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BATHTUB ASSIST

Filed Oct. 7, 1968

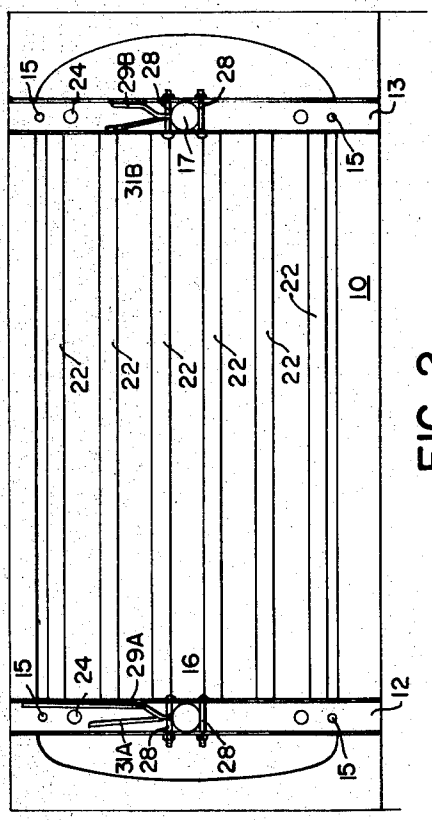


FIG. 2

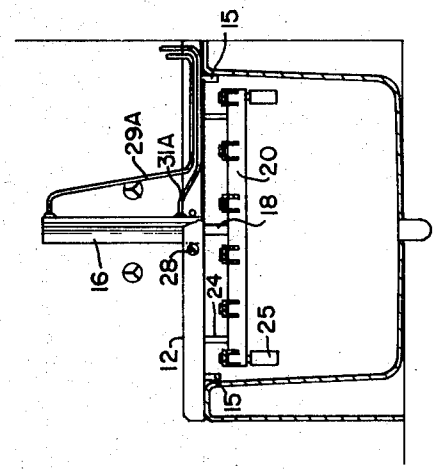


FIG. 4

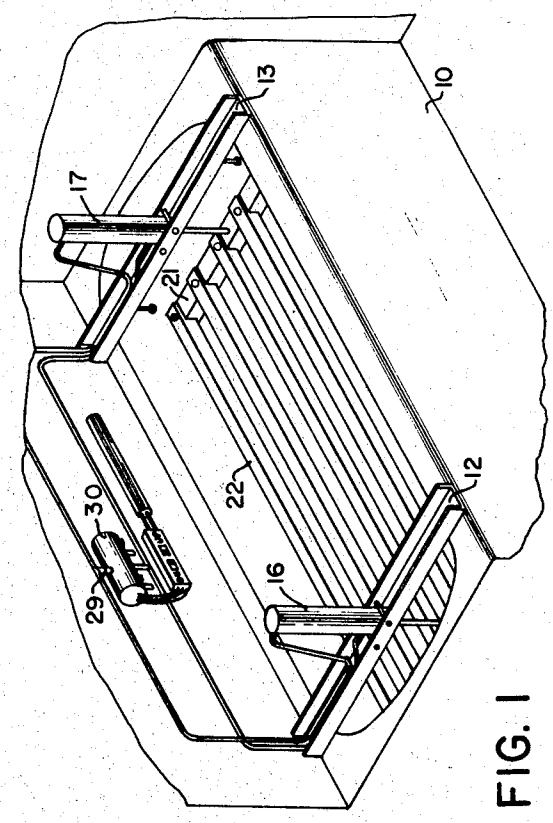


FIG. 1

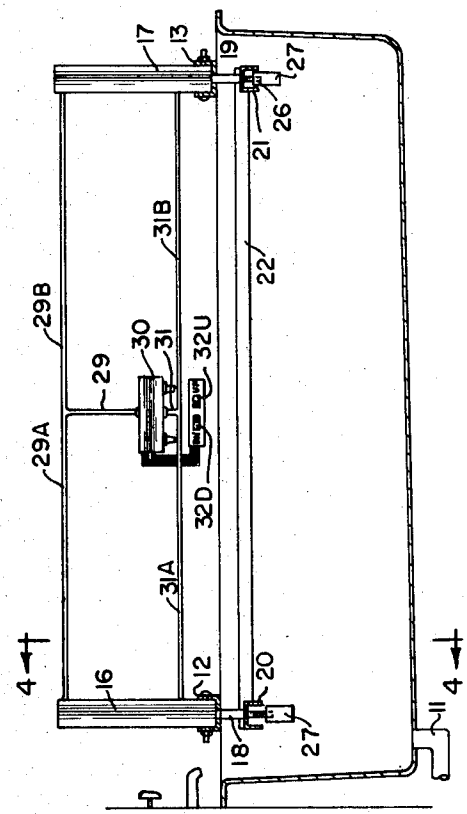


FIG. 3

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BATHTUB ASSIST

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ABSTRACT OF THE DISCLOSURE

A platform for supporting a bather at the top of a bathtub and adapted to be lowered and raised by mechanical hydraulic force by means of a cylinder and piston at each end of the bathtub with the cylinders mounted on cross-members supported on the rim of the bathtub.

The present invention relates to apparatus for assisting a person in getting into and out of a bathtub and particularly for persons who are incapacitated.

Heretofore various types of seats and supports have been provided for assisting persons in getting into and out of a bathtub, but these have not been entirely satisfactory because of the difficulty of mounting the equipment on existing bathtub installations and the excessive expense of the equipment. Further, it has been difficult to operate and maintain such equipment of the prior art.

An object of the present invention is to provide an elevating platform adapted to be received within existing bathtubs for lowering persons into and raising persons out of the water.

Another object is to provide inexpensive equipment which is readily applied to existing bathtub installations without requiring structural changes in the bathtub or in the building supporting the same.

A further object is to provide an attachment for bathtubs which can readily be installed and removed and when installed can be operated by persons who are incapacitated.

Briefly, the apparatus provides a transverse bar for mounting on the rim of the bathtub at each end with a hydraulic cylinder and piston mounted centrally of each bar and with the piston rod extending downwardly and secured to the adjacent end of a platform which platform is raised and lowered by hydraulic pressure applied to the cylinders and pistons with suitable control means positioned closely adjacent the bathtub so that the user can readily raise and lower the platform while being supported on the platform.

Other and further objects will be apparent as the description proceeds and upon reference to the accompanying drawing wherein:

FIG. 1 is a perspective of the appartus supported on a conventional bathtub with the platform in its lowered position of use.

FIG. 2 is a top plan view.

FIG. 3 is a longitudinal section through a bathtub showing the stops to maintain the platform in level condition in its raised position and showing the feet for supporting the platform on the bottom of the tub.

FIG. 4 is a transverse section taken substantially on line 4—4 of FIG. 3.

Referring in detail to the drawing, a bathtub **10** having a drain **11** at one end supports a pair of bars **12, 13** of a length corresponding to the width of a bathtub, adjacent the font and rear ends of the bathtub. These bars may be of channel section with the web resting on the side rim portions of the tub and may be maintained in position by downwardly extending lugs **15** preventing endwise movement of the bars. A cylinder and piston **16** and a cylinder and piston **17** are mounted in upstanding relation on the bars **12** and **13** with the piston rods **18** and **19** respectively passing through the web of the corresponding channels and the free ends fixed to downwardly opening channels **20** and **21** respectively which downwardly opening channels support longitudinally extending downwardly opening bather supporting channels **22** which are secured to the channels **20** and **21** by suitable fasteners such as bolts or the like so that a bather can be supported on the longitudinally extending channel bars **22** so that the bather may be lowered into the water or raised out of the water in the bathtub **10**.

Extending downwardly from the bars **12** and **13** are stop lugs **24** which are adapted to engage the platform when the platform is in its raised position to prevent any tendency of the platform to rock about the piston rods **18** and **19** when the bather is supported on the platform.

When the platform is in its lowered position as shown in FIG. 1 it is adapted to rest on the bottom of the bathtub but some bathtubs have an appreciable slope toward the drain and to make sure that the platform stays in level condition adjustable feet **25** which may include a threaded stud **26** extending downwardly from each corner of the platform with a tubular internally threaded extension **27** threaded thereon so that the correct adjustment of the feet **25** can be obtained to accuately support the platform of channels **20** and **22** in the lowered position.

The hydraulic cylinder **16** is retained in its upstanding position by suitable means which may include bolts **28** passing through the flanges of the channel **12** and any other suitable means while hydraulic fluid is supplied to the upper ends of the hydraulic cylinders by a tube **29** extending to a hydraulic pump and motor combination **30** with branch **29A** going to cylinder **16** and branch **29B** going to cylinder **17** at the top thereof and an opposite supply tube **31** extends to branches **31A** and **31B** to the lower ends of cylinders **16** and **17** while a switch **32** having a down-operating button **32D** and an up-operating botton **32U** is electrically connected to a source of power and to the hydraulic motor pump **30** whereby closing the switch **32D** causes hydraulic fluid to feed tube **29** and branch tubes **29A** and **29B** to lower the platform and operation of the switch **32U** causes hydraulic fluid to flow under pressure into tube **31** and branch tubes **31A** and **31B** to the cylinders to thereby raise the platform. It will be apparent that the switches are arranged so that only one can operate at a time and they are normally urged to inoperative positions.

Any suitable source of electric power may be used such as a 12 volt battery for operating the motor which operates the hydraulic pump or the hydraulic pressure may be furnished by other sources which may use conventional current supplied to homes or may use the water pressure or any other suitable pressure with suitable controls being provided therefor.

From the above description it will be apparent that applicant has provided a platform which is rigidly fixed in its raised position so that a person may sit on the platform in the same manner as sitting on a chair and then raise his feet onto the platform and cause the platform to be lowered by pressing the proper button **32D** until the platform is in its lowered position and the bather can bathe himself in the usual manner and after the bathing has been completed the bather may press the up-button **32U** and raise the platform to the uppermost position and get out of the bathtub by swinging his legs over the rim of the bathtub and onto the floor and then sit up in the usual manner and stand up in the same way as standing up after being seated in a chair.

It will thus be seen that the present invention provides self-help equipment for people who may be partially disabled and the attachment may be readily applied to ex-

isting bathtubs without requiring the services of professional skilled technicians.

Although other pushing and pulling devices may be used to raise and lower the platform, it has been found that hydraulically actuated cylinders and pistons are particularly adapted for the purpose since the positive flow of the hydraulic fluid produces a balanced support of the platform and equal movement at both ends.

It will be apparent that various changes may be made within the spirit of the invention as defined by the valid scope of the claims.

What is claimed is:

1. Apparatus for lowering a person into and raising a person out of a bathtub comprising a pair of supporting bars of a length extending across the width of said bathtub having supporting engagement with the rim of the bathtub with one of said bars adjacent each end of the bathtub, a hydraulic cylinder extending upwardly from each bar, a piston rod extending downwardly from each hydraulic cylinder, a platform of a length reaching between and underlying said bars and of a width to be accommodated within the bathtub, means connecting the lower ends of the piston rods to the platform, power means to operate said hydraulic cylinders, and control means to control the power means for lowering and raising the platform.

2. The invention according to claim **1** in which feet are provided on the underside of the platform for engaging the bottom of the bathtub to maintain the platform in non-rocking position when the platform is in lowered position.

3. The invention according to claim **1** in which the feet are vertically adjustable to accommodate for variations in the bottom of the bathtub.

4. The invention according to claim **1** in which the bars are channel members opening upwardly and the hydraulic cylinders are mounted in such channels with the piston rod extending through the web of the supporting channel.

5. The invention according to claim **1** in which a motor and hydraulic pump are the power means and the means to control the power means are switches for controlling the motor.

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