

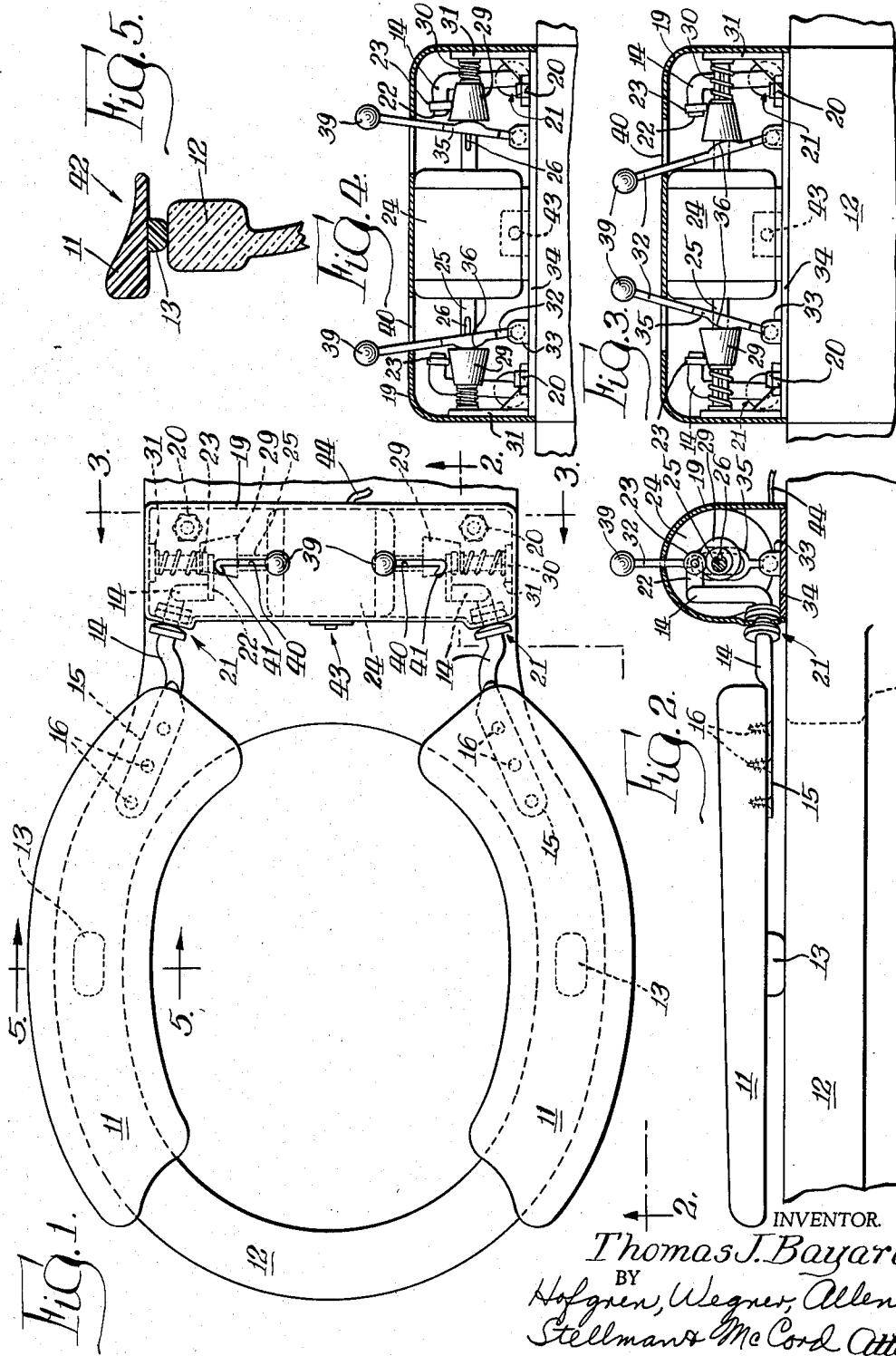
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SELECTIVE VIBRATING OR OSCILLATING TOILET SEAT

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SELECTIVE VIBRATING OR OSCILLATING TOILET SEAT

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This invention relates in general to toilets and seats therefor and more particularly to toilet seats useful in inducing bowel movements.

It is well recognized that physical stimulation of the buttocks is effective in relieving constipation, stimulating bowel movement and in aiding the release of intestinal gases. Such stimulation may serve to relax the anal sphincter and/or results in improved intestinal peristalsis. Although it has been important to provide such stimulation for bedfast patients where normal routine and physical activity has been curtailed to the extent resulting in the lowering of muscle tone and lessening of intestinal peristalsis, it is also recognized that such stimulation is important in other cases, e.g., with the aged, convalescent, and at times even persons with generally overall good health.

Recognizing the above need, massaging devices for stimulating the area adjacent the rectum and buttocks have been suggested, such as provided by Gottberg and described in U.S. Patent No. 3,004,534 and such as the colon manipulator of Wiederman as described in U.S. Patent No. 2,985,171. Further, such devices as Mattison's sanitary accessory for toilet bowls, described in U.S. Patent No. 2,598,577, for supporting the user's thighs have also been proposed. However, such devices are either not an integral part of a toilet and may not be mounted as an integral part of a toilet or, if so mounted, extensive revision of the toilet and/or addition of complicated mounting means to the toilet are frequently required. Additionally, many prior devices when mounted in place required extensive manual manipulation by the user, even though the user may not be of sufficient health or disposition for such manipulation, or else required the presence of an attendant. Also, many such devices have come into direct contact with areas of the anal orifice, necessitating their more frequent replacement, cleaning, sterilization, or the like.

It is an object of this invention to provide a new and useful toilet seat device designed to aid in the inducement of bowel movements.

It is a further object to provide such a toilet seat device comprising movable members for spreading the buttock of the user and which may be simply covered in an ordinary manner of covering toilet seats for sanitary use.

Yet another object of this invention is to provide a pair of opposing seat halves which may be driven through eccentrics for producing vibratory motion or oscillatory motion in the seat for purposes described hereinabove.

Another object is to provide such a seat wherein the oscillatory or vibratory motion is selective.

Still another object of this invention is to provide a toilet seat device in accordance with the foregoing objects which may be conveniently attached to standard stud bolts already provided on toilet bowls.

Other objects of this invention will be apparent from the following descriptions and from the drawings, in which:

FIGURE 1 is a plan view of a form of device in accordance with this invention as mounted about the upper portion or loop of a toilet bowl;

FIGURE 2 is a side view and partial section through the device of FIGURE 1 along line 2—2 of FIGURE 1;

FIGURE 3 is a vertical section along line 3—3 of FIGURE 1;

FIGURE 4 is the vertical section of FIGURE 3 with various elements disposed in a different position; and

FIGURE 5 is a section through the seat and bowl portion along line 5—5 of FIGURE 1.

While the present invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail a specific embodiment of the invention, with the understanding that the present disclosure is considered to be an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated.

Briefly, the embodiment of the invention illustrated in the figures includes a plurality of toilet seat portions each pivotally mounted on a toilet bowl for vibratory or oscillatory movements, e.g., along separate axes, and a motor and driving means for providing either the oscillatory or vibratory motion. A selection control means may be provided for selecting between oscillatory or vibratory motion as desired. Thus, seat portions are mounted for pivotal movement on separate axes superjacent the lip of a toilet bowl, as will be seen.

Turning first to FIGURES 1, 2 and 5, toilet seat halves 11 are disposed over the upper lip of bowl 12 and each of seat halves 11 has secured to its lower surface a fulcrum member in the form of a plastic pivot rest 13 through which seat 11 rests on lip 12. An arm 14 is secured via a flat portion 15 by suitable means such as screws 16 to the lower surface of each seat half.

The upper surfaces of seat halves 11 slope slightly toward the front of bowl 12 for providing better seating disposition for the user and more comfortable when inducement is needed by way of the present device.

Turning now to FIGURES 1—4, casing 19 is mounted on the studs normally provided for securing a toilet seat by means of nuts 20 to bowl 12. Arms 14 are pivotally mounted through the wall of casing 19 by suitable bearings indicated at 21. The axis of arm 14 passing through casing 19 is slightly off center to provide slight unbalance of the toilet seat toward the central portion of the bowl. The axis of shaft 14 through wall 19 in a preferred form is approximately in line with fulcrum 13 and close to the axis of pivoting on fulcrum 13 so that seat halves 11 may be oscillated by pivotal action of arm 14 without causing undue wear of pivot rest 13, which may rub against the lip of bowl 12.

Arms 14 extend upward in casing 19 and thence toward the central portion of the casing and are attached at their ends to extensions or arms 22. A roller 23 is pivotally mounted on the other end of each arm 22. It will be apparent that by raising and lowering roller 23, seat 11 will pivot about the axis of arm 13 in bearings 21; raising and lowering of roller 23 at a moderate rate at high amplitude will oscillate the two seat halves inward and outward while a faster rate at lower amplitude will, in essence, vibrate seat halves 11.

A variable speed motor 24 is mounted within casing 19 and has a drive shaft 25 projecting from each end of the motor housing, the drive shaft being driven with the motor armature. Drive shaft 25 is splined as at 26. A pair of conical section cams are eccentrically mounted on drive shaft through off-center longitudinal bores therethrough and held against rotation with respect thereto via splines 26 in sliding fit with spline receptacles in the wall of the off-center bores through sections 29. Sections 29 are axially slidable on shaft 25.

Springs 30 are provided for normally urging conical sections 29 toward motor 24. Springs 30 are grounded or biased against the frame 31 in which the ends of

shafts 25 are journaled, frame 31 being secured to casing wall 19.

A lever 32 is provided for moving each of the conical sections 29 between two positions. Levers 32 are secured by a ball and socket mounting 33 to the lower wall 34 of casing 19. A bifurcated portion 35 of levers 32 surrounds shaft 25 providing free rotation of shaft 25 within the bifurcated portion regardless of the positioning of lever 32. The bifurcated portions 35 are each provided with a rounded bearing surface 36 for abutting an end of conical section 29. It will be seen that each lever 32 is limited in its movement so as not to come into contact with shaft 25.

A handle 39 is provided for moving each lever 32 to the left and right as viewed in FIGURES 3 and 4. During such movement, levers 32 are limited in their lateral movements by means of limit slot 40 in the top of casing 19 and, at the outer end of each slot 40, a latching or hook deviation 41 is provided so that upon movement of lever 32 to its outermost position, the lever may be latched in the hooked slot extension 41 against the urging of spring 30.

Especially with reference to FIGURES 3 and 4, with levers 39 pivoted toward their central positions, as shown in FIGURE 3, follower wheel 23 is disposed to ride on a small radius of conical section 29 and rises and falls slightly as the off-center conical section is rotated on shaft 25, driven by motor 24. With the motor 24 driven at a relatively fast speed, e.g. about 800 r.p.m., such low rise and fall imparts generally vibratory motion to seat halves 11.

Levers 32 may be moved by handles 39 to the position shown in FIGURE 4. During such movement, the rounded bearing surface 36 on the bifurcated portions of the lever bears against the end of conical section 29 and urges conical section 29 to slide on shaft 25 against the urging of spring 30. Levers 32 may be latched by hooking into slot portions 41 to retain the cams in the positions of FIGURE 4. Roller 23 is now on a larger diameter portion of conical section 29 which is located with shaft 25 providing a larger rise and fall in arm 14 and a larger arc of pivot of arm 14 and with motor 24 at a lower or moderate speed, e.g. about 100 r.p.m., an oscillatory motion is imparted to seat halves 11.

The upper surface of each seat half 11 is dish-shaped, as shown at 42 in FIGURE 5, so that as the seat halves are vibrated or oscillated, the seat surfaces tend to grasp and spread the buttocks.

A motor speed control is provided, as indicated by reference numeral 43. Such speed control can be a variable speed control or may be variable between fast and slow speeds, including intermediate speeds, or may be a two-position speed control for selecting a predetermined low speed or high speed. Speed control 43 includes an on-off switch for motor 24. Motor 24 is supplied with electric power by line 44 through switch 43.

In use of the device, the user sits in usual fashion upon seat halves 11 and, where vibratory action is desired, handles 39 are moved to their inner position, as shown in FIGURES 1 and 3, and switch 43 is adjusted to high speed. Where the slower oscillatory motion is desired, switch 43 is adjusted to low speed and handles 39 are moved outward to their position shown in FIGURE 4.

The device also provides a toilet seat, with motor 24 not operating, which may be used by the user in the usual manner where inducement of bowel movements is unnecessary.

I claim:

1. A device for inducing bowel movements which comprises a plurality of toilet seat portions, means for pivotally

ly mounting each of said portions on a toilet bowl for vibratory or oscillatory movement on separate axes, means for driving said seat portions for imparting oscillatory or vibratory motion thereto, and selection means for controlling said driving means for selecting oscillatory or vibratory motion positions.

2. The device of claim 1 wherein said seat portions comprise a toilet seat having a forward slope on the upper surface thereof.

3. The device of claim 1 wherein said driving means comprises two-speed motor means and adjustable eccentric means driven by said motor means for driving said seat portions through separate arms attached to each seat portion, said eccentric means being adjustable between two positions for increasing or decreasing the amplitude of the driven seat arms, said motor at low speed and said eccentric of high amplitude position corresponding to oscillatory motion, and said motor at high speed and said eccentric at low amplitude position corresponding to vibratory motion.

4. The device of claim 1 wherein said selection means comprises means normally biasing said driving means to one position and means for moving said driving means against said biasing means to another position and means for latching said driving means in said other position.

5. The device of claim 1 wherein each of said seat portions is a seat half.

6. The device of claim 4 wherein said mounting means for each seat half comprises a fulcrum member on the lower surface thereof adapted to rest on the upper edge of the toilet bowl and a frame secured to said bowl and pivotally mounting an arm attached to each seat half.

7. A device comprising a toilet seat, motor means, means driven by said motor means for imparting oscillatory or vibratory motion to said seat, and selection means controlling said driven means for selecting oscillatory or vibratory motion.

8. A toilet comprising a bowl, a casing mounted on the rear portion of the bowl, a pair of seat halves disposed over said bowl, fulcrum means secured to the toilet and disposed between each seat half and the lip of said bowl for pivotally supporting each seat half from the bowl lip, a shaft secured to each seat half and pivotally mounted through said casing and means for moving said shafts for imparting pivotal movement to said seat halves for rocking said seat halves on said fulcrum means.

9. A toilet device comprising a toilet bowl, a pair of opposing curved seat halves, means mounting said seat halves on the bowl for movement through separate oscillatory paths relative to the bowl while generally defining a central opening therebetween, motor means, means operatively connected to said seat halves and driven by said motor means for driving said seat halves through said separate paths, and control means for controlling said motor means.

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