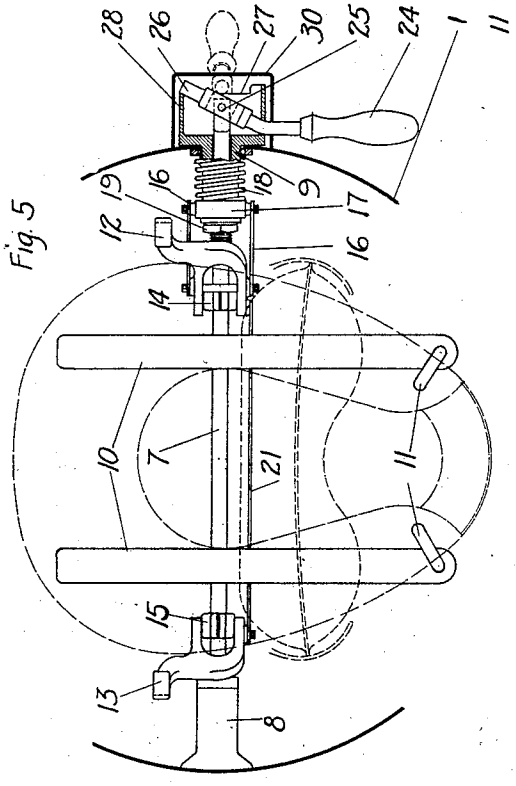


Fig. 5

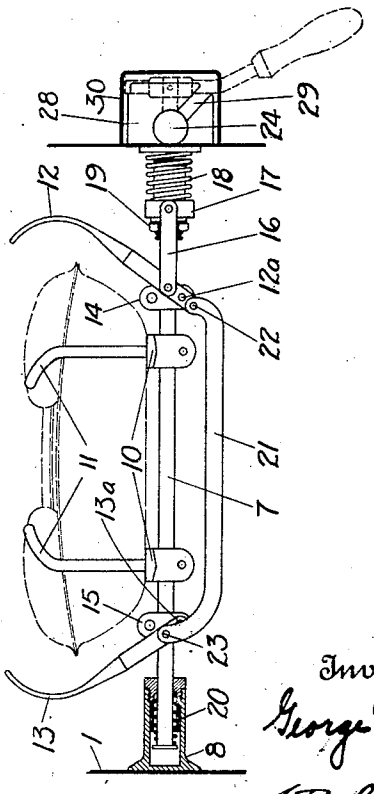


Fig. 6

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UNITED STATES PATENT OFFICE

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BEDPAN CLEANER

Application filed October 15, 1924. Serial No. 743,826.

This invention is designed to completely cleanse and sterilize bed pans relieving the operator of inconvenient handling. Features of the invention will appear from the specification and claims.

The invention is illustrated in the accompanying drawings as follows:—

Fig. 1 shows a side elevation, a part being broken away to show the construction.

Fig. 2 a central section on the line 2—2 in Fig. 1.

Fig. 3 a section of a portion of the device on the line 3—3 in Fig. 2.

Fig. 4 an enlarged view of the jet rings.

Fig. 5 an enlarged section on the line 5—5 in Figs. 1 and 2.

Fig. 6 a side elevation of the parts shown in Fig. 5.

Fig. 7 an end view of the same parts, partly in section.

1 marks the case, 2 the cover, 3 a lifting lever cast on the cover, 4 a push rod for lifting the cover, 5 a pedal by means of which the cover is lifted with the foot. The case is provided with the usual discharge trap 6 leading to the sewer and the usual vent pipe 6^a also preferably leading to the sewer.

A rod 7 extends across the upper part of the case and is journaled at one end in a bearing 8 and extends through a bearing 9 at the opposite side of the case. A platform or frame 10 is fixed on the shaft 7. It has the stop fingers 11 adapted to engage the open end of the pan. Clamping fingers 12 and 13 are pivotally mounted by pivots 12^a and 13^a on blocks 14 and 15 secured to the rod 7. Links 16 connect the clamping finger 12 with a ring 17 slidingly mounted on the bearing 9. A spring 18 yieldingly forces the ring against a stop 19 at the end of the bearing. A spring 20 is arranged in the bearing 8 and tends to hold the rod in the central position against a stop formed by a handle hereinafter described.

A link 21 is connected by a pivot 22 with the clamping finger 12 below the pivot 12^a and at the opposite side of the pivot 12^a from the connection of the link 16. The link 21 is pivotally connected at 23 to the clamping finger 13 above the pivot 13^a. With this arrangement of pivots when the clamping finger 12 is closed on the pan it rocks the clamping finger 13 simultaneously into engagement with the pan.

I have provided a mechanism so that when the pan is tilted for emptying it, by swinging the shaft 7 the shaft 7 is also moved endwise, thus moving the clamping fingers automatically into engagement with the pan and so holding it.

A handle 24 is pivotally mounted by a pin 25 on the end of the shaft 7. It has a projection 26 which rides on an end 27 of a cam sleeve 28 projecting from the bearing 9. The handle projects through a cam slot 29 in the sleeve 28. As the handle is swung the end 26 rides on the end 27 and the cam 29 operating on the handle as it turns the rod 7 moves the rod outwardly against the tension of the spring and this outward movement of the rod 7 swings the clamping fingers 12 through the action of the link 16 into engagement with the pan and at the same time carries the finger 13 into engagement with the pan. The spring 18 yields slightly at the extreme movement so as to adjust the fingers to different sizes of pans. A cover case 30 is arranged around the sleeve 28. This has a slot 31 for permitting the movement of the handle.

The flushing mechanism is as follows: Water is supplied from a pipe 32. A branch pipe 33 leads from the pipe 32 to a flushing ring 34. The flushing ring is provided with a series of jets 35 extending radially or toward the center of the case and a series of jets 36 extending downwardly and adapted to cleanse the walls of the case. When the pan is in the horizontal position shown in Fig. 2 the water is turned into the jet ring by the opening of the valve 37. The converging jets meet at the center and thus neutralize the jets so that the water from these jets drops directly into the pan filling the same and thus facilitates the flushing of it. After this is done the pan is tilted to ninety degrees to the position shown in Fig. 3. Water is delivered by a pipe 38 from the pipe 32 to a flush valve 39

of the usual type automatically closing with a desired interval after opening. This is operated by a handle 40. The water passes from the flush valve 39 through a pipe 41 past the check valve 42 and branch pipes 43 to the jet openings 45. These jet openings cross each other being directed so as not to interfere with each other and also are inclined upwardly, their direction being such as to strike the curl of the bed pan and entirely flush and clean the same.

After the flushing is completed steam is delivered by way of the pipe 46 to the pipe 43, the steam being controlled by a valve 47. The check valve prevents the entrance of the steam to the water passages. The jets of steam following the same directions as the jets of water are projected into and against the curl or wall of the bed pan and are thus deflected over the entire pan, thus entirely cleaning and sterilizing the same. After the steaming the pan is swung to the upright position and as it is swung the clamps are released, the cover is opened, and the pan being entirely clean and sterilized may be conveniently removed.

What I claim as new is:—

1. In a bed pan cleaner, the combination of a closed case; a pan frame in the case; a shaft on which the frame is mounted; clamping fingers pivotally mounted on the shaft; a link connecting the fingers and communicating movement from one to the other; and means operating on one of the fingers to clamp the pan on the frame.

2. In a bed pan cleaner, the combination of a closed case; a tilting frame in the case; means in the case adapted to clamp a pan on the frame; and mechanism for operating said means to clamp and release a pan on the frame, said mechanism extending from said means to without the case and operable outside the case.

3. In a bed pan cleaner, the combination of a closed case; a tilting frame in the case; means extending from the frame to without the case for tilting the frame, said means being operable outside the case; devices adapted to clamp a pan on the tilting frame; and mechanism connected with said devices and automatically actuated as the frame is tilted for actuating said devices.

4. In a bed pan cleaner, the combination of a closed case; a shaft rotatively and slidingly mounted in the case; a pan supporting frame mounted on the shaft; means operating on the shaft and extending to without the case for imparting a rotating and endwise movement to the shaft; devices for clamping the pan on a frame; and mechanism automatically actuated as the shaft is moved endwise actuating said devices.

5. In a bed pan cleaner, the combination of a closed case; a pan supporting frame; a shaft mounted in the case; a lever outside the case connected with the shaft and operable outside the case to rotate the shaft; a cam mechanism for moving the shaft endwise as it is rotated; devices for clamping a pan on the frame; and means actuated by the endwise movement of the shaft actuating said devices.

6. In a bed pan cleaner, the combination of a closed case; a pan supporting frame; a shaft on which the frame is mounted, said shaft being rotatively mounted in the case; a lever connected with the shaft and extending outside of the case and outside of the shaft to rotate the shaft; a cam mechanism for moving the shaft endwise as it is rotated; devices for clamping a pan on the frame comprising a spring imparting yielding action to the clamping devices; and mechanism for actuating said devices as the shaft is moved endwise through the action of the cam mechanism.

7. In a bed pan cleaner, the combination of a closed case; a pan supporting frame in the case; a shaft mounted in the case on which the frame is mounted; clamping fingers pivotally mounted on the shaft; a link connecting the fingers to communicate movement from one to the other; means for actuating the fingers comprising a yielding spring imparting yielding clamping action to the fingers; and devices acting through the shaft on said means to actuate the fingers.

8. In a bed pan cleaner, the combination of a closed case; a pan supporting frame in the case; a shaft rotatively mounted in the case and on which the frame is mounted; clamping fingers pivotally mounted on the shaft; a link connecting the fingers and communicating movement from one to the other; devices for acting on the fingers to operate the same; means for rocking the shaft; and mechanism automatically actuated as the shaft is rocked for actuating said devices.

9. In a bed pan cleaner, the combination of a closed case; a tilting pan supporting frame; a jet ring having jet openings therein, said jet openings having directions in lines converging toward a point over a pan on the frame; and means directing an upwardly inclined jet against a tilted pan on the frame.

10. In a bed pan cleaner, the combination of a closed case; a tilting pan frame therein adapted to support a pan spaced from the walls of the case; means for tilting the pan frame; and a jet ring having jet openings therein, said jet openings having directions in lines converging toward a point immediately above a pan on the frame.

In testimony whereof I have hereunto set my hand.

GEORGE F. HALL.