

Sept. 13, 1966

F. M. SARFF

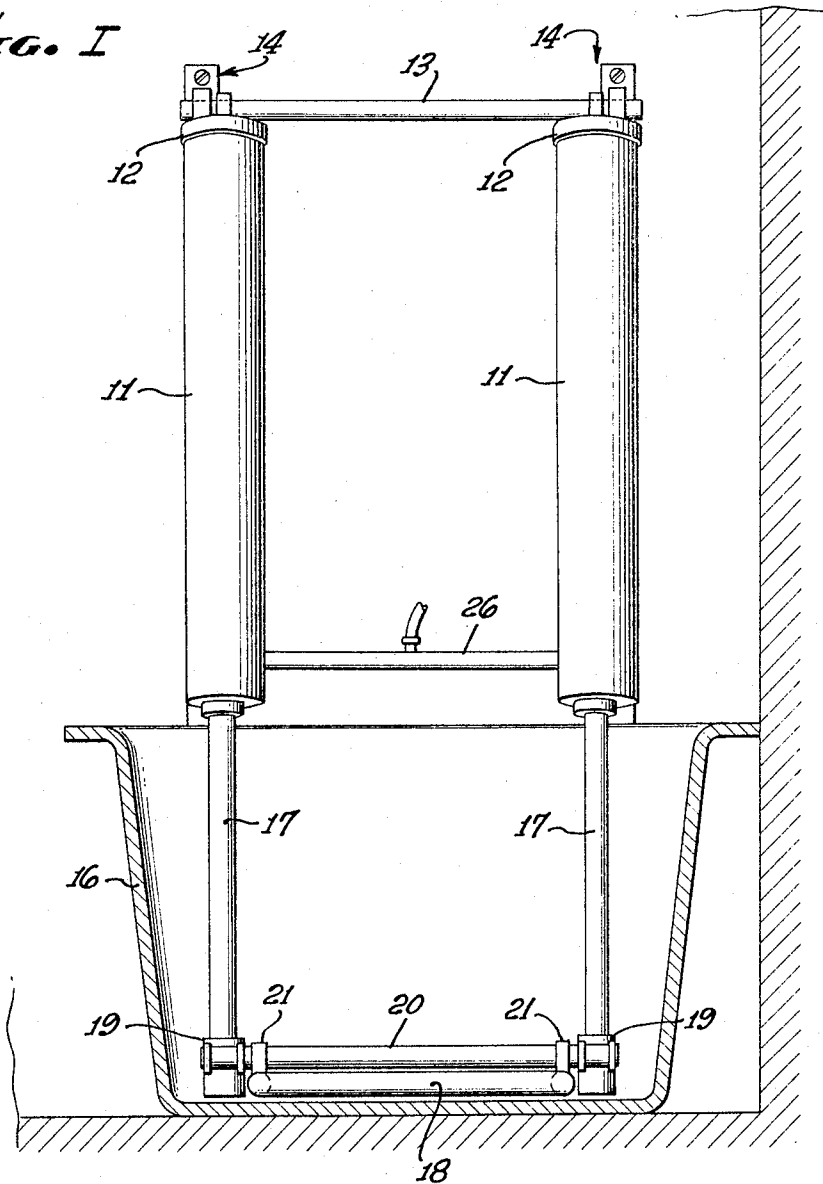
3,271,791

BATHTUB ELEVATING SEAT

Filed July 10, 1964

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FIG. I



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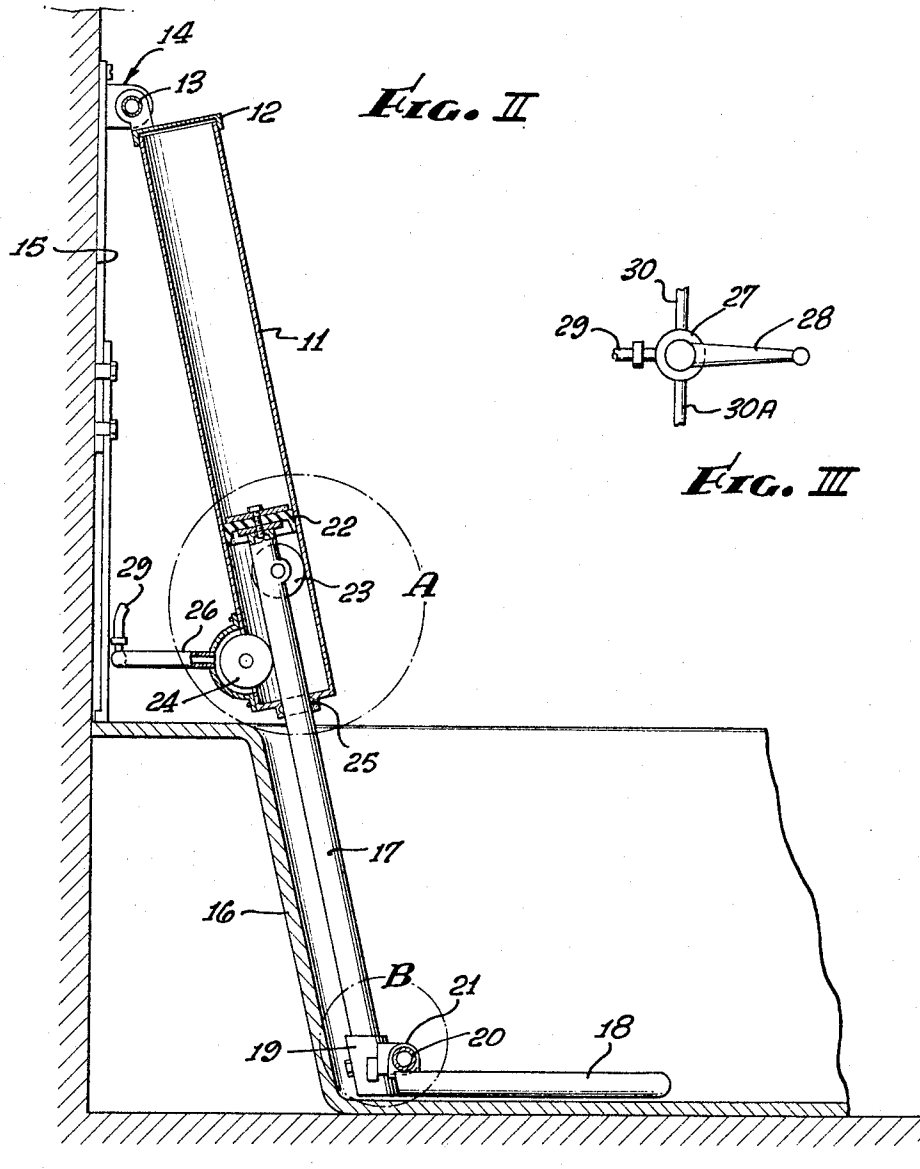
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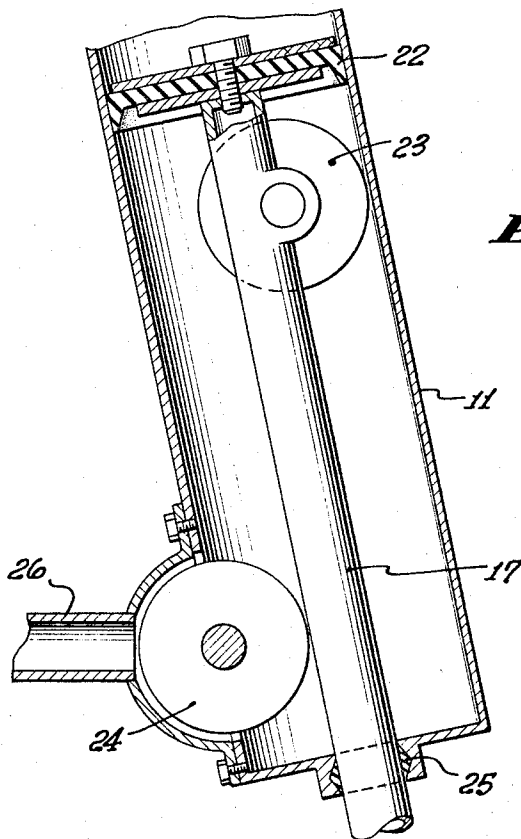
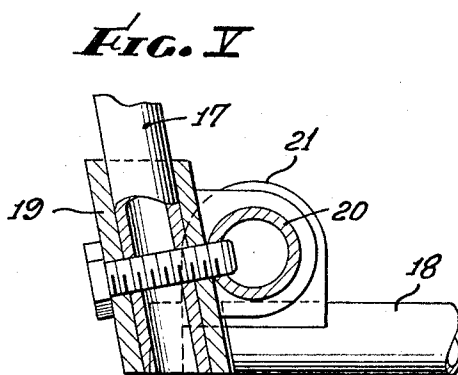
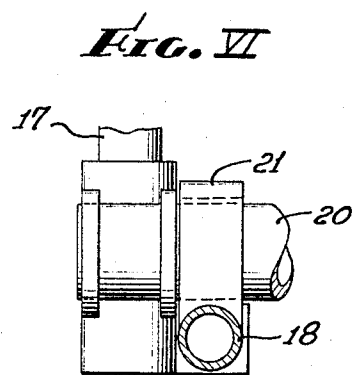
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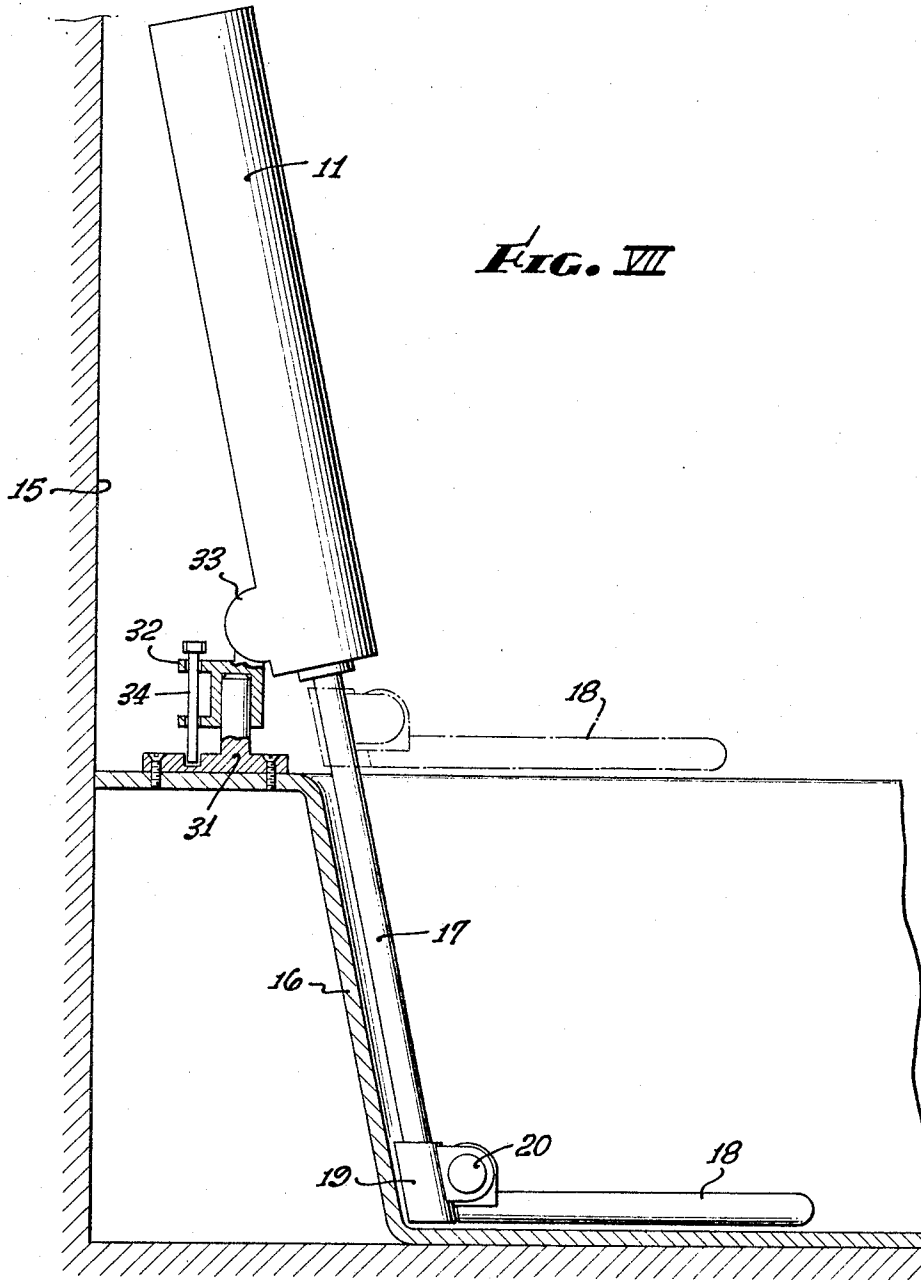
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BATHTUB ELEVATING SEAT

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3,271,791

BATHTUB ELEVATING SEAT

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2 Claims. (Cl. 4-185)

This invention relates to an elevating seat and more particularly to an elevating seat to be used to lower and raise a person who is in a sitting position into and out of a bathtub.

It is an object of the present invention to provide a device to lower a person who is in a sitting position into the bottom of a bathtub and to raise the person out of the bottom of the bathtub in a simple and efficient manner, which can be readily and securely placed above the bathtub and which will safely help a person lower their body into and out of a bathtub, especially an older or handicapped person.

Still a further object of the present invention is to provide an elevating seat which can be produced and sold in large quantities at a comparatively low cost, which can be easily installed and which can be conveniently utilized whenever needed.

Still another object of the present invention is to provide an elevating seat which can be folded out of the way of a person who does not wish to use the elevating seat, or can easily be removed entirely when not needed.

Still additional objects, benefits and advantages of this invention will become evident from a study of the following detailed description taken in conjunction with the accompanying drawings in which:

FIGURE I is a view showing the bathtub elevating seat installed just above the rear end of the bathtub with the seat in a lowered position.

FIGURE II is a cross-sectional side view of the bathtub elevating seat with the seat in a lowered position.

FIGURE III is a view showing the control valve which may be located at any convenient location.

FIGURE IV is a fragmentary enlarged view of a portion of FIGURE II encircled by dash line circle "A."

FIGURE V is a fragmentary enlarged view of a portion of FIGURE II encircled by dash line circle "B."

FIGURE VI is a fragmentary view of FIGURE V taken at right angles to FIGURE V.

FIGURE VII shows another method of mounting the bathtub elevating seat in which a mounting bracket is secured to the top of the bathtub.

Referring now specifically to the drawings the removable bathtub elevating seat is made principally of tubing. The cylinders 11 are secured at the upper ends by caps 12, support tubing 13, and brackets 14 to the wall 15 which is at the rear end of the bathtub 16. The lower leg of each bracket 14 is constructed to have an adjustable length so that it may rest upon the top rim of the bathtub 16. Extending downwardly from cylinder 11 are movable tubes or rods 17 which are attached at the bottom end to the seat 18, through bracket 19, cross support tube 20 and straps 21. Straps 21 are solidly secured to seat 18 to turn freely around tube 20. The upper ends of tubes 17 move within the cylinders 11. The upper end of each tube or rod 17 is secured to a piston having a seal 22. Also near the top end of each tube 17 constituting a piston arm or rod is secured roller 23 which rolls upon the inner surface of cylinder 11. Near the lower end of each cylinder 11 is secured a roller 24 which supports the lower portion of the piston arm or tube 17 which is within the cylinder 11 and indirectly the lower portion of tube 17 which supports the seat 18. At the lower end of cylinder 11 is positioned a piston rod seal 25 through which tube 17 moves. The

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lower end of each cylinder is supported by tube 26 which rests against back leg 14 and also connects the two cylinders 11 together. Valve 27, with handle 28 is located at any convenient location. Valve 27 is connected by a tube or hose 29 to tube 26. Tube 30 on valve 27 is connected to the water supply system of the house plumbing. Tube 30A on valve 27 is connected to a drainage pipe of the house plumbing or may simply drain into the bathtub 16.

Another method of mounting the bathtub elevating seat consists in providing a bracket 31 with an upright round shaft secured to the top rim of the bathtub. A hollow bracket 32 is placed upon the vertical shaft of bracket 31. The cylinders 11 are secured to bracket 32 by means of a shaft or tubing 33 which extends between the pair of cylinders 11. Bracket 32 which actually supports the bathtub elevating seat is kept from turning on bracket 31 by a pin 34. Pin 34 is movably secured at one end to bracket 32 and the other end is so constructed that it may be inserted into a socket in bracket 31.

The operation of this device can now be readily understood. If a person wishes to take a bath the valve 27 is turned to the "Up" position and water from the house plumbing supply system will pass through tube 30, valve 27, tube 29 and tube 26 into the lower position of cylinders 11 between seal 22, and seal 25. As water continues to flow into cylinders 11 the water pressure will force the cylinder seals 22 toward the top of cylinders 11. As the seals 22 are secured to the top of tubes or rods 17 which in turn are secured at the bottom ends to the seat 18, the whole unit consisting of the tubes 17, seat 18, seals 22 and rollers 23 will rise upward to the desired height. Then the bather simply sits on the seat 18 which is now near the height of the edge of the bathtub 16. The valve 27 is now turned to "Down" position and the weight of the bather on seat 18 will move the tubes 17 and seals 22 downwardly of the cylinders 11 thus forcing the water that is in the cylinders 11 out through tube 26, tube or hose 29, valve 27 and tube or hose 30A into house drainage system or into the bathtub 16. When the seat 18 reaches the bottom of the bathtub the bather may then take his bath as usual. When the bath is completed the bather turns valve 27 to "Up" position and the water from the house plumbing supply will pass through tube 30, valve 27, tube 29, tube 26 and into cylinders 11 and thus in turn raise the seat, with the bather seated thereon, to the "Up" position and the bather may now simply rise from the bathtub elevating seat just the same as from an ordinary chair.

The bathtub seat 18 is hinged upon tube 20 so as to move the seat 18 out of the way for someone who does not wish to use the bathtub elevating seat; or to wash out the bathtub, the seat 18 is simply folded up against the cylinders 11.

To remove the complete unit from the wall, the tube 13 is removed from the cylinder caps 12 and wall brackets 14 followed by disconnecting tube 29 at the valve 27.

The operation of the bathtub elevating seat as shown in FIGURE 7 is similar to that shown in FIGURE 2 except that when seat 18 is in a raised position the whole bathtub elevating seat unit may be rotated in a horizontal plane. When a person wishes to take a bath the control valve 27 is turned "up" or to "Up" position which in turn raises the seat 18 to its "Up" position. Pin 34 is raised from the socket in bracket 31 and the bathtub elevating seat unit may be turned in a horizontal arc until seat 18 extends out over the top rim of the bathtub. The bather now sits on the seat 18 in the same manner as on an ordinary chair. Then pin 34 is raised from its socket in bracket 31 allowing the entire bathtub elevating seat unit and the bather to turn in a horizontal

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arc until he is over the bathtub. Then the control valve 27 is turned to "Down" position and the seat of the unit and the bather is lowered into the bottom of the bathtub. When the bath is complete the control valve 27 is turned to "Up" position and the seat and bather is raised, the bather being in a sitting position as in an ordinary chair, but with the bathers feet still in the bathtub. Then pin 34 is released from its socket in bracket 31 and the bather turns the bathtub elevating seat unit in a horizontal arc until the bathers feet are outside the bathtub. The bather simply gets up off the seat just like an ordinary chair.

If it is desired to remove the bathtub elevating seat unit, the tube or hose 29 is disconnected from valve 27 whereupon the complete unit may be lifted from the bracket 31.

While this invention has been described with particular reference to the construction shown in the drawings and while various changes may be made in detail construction, as the source of power such as compressed air instead of water power, or the use of mechanical power may be used, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus completely and fully described the invention, what is now claimed as new and desired to be protected by Letters Patent of the United States is:

1. An elevating seat for a bathtub including: a pair of cylinders, means to securely hold said cylinders adjacent to said bathub, pistons within said cylinders, movable seals mounted on each piston to seal between each said piston and each said cylinder, piston rods attached at one end to said pistons and at the other end extending outwardly from said cylinders, a roller secured to each piston rod to movably hold said piston a desired distance from said cylinder, a roller secured to the lower inside end of each cylinder to movably hold said piston rod a desired distance from said cylinder, a seal

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mounted to seal between said cylinder and said piston rod, a seat movably attached to said other outside end of said piston rod, hydraulic power means to move said piston upwardly of said cylinders to raise said seat and means to connect said power means to a source of water and to control said power means.

2. An elevating seat for a bathtub, including: a pair of cylinders, means to movably support said cylinders for rotation as a unit in a horizontal plane near the top of said bathtub, means to lock said movable unit to position said unit at a desired point of the arc of horizontal rotation, pistons within said cylinders, a movable seal mounted on each piston to seal between said piston and said cylinder, piston rods attached at one end to said pistons and other end extending from said cylinders, a roller secured to each piston rod to movably hold said piston a desired distance from said cylinder, a roller secured to the lower inside end of each cylinder to movably hold said piston rod a desired distance from said cylinder, a seal mounted to seal between each cylinder and each piston rod, a seat movably attached to lower outside end of each piston rod, power means to move said pistons upwardly of said cylinders and means to connect and to control said power means.

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