Oct. 4, 1949. A. SLUTSKY 2,483,676

COLLAPSIBLE SECTIONAL AND PORTABLE WASHING MACHINE

Filed Aug. 13, 1946

2 Sheets-Sheet 1

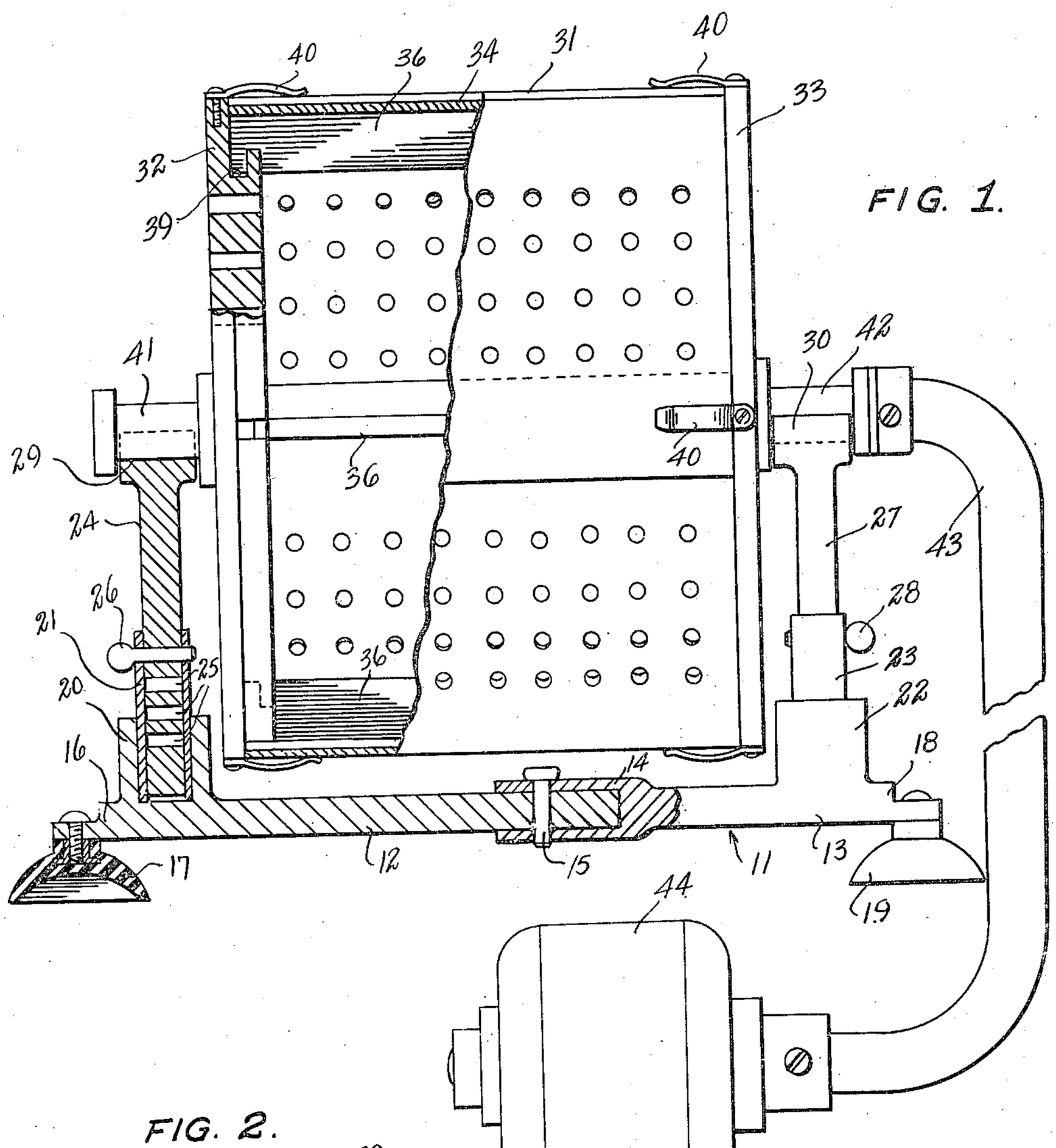
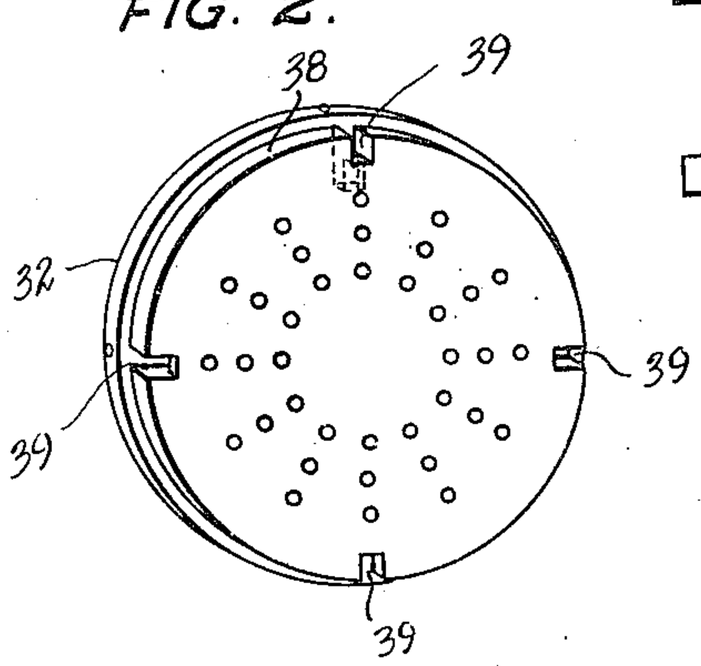


FIG. 1.

FIG. 2.



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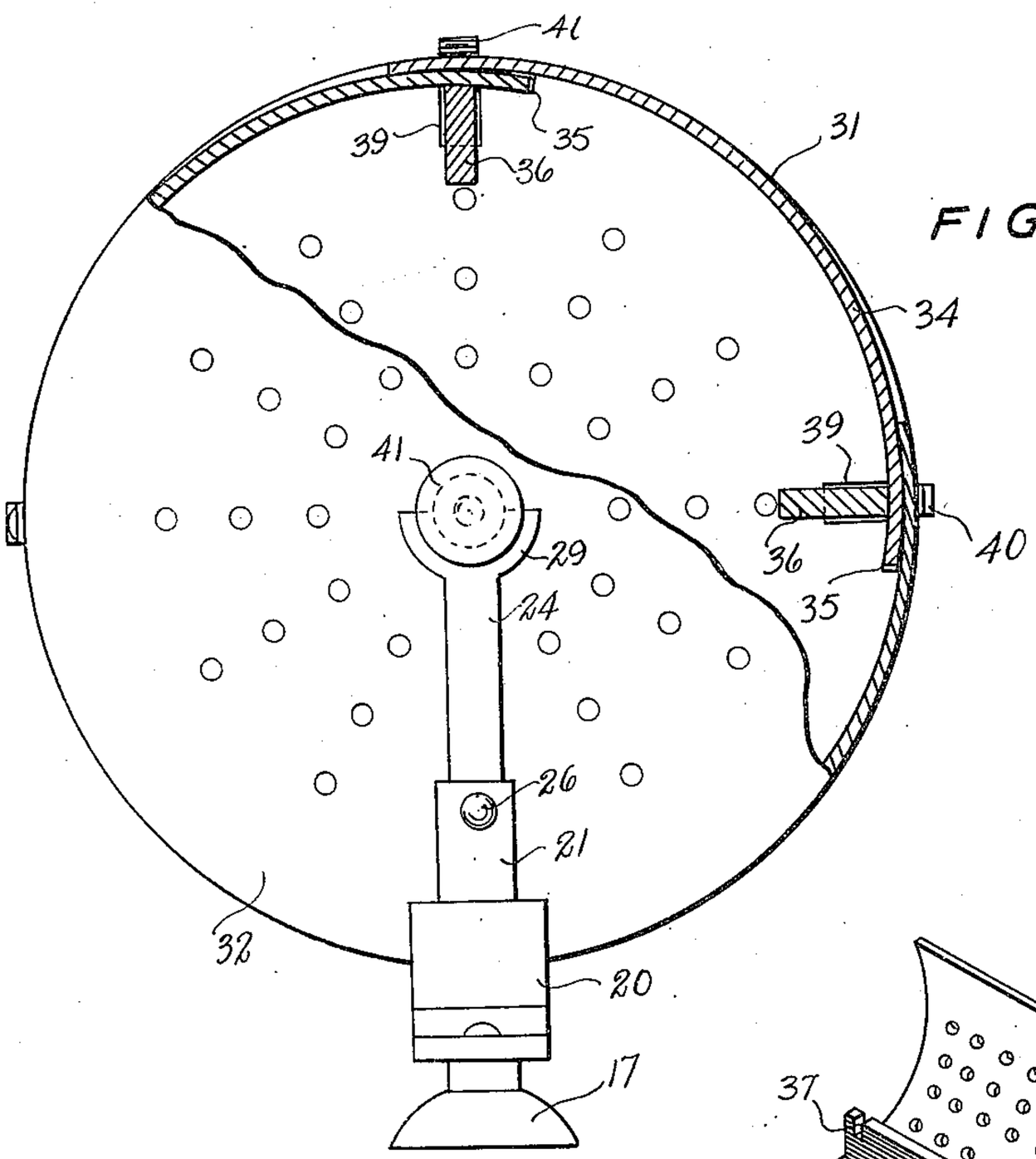


FIG. 3.

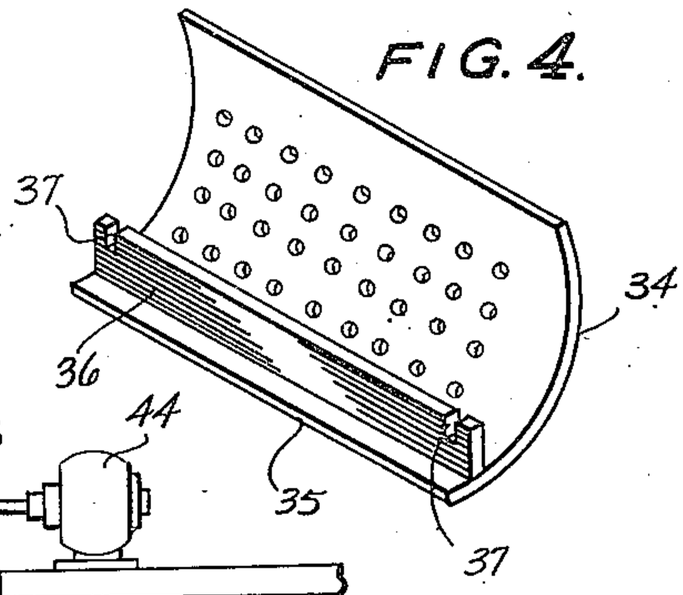
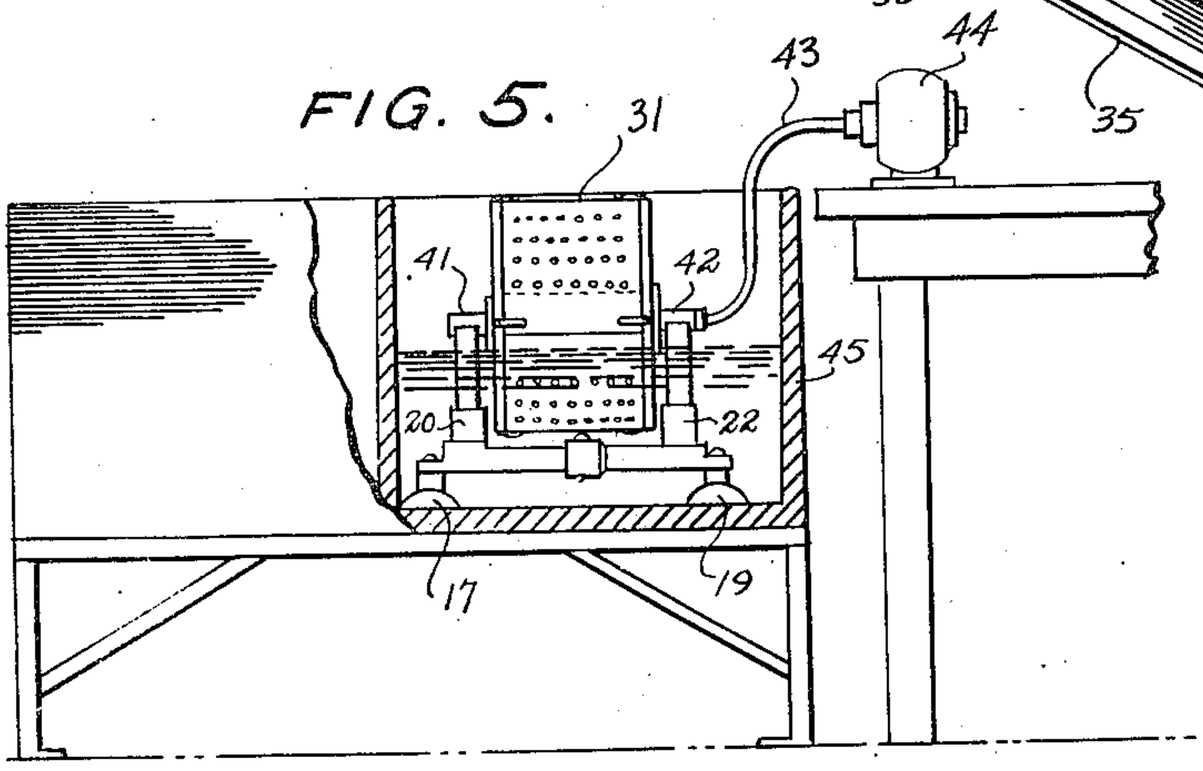


FIG. 4.

FIG. 5.



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UNITED STATES PATENT OFFICE

2,483,676

COLLAPSIBLE SECTIONAL AND PORTABLE WASHING MACHINE

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Application August 13, 1946, Serial No. 690,259

3 Claims. (Cl. 68—140)

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This invention relates to washing machines, and more particularly to a washing machine device which is collapsible and portable.

A main object of the invention is to provide a novel and improved demountable washing machine device which is very simple in construction, easy to set up and dismantle without the use of tools, easily movable from place to place and requiring a minimum of storage space when disassembled, said device being especially adapted for use in a water receptacle such as a bathtub or other tub in the home.

A further object of the invention is to provide an improved portable and collapsible washing machine device of the rotary type, said device consisting of a small number of very simple parts which are inexpensive to manufacture and which occupy a small space when the machine is not in use, the device being especially adapted for use in the home.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a side elevational view, partly in cross-section, of a washing machine device constructed in accordance with the present invention, the device being shown set up for a washing operation.

Figure 2 is a reduced perspective view of an end plate employed in the washing machine device of Figure 1.

Figure 3 is a left end elevational view, partly in section, of the washing machine device of Figure 1.

Figure 4 is a reduced perspective view of a wall segment employed in the washing machine device of Figure 1.

Figure 5 is an elevational view, partly in cross-section, showing the washing machine device of Figure 1 set up for operation in a conventional home laundry tub.

Referring to the drawings, 11 designates a base or supporting structure for the washing machine device, said base structure comprising a number of small, detachably associated parts including a first element 12 and a second element 13. Element 13 is formed with a socket 14 in which the end of element 12 is received, said end being secured in socket 14 by a removable headed pin member 15. Member 12 is formed with an end projection 16 to which is secured a suction cup 17. Member 13 is also formed with an end projection 18 to which is secured a suction cup 19. The suction cups 17 and 19 function to detachably secure the base structure to a suitable smooth support, such as the bottom of a bath tub or laundry tub.

Member 12 is formed with an upstanding socket 20 in which is secured a tubular sleeve member

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21. Member 13 is also formed with an upstanding socket 22 in which is secured a tubular sleeve member 23. Slidably positioned in tubular sleeve 21 is a post member 24. Member 24 is formed with a plurality of transverse apertures 25. A pin member 26 passes through opposed apertures in sleeve 21 and through a selected aperture 25 of the post member 24 to detachably secure the post member in upright position in the sleeve member. A second post member 27 is detachably secured in sleeve member 23 by a pin member 28 in a similar manner. Post member 24 is formed with a semi-cylindrical bearing 29 at its top end and post member 27 is formed with a similar bearing 30 aligned with bearing 29.

Rotatably supported in bearings 29 and 30 is a drum 31. Drum 31 also comprises a number of small, detachably associated parts including circular end plates 32 and 33 to which are secured four successively overlapping quarter-cylindrical wall plates 34 to define a cylindrical container for the material to be washed, the end plates 32 and 33 and the curved wall plates 34 being perforated to permit free passage of water and soap material through the walls of the container.

As shown in Figure 4, each wall plate 34 has secured to its inside surface adjacent a longitudinal edge 35 a cleat member 36. Adjacent each end of the cleat member 36 is formed a notch 37. Each of the end plates 32 and 33 is formed with an inner annular shoulder 38 and at 90 degrees intervals recesses 39 are formed in the shoulder. As shown in Figure 1, the wall plates 34 are positioned so that the notched ends of the cleat members 36 interfit with the recesses 39, said notched ends cooperating with the recesses to prevent endwise relative movement of the end plates with respect to the wall plates. As shown in Figure 3, the longitudinal edge portions of the successive wall plates overlap each other and are secured in position by spring clips 40 pivotally secured to the outer peripheral edges of the end plates at 90 degrees intervals corresponding to the locations of the recesses 39. Spring clips 40 in their holding positions exert resilient pressure on the overlapped edge portions of the wall plates, whereby outward radial movement of said edge portions is prevented. When the drum is to be opened the spring clips are rotated 90 degrees whereby the overlapped edge portions of the curved wall plates are released and said wall plates may be removed.

End plate 32 has a bearing stud 41 which is journalled in bearing 29. End plate 33 has a similar bearing stud 42 which is journalled in bearing 30, said stud 42 having an extension which is detachably coupled by a flexible coupling shaft 43 to the shaft of a motor 44 or other suitable rotary driving means.

In operation, the device is positioned in a tub

such as a bath tub or laundry tub, shown at 45 in Figure 5. The drum is filled with clothes and water and soap material are admitted into the tub to a level wherein a substantial portion of the drum is immersed. The motor 44 is energized, causing the drum to be vigorously rotated in the tub and the water and soap material to be circulated vigorously through the clothes. After a suitable period of rotation of the drum the clothes will be cleansed and may be removed by taking off one of the wall plates 34, thereby providing access to the interior of the drum.

When the laundering operation is completed the device may be readily taken apart and stored for future use. The wall plates 34 may be stacked together so that a minimum space will be required for storage of the components of the device. A suitable box or other receptacle may be provided for storage of the parts.

In assembling the device, base element 12 is connected to base element 13 by pin 15. Post members 24 and 27 are mounted in their respective supporting sleeves and are secured in position by the respective pins 26 and 28. Three of the curved wall segments 34 are overlappingly secured to the end plates 32 and 33 by engaging the respective notched portions of their cleat members 36 with the recesses 39 and securing the segments by clips 40 in the manner indicated in Figure 1. The base 11 is positioned in a tub such as a bath tub or laundry tub so that suction cups 17 and 19 grip the bottom of the tub. The drum is mounted on its bearings 29 and 30 and the clothes to be laundered are placed inside the drum. The fourth wall segment is then secured in position. Water and soap material may then be admitted into the tub. Stud 42 is then coupled to motor 44 and the drum may then be rotated by the motor to perform the cleansing operation.

Although the side wall portions 34 of the drum have been shown and described herein as comprising four equal segments, the invention contemplates the use of other numbers of equal segments with corresponding modifications of the numbers and locations of recesses 39 in the end plates and spring clips 40 cooperating therewith to secure the overlapped wall segments in position.

While a specific embodiment of a portable and collapsible washing machine device has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention other than as defined by the scope of the appended claims.

What is claimed is:

1. A demountable washing machine drum comprising a pair of substantially circular end plates, an axial bearing stud projecting from each end plate, an annular shoulder formed on each end plate on the side opposite the stud, a plurality of equally spaced recesses formed in the annular shoulder, an equal number of identical curved side plates defining a cylindrical body when their longitudinal edges are successively overlapped, each side plate having an internal cleat secured thereto and extending adjacent one of its longitudinal edges, the cleat being notched adjacent each end thereof to lockingly engage in opposite recesses in the shoulders of the end plates, and spring clips pivotally secured to the peripheries of the end plates adjacent the recesses adapted

to bear on the overlapped end edge portions of the side plates when the cleats are respectively engaged with said recesses, said end plates and side plates being perforated.

2. A demountable washing machine comprising a rotatable drum having a pair of oppositely-disposed, circular end plates each having an annular, circumferential groove at one side thereof and a centrally-disposed bearing stud on the opposite side thereof, a plurality of side-wall plates assembleable with said end plates to constitute a complete drum, each of said side-wall plates comprising a curved plate having a longitudinal cleat secured along one edge thereof and provided adjacent its end with notches which cooperate with the grooved portions of said end plates to hold said end plates in assembled position, and means carried by said end plates operative to secure said wall plates thereto for individual or collective assembly and disassembly, and a drum support also formed of a plurality of detachably associated parts and including a pair of posts disposed at respectively opposite ends of said drum, and bearings carried respectively by said posts and respectively receiving the bearing studs to rotatably mount said drum on said drum support.

3. A demountable washing machine comprising a rotatable drum having a pair of oppositely-disposed, circular end plates each having an annular, circumferential groove at one side thereof, and a centrally-disposed bearing stud on the opposite side, a plurality of side-wall plates assembleable with said end plates to constitute a complete drum, each of said wall plates comprising a curved plate having a longitudinal cleat secured along one end thereof and provided adjacent its ends with notches which cooperate with the grooved portions of said end plates to hold said end plates in assembled position, and means carried by said end plates operative to secure said wall plates thereto for individual or selective assembly and disassembly, and a support for said drum comprising a two-part base having means at one end of each part for detachably securing said parts together, and a post-receiving socket on the opposite end of each part, a pair of posts each having one end receivable in a respective post-receiving socket and a drum-supporting bearing at the opposite end thereof receiving a respective bearing stud to rotatably mount said drum on said drum support, and means operatively associated with said posts and said sockets to detachably secure said posts in said sockets.

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