May 18, 1937. M. J. ROCHE 2,080,745

CLEANSING DEVICE

Filed Sept. 14, 1933 2 Sheets-Sheet 1

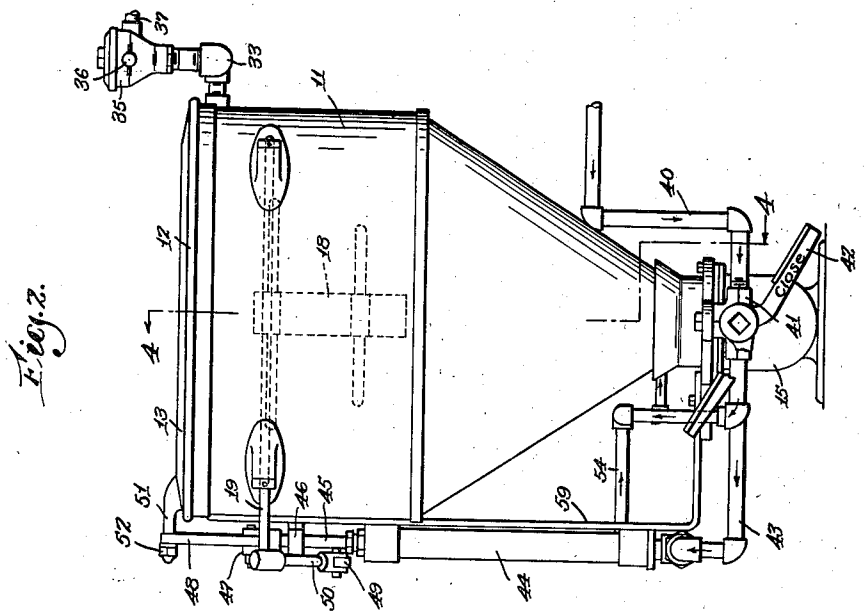


Fig. 2.

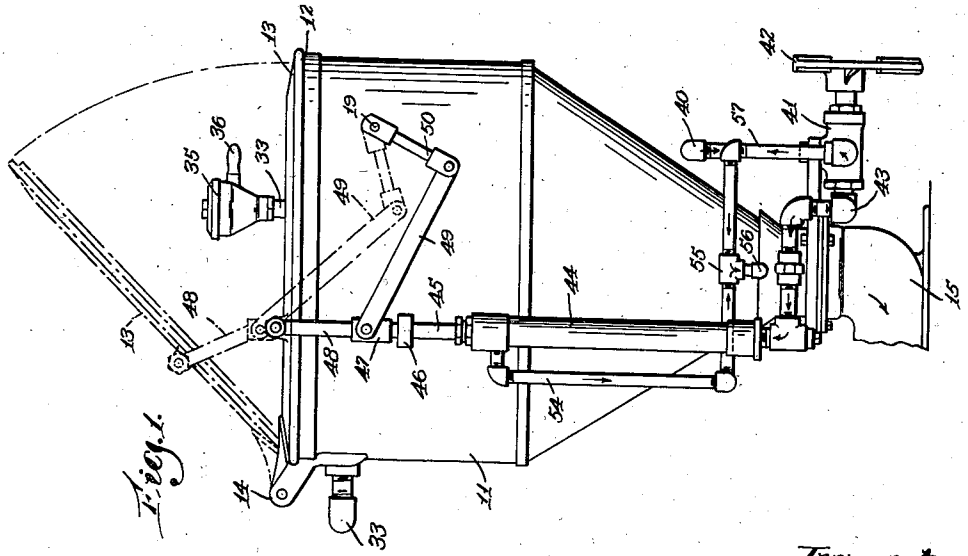


Fig. 1.

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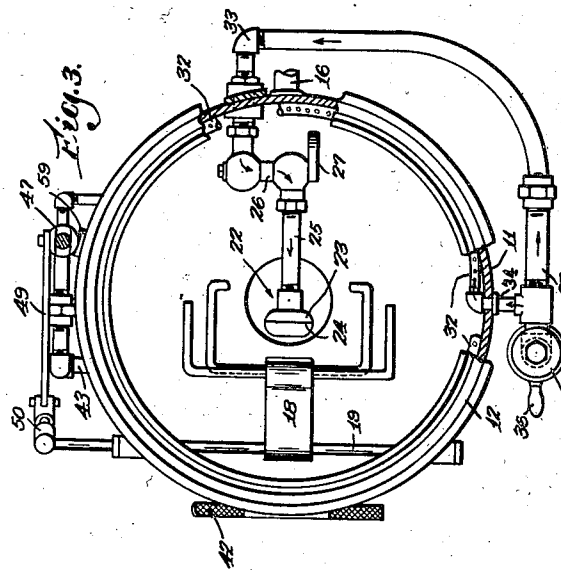


Fig. 3.

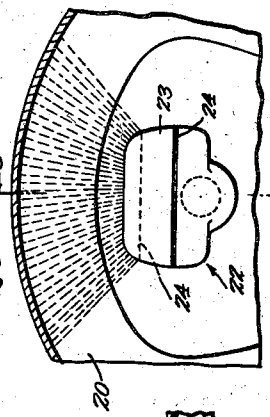


Fig. 2.

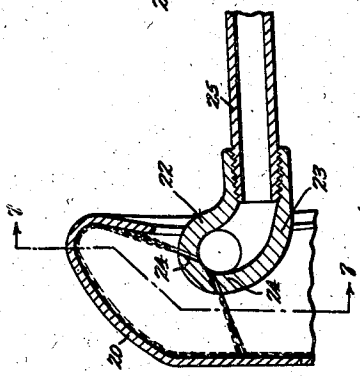


Fig. 6.

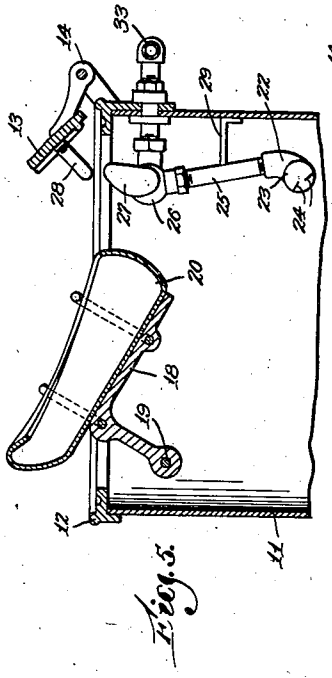


Fig. 5.

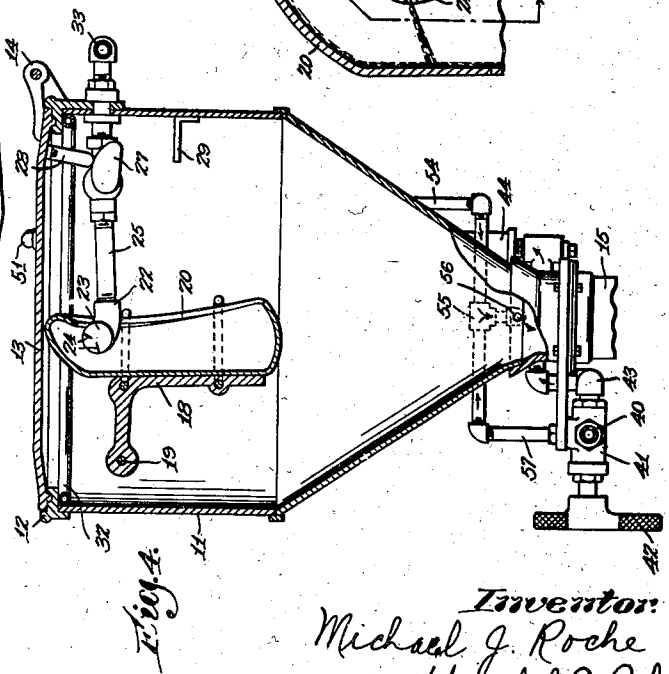


Fig. 4.

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UNITED STATES PATENT OFFICE

2,080,745

CLEANSING DEVICE

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11 Claims. (Cl. 141—1)

This invention relates to a device to cleanse bedpans and the like.

At the present time there is a need in hospitals and the like, for a device that will thoroughly cleanse all portions of a bedpan. Many have sought to provide a bedpan washer that would do this; but these washers do not wash away fecal or waste matter which adheres especially to the under surface of the top rim or curl at the rear portion of the bedpan, with the result that it remains there, and the bedpan has a stench. To get this portion under the top rim clean it must be washed by hand, which delays work at a time of day when the hospital staff is very busy.

Accordingly, it has been my object to provide a device which will thoroughly cleanse a bedpan, including the under surface of the top rim. Another object has been to make such a device compact and the mechanism simple and rapid in operation. Another object has been to have all the actual cleansing done automatically, so the person attending to it need not get the hands soiled or wet.

The foregoing and other objects which will appear as the nature of the invention is better understood, may be accomplished by a construction, combination and operative arrangement of parts such as is disclosed by the drawings. The nature of the invention is such as to render it susceptible to various changes and modifications, and, therefore, I am not to be limited to the construction disclosed by the drawings; but am entitled to all such changes therefrom as fall within the scope of my claims.

In the drawings:

Figure 1 is a side elevation of my bedpan cleansing device, the cover and connected parts being shown in raised or open position by broken lines.

Figure 2 is a front elevation of my device.

Figure 3 is a top plan view of my device with the cover removed and the cover seat partly broken away.

Figure 4 is a longitudinal section on the line 4—4 of Figure 2 showing my cleansing device in operative position with the bedpan in it.

Figure 5 is a fragmentary longitudinal section showing my device in open or inoperative position with a bedpan in it.

Figure 6 is a fragmentary detail section of the actual cleansing means and illustrating the cleansing streams being discharged into a bedpan.

Figure 7 is a section taken on the line 7—7 of Figure 6.

As illustrated my bedpan cleansing device consists of a receptacle or hopper 11 having at the top a seat 12 for a cover 13 which is hingedly fastened as at 14 to said hopper 11. A trap 15, which the water and waste matter pass through on their way to the sewer, is connected to said hopper at the bottom. A vent pipe 16 is provided to permit the escape of gases and impure air, from the hopper.

Within said receptacle 11 is a support or holder 18 for a bedpan 20, which is fixed to a rock shaft 19, which holder 18 is preferably inclined in a downward direction slightly towards the rear of the hopper when in operative position, so as to hold the bedpan 20 at a slight angle with the discharge end inclined towards said rear, as best illustrated in Figure 4 of the drawings. This position of the bedpan is advantageous in the cleansing operation because it helps the stream to cling to the bottom of the bedpan. The cleansing means 22 from which the water issues directly onto the bedpan 20 consists of a nozzle 23 having preferably two outlets or slits 24 therein, which extend through said nozzle at an angle as best shown in Figure 6 of the drawings, so that the upper stream will strike inside the bedpan directly on the under surface of a rear portion of the top rim, as best illustrated in Figures 6 and 7 of the drawings. The lower outlet 24 is not absolutely necessary under ordinary conditions. It has been found that fecal or waste matter adheres to the under surface of the curl or top rim at the rear of the bedpan, and unless washed away it will dry on and cause a stench. Heretofore it has been necessary to wash this portion of the bedpan by hand. It will be noted that the lower slit 24 slants slightly downward and the stream issuing therefrom will strike the bottom of the bedpan 20 but not directly on the deposit in the bedpan, which would splash it. When in operative position said nozzle 23 extends into a rear portion of the bedpan and is adjacent the edge of the top rim, because when in such a position the stream of water can strike with direct pressure that portion of the bedpan most difficult to clean.

Connected to said nozzle 23 is a length of pipe 25 which is connected by means of a swivel joint conduit 26 to a supply pipe 33 later described. Said swivel joint conduit 26 permits said cleansing means 22 to move from operative position to inoperative position so that it will be out of the way when the bedpan 20 is put into said rack or holder 18. A cam 27 is fixed to said cleansing means 22, which cam 27 together with a cam

arm 28 on said cover 13, are the instrumentalities which move said cleansing means 22 from operative to inoperative position and vice versa. When the cover 13 is raised, as illustrated in Figure 5 of the drawings, said cam 27 and cam arm 28 are spaced apart and the cleansing means 22 falls downwardly by its own weight where it rests on the stop member 29 fastened to the inside of the receptacle 11. Closing of said cover 13 brings said cam arm 28 into contact with said cam 27 thereby moving the swivel joint conduit 26 and the cleansing means 22 along with it, so that when the cover 13 rests on the cover seat 12 the cleansing means 22 is in operative position and there held, as illustrated in Figure 4 of the drawings. The water passes through the supply pipe 33, swivel joint conduit 26, pipe 25 and out through the slits 24 onto the bedpan during the washing operation.

Immediately below the cover seat 12 and extending most of the way around the hopper 12 is a shower pipe 32 having a number of openings through which water is discharged onto the side of the hopper 12 and runs down, thereby washing the side down in case any waste matter adheres thereto. This shower pipe 32 is fed by a branch 34 connected to the supply pipe 33 as illustrated in Figure 3 of the drawings.

When the bedpan is placed in the holder 18 and the cover 13 closed, my device is set in operation by opening a flush valve 35 which is operated by moving a handle 36, being connected to an outside source of supply by a feed pipe 37 shown broken away in Figure 2 of the drawings. A predetermined amount of water passes through said flush valve 35 when it is opened, down into the supply pipe 33 and runs into the cleansing means 22 and shower pipe 32 so that both are discharging at the same time.

In order to close the cover 13 and move the bedpan holder 18 to operative position synchronously, which closing of the cover in turn moves the cleansing means 22 to operative position, I provide an outside feed pipe line 40 having a valve 41 which is opened or closed by operation of a foot pedal 42, being shown in closed position in Figure 2 of the drawings. Connected to said valve 41 is a pipe connection 43 through which water flows to a cylinder 44 into which a piston 45 extends, a portion of which is surrounded by a guide block 46 which is fastened to a channel iron 59, later described. Mounted on said piston 45 is a yoke 47 to which is pivotally connected an upright link 48 and also an arm 49 is fastened to said yoke 47, to which arm 49 a link 50 is pivotally fastened at one end, being fixed at the other end to the rock shaft 19. Said link 48 is loosely connected to a bracket 51 which is united to said cover 13, one end of which passes through said link 48, being loosely held thereto by a nut 52. When water passes into said cylinder 44 it raises the piston 45 which in turn raises said link 48 and other parts shown in broken lines in Figure 1 of the drawings, thereby raising the cover 13 to the position shown in broken lines in said Figure 1.

In the event that water should reach the head of the cylinder 44, an escape pipe 54 is provided to permit the water to pass out through a T 55 and fitting 56 into said hopper trap 15. When the foot pedal 42 actuates the valve 41 from open to closed position the water in the cylinder 44 flows out into the pipe connection 43, into the valve 41 and backs up into the pipe line 57, which is connected to said valve 41 and said T 55, passing through said T 55 and said fitting 56 into said hopper trap 15. The piston 45 descends and the cover 13 closes, the holder 18 is moved downwardly carrying the bedpan 20 to its discharging position, and moving the cleansing means 22 to operative position.

A channel iron bracket 59 is fastened to the bottom of said receptacle 11 and extends therefrom up the side of said receptacle 11, to which bracket 59 said guide block 46 is fastened, said bracket 59 serving as a support for various parts, and together with said block 46 serving as a guide for movements of the piston 45.

To cleanse a bedpan the operator presses the foot pedal 42 (assuming the cover 13 is closed) to open position, thereby opening the valve 41, and water flows through said valve, through the pipe connection 43 into the cylinder 44 thereby raising the piston 45 and the link 48, which in turn raises the cover 13, and moves the arm 49 and link 50, thereby rocking the shaft 19 and raising the holder 18 upwardly to a position where it can receive the bedpan. The raising of the cover 13 moves the cam arm 28 away from the cam 27 thereby permitting the cleansing means 22 to drop downwardly to the side of the receptacle and out of the way. When the bedpan is placed on the rack the operator again presses the foot pedal 42 to closed position, thereby closing the valve 41 and shutting off the water from the outside feed pipe line 40. The water in the cylinder 44 flows out through the pipe connection 43 and finally passes out through the hopper trap 15, permitting the piston 45 to drop in the cylinder 44 with the result that the cover 13 closes, and the holder 18 and cleansing means 22 move to operative positions, as illustrated in Figure 4 of the drawings, by a movement of the parts opposite to that previously described when the cover was opened. The operator moves the handle 36 which admits a predetermined amount of water through the flush valve 35, which passes into the supply pipe 33, as well as the shower pipe 32, and into the swivel joint conduit 26, the cleansing means 22 and out through the slits 24 to cleanse the bedpan thoroughly.

It will be noted that practically the whole under surface of the bedpan will have a stream of water pass over it, insuring the cleansing of all portions, and cutting under the main deposit to make it slide away without splashing.

As will be observed, making the bedpan holder 18 movable, makes it convenient in placing the bedpan on the holder, but it is not necessary, as the bedpan holder could be permanently fixed in one position, in the receptacle, in which event it probably would require more effort to place the bedpan on the support in the receptacle.

What I claim is:

1. A cleansing device comprising means to supply liquid, a receptacle, a cover connected to said receptacle, a cam instrumentality on said cover, a movable support for a bedpan in said receptacle movable to and away from operative position with respect to cleansing means hereinafter set forth, cleansing means movably connected to said supply means and movable to and away from operative position with respect to said bedpan support, a cam instrumentality attached to said cleansing means and so positioned with respect to said first-mentioned cam instrumentality as to contact therewith when said cover is closed and hold said cleansing means in its operative position, and means to close said cover and move said support to its operative position.

2. A cleansing device comprising means to supply liquid, a receptacle, a cover connected to said receptacle, a cam instrumentality on said cover, a movable support for a bedpan in said receptacle movable to and away from operative position with respect to cleansing means hereinafter set forth, cleansing means movably connected to said supply means and movable to and away from a horizontal operative position in said receptacle, a cam instrumentality attached to said cleansing means and so positioned with respect to said first-mentioned cam instrumentality as to contact therewith when said cover is closed and hold said cleansing means in said horizontal operative position in said receptacle, and means operating synchronously to close said cover and move said support to operative position.

3. A cleansing device comprising means to supply liquid, a receptacle, a cover connected to said receptacle, a movable support for a bedpan in said receptacle movable to and away from operative position with respect to cleansing means hereinafter set forth, cleansing means movably connected to said supply means and having an outlet end, cam means adapted to move said cleansing means to operative position with the outlet end projecting into said bedpan at its rear portion when said support is in operative position, and means to move said cover and move said support to operative position and actuate said cam means.

4. A cleansing device comprising means to supply liquid, a receptacle, a cover connected to said receptacle, a support for a bedpan in said receptacle, cleansing means movably connected to said supply means and spaced from said support and movable to and away from operative position with respect to said support, and cam instrumentalities adapted to be actuated by the closing of said cover to thereby move said cleansing means to said operative position.

5. A cleansing device comprising a receptacle, means to hold a bedpan in said receptacle in a substantially vertical position, a cleansing nozzle for cleansing the bedpan, said nozzle being movably mounted within said receptacle away from said holding means and movable from its normal position towards said holding means into a cleansing position whereby it is adapted to project into a bedpan supported by said holding means, said nozzle having a discharge outlet which directs a stream upwardly at the under surface of a rear portion of the top rim of said bedpan and a discharge outlet which directs a stream at the bottom of said bedpan when said nozzle is in said cleansing position.

6. A cleansing device comprising a receptacle, means to hold a bedpan in said receptacle in a substantially vertical position, a cleansing nozzle movable into and out of cleansing position within the bedpan and having two discharge outlets one of which directs a stream diagonally at the under surface of the top rim of a bedpan and the other of which directs a stream diagonally at the bottom of a bedpan when said nozzle is in said cleansing position.

7. A bedpan washer comprising a receptacle, a bedpan holder therein adapted to hold a bedpan in an approximately vertical position, a pivotally mounted flushing nozzle within the receptacle and having two oppositely-directed openings, means to move the nozzle from an inoperative position spaced from the holder to a flushing position within the bedpan, said discharge openings being directed so that when the nozzle is in flushing position one opening delivers a jet of water upwardly against the under side of the rim of the bedpan at an angle thereto and the other delivers a jet of water downwardly against the bottom of the bedpan also at an angle thereto.

8. A bedpan washer comprising a receptacle, a bedpan holder therein for supporting a bedpan in vertical position and a flushing nozzle movable into and out of flushing position within the bedpan and having two discharge openings, one of which when the nozzle is in flushing position delivers a jet upwardly against the inner face of the rim of the bedpan at an angle thereto and the other of which directs a jet of water downwardly against the bottom of the pan at an angle thereto.

9. A bedpan washer comprising a receptacle, a bedpan holder therein constructed to hold a bedpan in substantially vertical position, a cover for the receptacle, a flushing nozzle for flushing the bedpan, said nozzle being pivotally mounted within the receptacle and swingable relative to the holder from an inoperative position spaced from the holder into a flushing position in which it is projected into a bedpan supported by the holder, said nozzle being situated entirely within the receptacle in both positions and having a discharge slot situated when said nozzle is in flushing position to deliver a jet in sheet form upwardly against the inner face of the rim of the bedpan at an angle thereto.

10. A bedpan washer comprising a receptacle, a bedpan holder therein constructed to hold a bedpan in substantially vertical position, a flushing nozzle for flushing the bedpan, said nozzle being pivotally mounted within the receptacle and swingable relative to the holder from an inoperative position spaced from the holder into a flushing position in which it is projected into a bedpan supported by the holder, a pivoted cover for the receptacle and means operatively connecting said cover and nozzle whereby closing movement of the cover swings the nozzle from inoperative position to flushing position, said nozzle having two oppositely-directed discharge openings, one of which, when the nozzle is in flushing position directs a jet upwardly against the inner face of the rim of the bedpan at an angle to such face and the other of which directs a jet downwardly against the bottom of the bedpan at an angle thereto.

11. A cleansing device comprising a receptacle, means to hold a bedpan in said receptacle in a substantially vertical position, a cleansing nozzle for cleansing the bedpan, said nozzle being movably mounted within said receptacle away from said holding means and movable from its normal position towards said holding means into a cleansing position whereby it is adapted to project into a bedpan supported by said holding means, said nozzle having a discharge outlet which, when said nozzle is in said cleansing position, directs a stream upwardly at the under surface of a rear portion of the top rim of said bedpan.

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