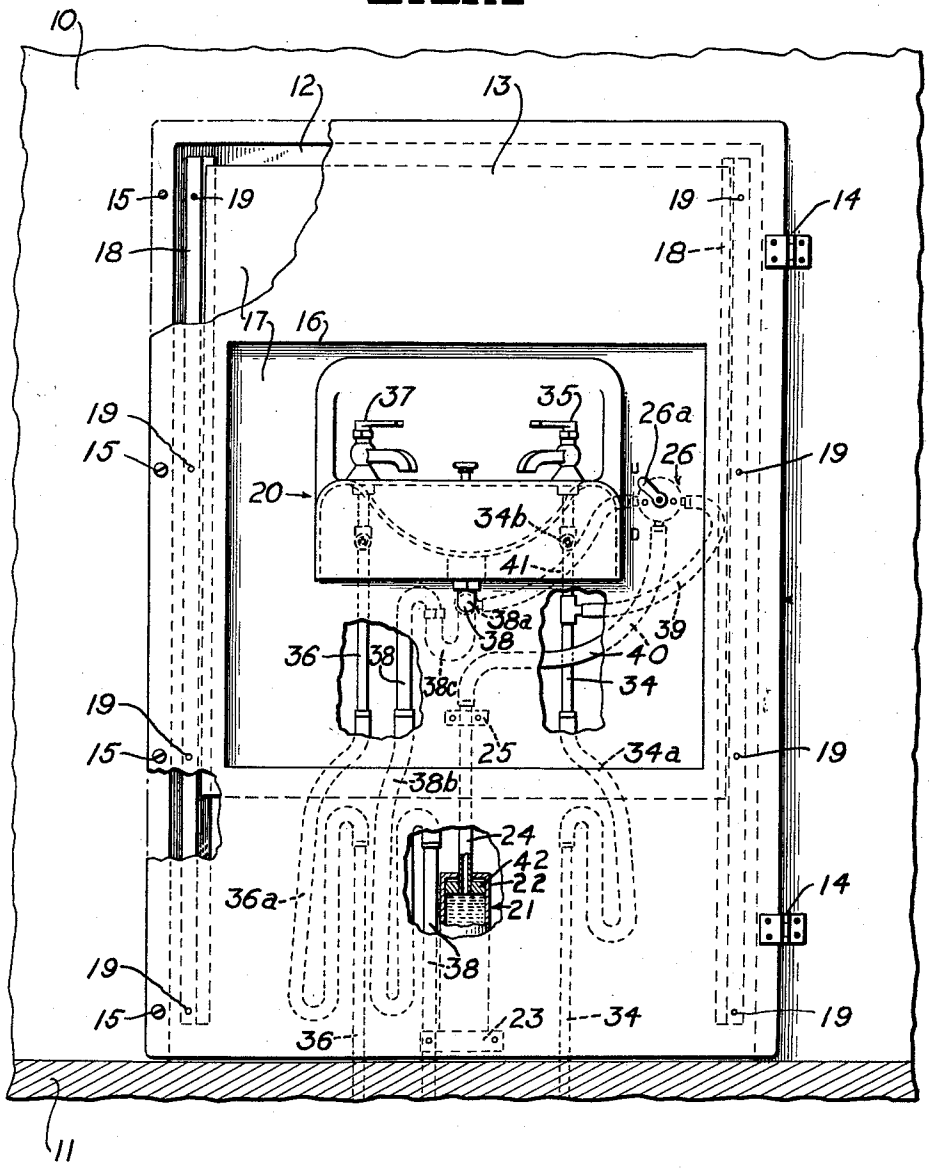
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LAVATORY MOUNTING MEANS

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Fig. 1




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FIG. 2

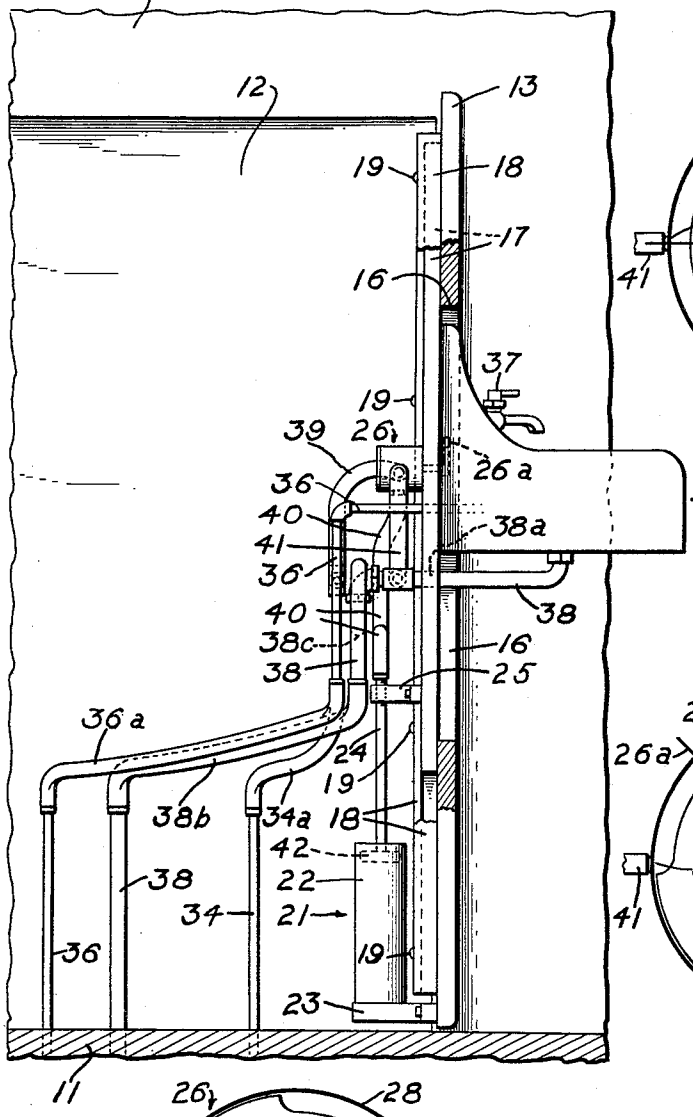



FIG. 3

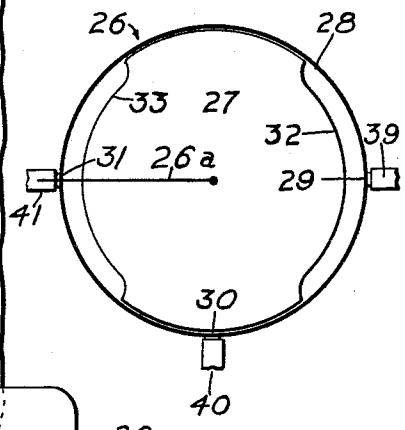



FIG. 4

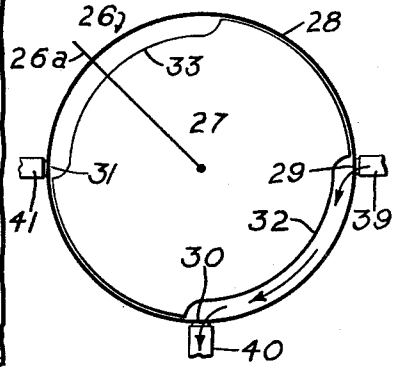
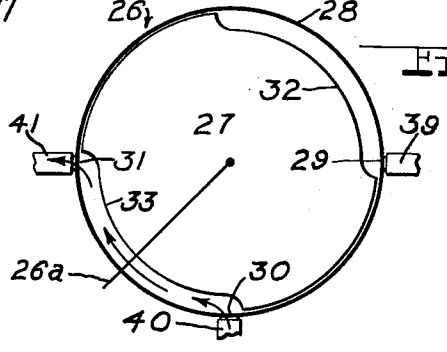



FIG. 5




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# LAVATORY MOUNTING MEANS

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4 Claims. (Cl. 4—170)

This invention relates broadly to assemblies employed for mounting lavatories, and more particularly to such assemblies in which a lavatory is shiftable to different elevations correspondingly adapted for use by adults and children.

A few attempts have been made to provide assemblies of this general character, which are needed, but they have proven to be of doubtful practicability, have not presented a good appearance, and have failed to be commercially feasible. It was a recognition of this problem and the knowledge that no prior practical and commercially feasible apparatus had been devised, which led to the conception and development of the present invention.

Accordingly among the objects of the present invention is the overcoming of prior shortcomings in this field by the provision of a novel construction and relation of elements in which the lavatory is mounted on a vertically shiftable panel which may well be utilized also to obscure portions of the water supply and waste lines for the lavatory.

Another object of the invention is to mount the lavatory on a door-like structure which is hinged to a wall of the room in which the lavatory is located, said door-like structure normally closing a recess in the wall through which the water supply and waste lines extend, and being swingable into the room to give access to flexible line connections and the like whenever repairing or replacing of elements is required.

Still further objects and advantages of the invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawings and the following description setting forth in detail certain means for carrying out the invention, such disclosed means illustrating, however, but one of various ways in which the principle of the invention may be used.

In the annexed drawings:

FIGURE 1 is a front elevation, partly broken away and in section, showing an assembly constructed in accordance with the invention, the lavatory and its carrying panel being shown in a raised position for adult use.

FIGURE 2 is a fragmentary side elevation, partly in section, showing the door-like structure, carrying the lavatory, swung inwardly away from the room wall.

FIGURE 3 is a diagram illustrating one form of the control valve for the hydraulic means shown for effecting raising, lowering, and holding of the lavatory carrying panel, the valve being turned to panel-and-lavatory-holding position.

FIGURE 4 is a similar view but showing the valve turned to panel-and-lavatory-raising position.

FIGURE 5 is a similar view showing the valve turned to panel-and-lavatory-lowering position.

The construction shown in the drawings will now be rather specifically described, but it is to be understood that said construction is to a large extent diagrammatic and illustrative of the spirit and field involved rather than limiting on the actual invention.

A portion of a bathroom or other wall is shown at 10 and a portion of the floor at 11. The wall 10 has a recess 12 which opens through its inner side and this recess is normally closed by a substantially rectangular



wall member 13 of door-like form. This wall member 13 is hinged at 14, FIGURE 1, to the room wall 10 and is normally held in closed position against said wall 10 by any suitable means such as screws 15.

The wall member 13 has a rectangular opening 16 which is closed by a vertically shiftable panel 17. This panel 17 is slidably mounted against the rear side of the wall member 13, by means of vertical tracks 18 which are secured at 19 to said door member and engage the vertical side edges of the panel.

The lavatory 20 is secured to the front face of panel 17, with the opening 16 in wall member 13 being sufficiently large to allow elevation of said lavatory to a suitable height for use by adults, and lowering of said lavatory suitably for use by children; and the panel 17 is also sufficiently large to cover said opening 16 regardless of the elevation, within the operating limits thereof, at which the lavatory may be positioned.

A cylinder and piston assembly 21 is provided for causing vertical shifting of the panel 17 to position the lavatory 20 as required. The cylinder 22 of this assembly is fixedly mounted on a suitable support means 23 on the rear side of the wall member 13, and the piston rod 24 is secured by connector 25 to the endwise shiftable panel 17. The piston and cylinder assembly may be of any conventional type but for simplicity of illustration and explanation this piston rod is shown of tubular form, to provide an admission and exhaust passage for the space in cylinder 22 beneath piston 42. Water under pressure is admitted to the cylinder 22 through hollow piston rod 24 to the space under the piston 42 to effect raising of the panel 17 to elevate the lavatory 20, and water is exhausted from said cylinder through said hollow piston rod to allow said lavatory and panel to lower by gravity.

A three-way central control valve 26 is mounted on the panel 17, to (1) admit sufficient water to the cylinder 22 to raise the lavatory to required elevation; (2) to exhaust some or all of the water from said cylinder to cause lowering of said lavatory to desired position, and (3) to act as a cut-off valve to trap water in said cylinder to hold said lavatory for use in any selected position in its operating range. The valve 26 is mounted on the rear face of the panel 17 and has a handle 26*a* extending to the front face of the panel and movable (1) to a raised position (FIGURES 1 and 4) to raise the lavatory 20; movable (2) to a lowered position (FIGURE 5) to lower said lavatory; and preferably automatically movable, when released, (3) to a horizontal neutral position (FIGURE 3) to hold said lavatory where required.

A suitable type of valve for the above described use is diagrammatically shown in FIGURES 3 to 5, inclusive, in which a valve member 27 is turnable in a casing 28. This casing has three ports 29, 30 and 31; and the valve member 27 has two elongated ports 32 and 33. The ports 29, 30 and 31 are connected to water conducting elements as explained below.

A cold water supply line 34, FIGURE 1, extends through the wall recess 12 and includes a looped hose 34*a*. The upper end of this line extends forwardly at 34*b* through the panel 17 and is connected with the cold water faucet 35 of the lavatory 20. A hot water supply line 36 extends in the same way to the hot water faucet 37 and includes a looped hose 36*a*.

A waste line 38, FIGURES 1 and 2, extends through the wall recess 12; and the upper end of this line extends at 38*a* through the panel 17 and is connected in conventional manner with the lavatory 20. This waste line includes a looped hose 38*b* and a trap 38*c*.

A hose 39, FIGURE 1, connects the cold water line 34 with the valve port 29, FIGURE 4; a hose 40, FIG-

URES 1 and 4, connects the piston rod 24 with the valve port 30; and a hose 41, FIGURES 1, 2, and 5, connects the waste line 38 with the valve port 31. Ordinary piping could be substituted for the three hoses 39, 40 and 41, connected to valve 26, if desired, but these hoses may, in most instances, be more easily installed.

When the valve handle 26*a* is raised, as shown in FIGURES 1 and 4, the connecting valve port 32 establishes communication between the valve ports 29 and 30. Water then flows from the cold water line 34 through the hose 39, the ports 29, 32 and 30, the hose 40 and the tubular piston rod 24 into the cylinder 22 below piston 42, thereby causing upward movement of this rod to raise the panel 17 and the lavatory 20. When the lavatory has been raised to any desired elevation within its operating limits, the valve handle 26*a* is lowered to neutral position as seen in FIGURE 3. All valve ports are thus placed out of communication with each other and consequently water is trapped in the cylinder 22, thereby holding the lavatory at the selected elevation. When the lavatory is to be lowered to any required extent within its operating range, the valve handle 26*a* is lowered as seen in FIGURE 5. The connecting port 33 then establishes communication between the valve ports 30 and 31, with the result that water may exhaust from the cylinder 22 below piston 42 through the tubular piston rod 24, hose 40, ports 30, 33 and 31, and hose 41 to the waste line 38, allowing the lavatory 20 to descend by gravity. When the lavatory has descended to the desired position, the valve handle 26*a* is moved to its neutral position, as shown in FIGURE 3, with the result that further exhaust of water is prevented and the lavatory will be held in the selected lowered position. During any raising and lowering of the lavatory, the looped hoses 34*a*, 36*a*, and 38*b* simply flex and cause no interference. Also, these hoses are sufficiently long to allow the door-like structure and lavatory mounted on the latter, to be inwardly swung from the wall 10 as shown in FIGURE 2. Thus, repair or replacement of elements normally inaccessible behind said door-like structure, may be readily performed.

From the foregoing, it will be seen that a novel and advantageous construction has been disclosed for attaining the desired ends. However, attention is again invited to the possibility of making variations within the spirit and scope of the invention as herein shown and described.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the apparatus herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. An adjustable lavatory assembly for use at a recessed support surface having accessible thereto liquid supply and waste-liquid discharge means, said lavatory assembly comprising a wall member including front and rear surfaces, hinge means on said wall member for mounting the wall member in overlying relation to the



recess in the support surface with the front surface of said wall member exposed and permitting said wall member to be pivoted away from said recessed support surface to permit access to the rear surface of said wall member, said wall member including a transverse opening therethrough, guide rail means mounted on the rear surface of said wall member and disposed in spaced, parallel relation inwardly of opposite sides of said transverse opening, a support panel overlying the rear surface of said wall member and including parallel side edges guidingly received in said guide rail means, a lavatory unit mounted on said support panel and projecting laterally through said transverse opening, said transverse opening including opposed margins defining the limits of adjustment of said lavatory unit with respect to said transverse opening, said lavatory unit including flexible conduit means for connection to said liquid supply and waste-liquid means for permitting adjustment of said support panel between said margins and pivotal movement of said wall member, power means mounted on the rear surface of said wall member and including force transmitting means connected to said support panel for moving said support panel with respect to said transverse opening, and control means connected to said power means and including an operator accessible adjacent said front surface of said wall member for operating said power means and adjusting said support panel and lavatory unit with respect to said wall member opening.

2. The structure of claim 1; said margins comprising the upper and lower limits of said wall member opening, said force transmitting means being operative to move said support panel between said upper and lower margins.

3. The structure of claim 1; said power means comprising a vertically disposed fluid motor-and-piston assembly, said fluid motor-and-piston assembly including a vertically disposed cylinder having a centrally apertured, transverse piston, a tubular piston rod projecting axially from said cylinder and communicating with one side of said piston, said control means comprising a three-way valve mounted on said support panel, said three-way valve including means for connection to a source of fluid pressure, said tubular piston rod being connectable to said source of fluid pressure or said waste-liquid discharge means through said three-way valve.

4. The structure of claim 1; said wall opening being rectangular, said wall member being rectangular, said hinge means on said wall member being disposed at one side edge thereof.

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