

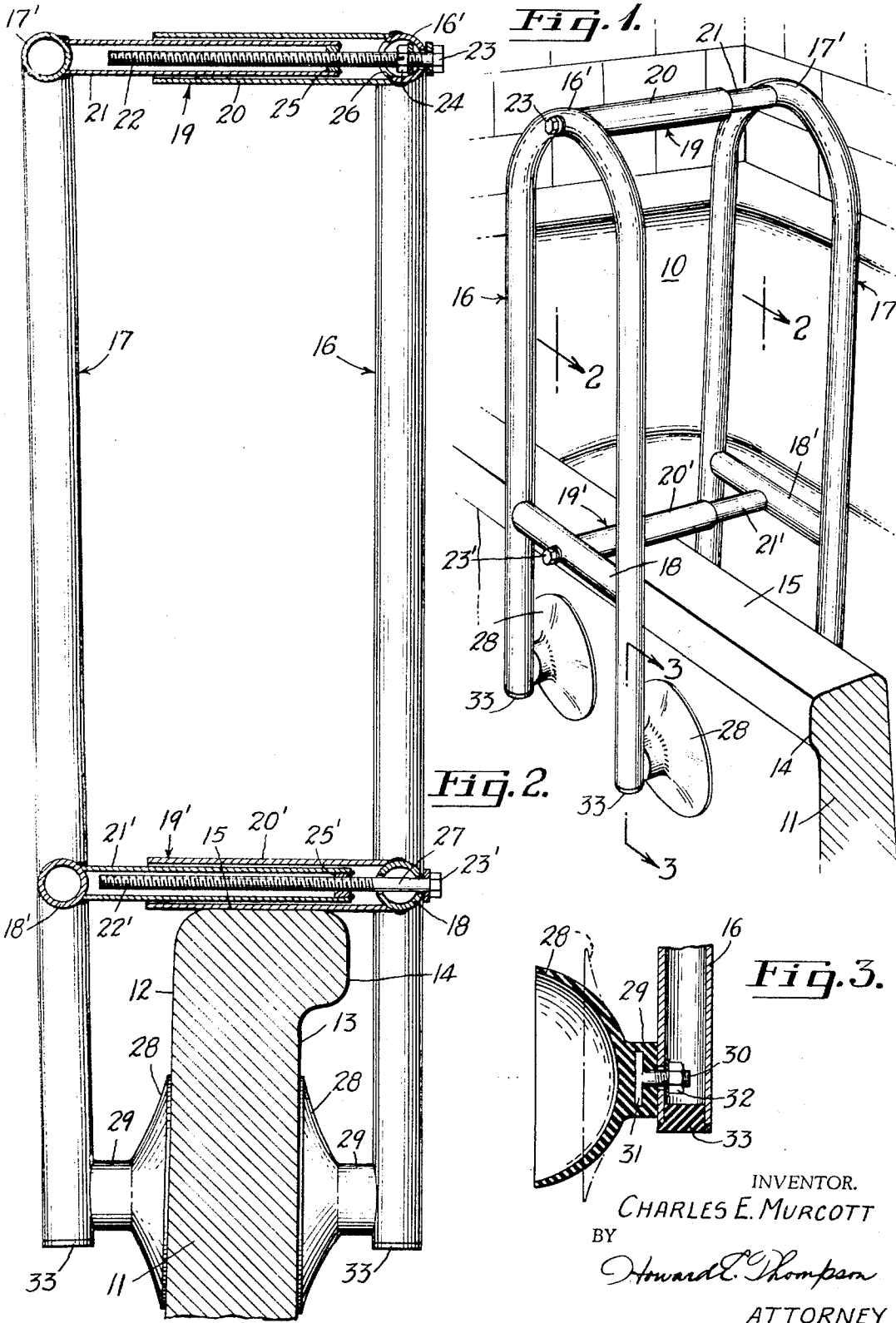
June 10, 1969

C. E. MURCOTT

3,448,468

OCCUPANT SUPPORT DEVICE FOR BATHTUBS

Filed Dec. 26, 1967



INVENTOR.
CHARLES E. MURCOTT
BY
Howard E. Thompson
ATTORNEY

1

2

3,448,468

OCCUPANT SUPPORT DEVICE FOR BATHTUBS

Charles E. Murcott, Valley Drive, Bay Crest,
Huntington, N.Y. 11743

Filed Dec. 26, 1967, Ser. No. 693,544

Int. Cl. A47k 3/12

U.S. Cl. 4-185

10 Claims

ABSTRACT OF THE DISCLOSURE

A device providing a raised handgrip support on a bathtub to assist a person stepping into and out of a bathtub, the device comprising two frames adjustably coupled to move pairs of gripper cups into pressure engagement with inner and outer surfaces of a wall of the bathtub, with portions of the frame projecting above said bathtub wall in presenting raised parts to be gripped by a hand of an occupant.

Background of the invention

(1) The invention deals with frames having vertically spaced elements for moving the frames into operative and inoperative positions with respect to a bathtub wall or the like and wherein one of the elements is disposed between ends of the frames and forms a pivot axis between upper and lower ends of the frames, so that the element at the upper ends of the frame can be operated to apply additional pressure engagement of the gripper cuts with the wall of the bathtub.

(2) To applicant's knowledge, no patent has been granted on a device as defined having the adjustable and control features set forth, insuring a positive coupling of the device with the wall of a bathtub.

Summary of the invention

The invention further deals with a device of the character defined, wherein the frames are composed of lightweight tubular parts of simple and economical construction. Further, the device employs suction cup-type members which form pressure grippers in establishing a firm and positive engagement with a bathtub wall in retaining the device against any possible shifting or displacement with respect to the wall. Still further, the invention deals with a device of the character described, wherein the coupling elements of the frame are free for relative angular movement of the frames one with respect to the other.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a perspective view of one of my support devices, diagrammatically illustrating arrangement thereof on the wall of an installed bathtub.

FIG. 2 is an enlarged sectional diagrammatic view, generally on the line 2-2 of FIG. 1, showing the frames of the device in operative position on the wall of a bathtub; and

FIG. 3 is an enlarged sectional view on the line 3-3 of FIG. 1, diagrammatically illustrating, in dot-dash lines, compression of the gripper cup shown.

In illustrating one adaptation and use of my invention, FIG. 1 illustrates at 10 a perspective or isometric view of a bathtub installed between one side and back wall of a bathroom. At 11 is shown the front wall of the bathtub, this wall having an inner upwardly flared surface 12, an outer surface 13, the upper end of the outer surface having

an enlargement 14 and at 15 is shown the upper surface of the wall 11.

In illustrating one adaptation of the support device, I have shown, in FIGS. 1 and 2, two generally similar tubular frames 16 and 17, these frames being what may be termed inverted U-frames having rounded or contracted upper ends 16', 17', as noted in FIG. 1. The lower portions of the side members of these frames are reinforced by brace members 18, 18'. At 19, 19' are upper and lower coupling elements for adjustably coupling the frames one with respect to the other.

The elements 19, 19' comprise telescoping coupling tubes 20, 20', 21, 21', the tube 20 being welded to the end 16'; whereas, the tube 20' is welded to the member 18. The smaller diameter tubes 21, 21' are welded to 17' and to 18', as clearly seen in FIG. 2 of the drawing.

The element 19 includes an elongated threaded rod 22, having a hex head 23 at its outer end. Mounted on the rod 22, within 16', is a lock nut 24, retaining the rod 22 against displacement from 16', while permitting free rotation of the rod 22 in 16'. The free end of the tube 21 has an internally threaded sleeve 25 fixed thereto engaged by the threaded rod 22 in adjusting the upper ends of the frames one with respect to the other. It will be apparent that clearance is shown between the tube 20 and the tube 21 and for the rod 22 in 16'. 16' further has a large aperture 26 on its inner surface for assemblage of the nut 24 on the rod 22.

The element 19' also includes an elongated threaded rod 22', which differs from the rod 22 in having an unthreaded portion 27 disposed within the member 18, the rod 22' having a hex head 23'. Here again, 22' has a free movement in the member 18 and tubes 20' and 21' have clearances therebetween. The free end of the tube 21' also includes an internally threaded sleeve 25' engaged by the threads of the rod 22'.

Mounted on inner adjacent surfaces of the lower end portions of the frames 16 and 17, or the side members thereof, are article gripper cups 28 and, as the structure and mounting of each of these cups are the same, the brief description of one of these cups, as illustrated in FIG. 3 of the drawing, is deemed to be sufficient. The body portion of the cup is generally of the suction cup variety and includes, centrally thereof, an enlarged hub portion 29, in which a threaded coupling screw 30 is anchored by suitable anchoring means 31. Mounted on the screw 30 is a nut 32 firmly securing the gripper cup 28 in connection with the side members of the respective frames. The lower end of each of the side members of the frame is closed and covered by rubber plugs 33 to finish and guard these ends.

The various parts of the frames can be suitably coated to prevent corrosive or other actions and, in many instances, coatings such as "Versalon" can be used. This latter coating will provide protection to the bathtub in the use of the device.

In attachment of the device to a bathtub wall or other support, a suitable type of wrench is coupled with the nuts 23, 23' in bringing the two frames into engagement with the wall 11, in the illustration given. In this operation, the two frames 16 and 17 are maintained generally in parallel relationship to each other. This operation is continued until all of the gripper cups 28 are brought into firm pressure engagement with the wall 11, or inner and outer surfaces 12, 13 thereof. This operation takes place with the tube 20' resting upon the upper surface 15 of the wall 11, as clearly seen in FIG. 2.

After this firm and secure engagement has been accomplished, with the two frames 16 and 17 in general parallel relationship to each other, then the upper threaded rod 22 is backed-off or, in other words, actuated to spread the upper ends of the frames and, in this action, the

coupling element 19' operates as a fulcrum, allowing the lower end of the frame 17 to swing inwardly in providing what might be termed a high pressure engagement of the grippers 28 with the wall 11. In this operation, the tubes 21, 21' can assume an angular arrangement in the tubes 20, 20' and no attempt has been made to show this arrangement in the drawing. However, the clearances shown between the two pairs of tubes will illustrate that this end result would be accomplished. In the foregoing operation, it will be understood that the hub portions of the grippers 28 can be put into compression in this final excessive gripping operation which is accomplished between the lower end portions of the frames and the wall 11. When the device is finally set, the device is definitely retained against any type and kind of relative movement with respect to the wall 11. Thus a firm and positive support is provided, enabling any person, regardless of size or weight, to safety get into and out of the bathtub by gripping any part of the upper end portion of the device.

In dealing with the question of the showing in FIG. 2, it will be understood that the tubes 21, 21' would normally be at right angles to the frame 17. On the other hand, from uses, as specifically shown, it would also be practical to weld these tubes 21, 21' at the slight angle shown so that, in the final pressure engagement, the relationship of the tubes 21, 21' with 20, 20' could be substantially as illustrated in the drawing. However, the end result would depend upon the final pressure engagement developed from actuation of the threaded rod 22 in attaining the gripping engagement with the support 11 that may be desired.

It will be understood that devices of the type and kind defined can be used in conjunction with various types and kinds of members or articles engaged by the two pairs of grippers for any desired or practical use of the device.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the character defined comprising a pair of frames, each frame having a contracted first end, means spaced with respect to the other second end of each frame for bracing the frame, a coupling element adjustably joining the first end of said frames, a coupling element adjustably joining the bracing means of said frames, and article engaging grippers on the second end of the frames movable into operative and inoperative positions by actuation of both of said coupling elements.

2. A device as defined in claim 1, wherein each frame is defined by spaced side members joined by said first end of the frame.

3. A device as defined in claim 2, wherein said bracing means joins the side members of each frame.

4. A device as defined in claim 1, wherein both of said coupling elements comprise inner and outer telescoping coupling tubes, the outer tubes being secured to one of said frames, the inner tubes being secured to the other of said frames, and manually actuated threaded rods rotatable in the outer tubes and the frames supporting said outer tubes and operatively engaging threaded means of said inner tubes in adjusting the frames one with respect to the other.

5. A device as defined in claim 1, wherein one of said frames has manually operated means for actuating both of said coupling elements.

6. A device as defined in claim 1, wherein said frames and bracing means are tubular in form, and said grippers comprise rubber cups.

7. A device as defined in claim 6, wherein said coupling elements comprise inner and outer telescoping tubes, outer tubes being welded to one of said frames, and the inner tubes being welded to the other of said frames.

8. A device as defined in claim 7, wherein each of said elements include threaded rotatable coupling rods having heads accessible on one of said frames for rotation of said rods.

9. A device as defined in claim 8, wherein the rod of the first named coupling element is retained against movement relatively to said one frame, and the rod of the second named coupling element is movable freely through said one frame.

10. A device as defined in claim 1, wherein the first named coupling element includes manually actuated means rotatable in and fixed against displacement from one frame, the second named coupling element including manually actuated means rotatable in and movable relatively to said one frame, and said last named coupling element operating as a fulcrum in movement of said grippers into added pressure engagement with an article in retracted operation of the manually actuated means of said first named coupling element.

References Cited

UNITED STATES PATENTS

2,807,029	9/1957	Armstrong.
2,885,690	5/1959	Scott.
2,836,834	6/1958	Tisdall.
2,931,051	4/1960	Sparling.
2,940,085	6/1960	Hussey.

50 REINALDO P. MACHADO, *Primary Examiner.*