

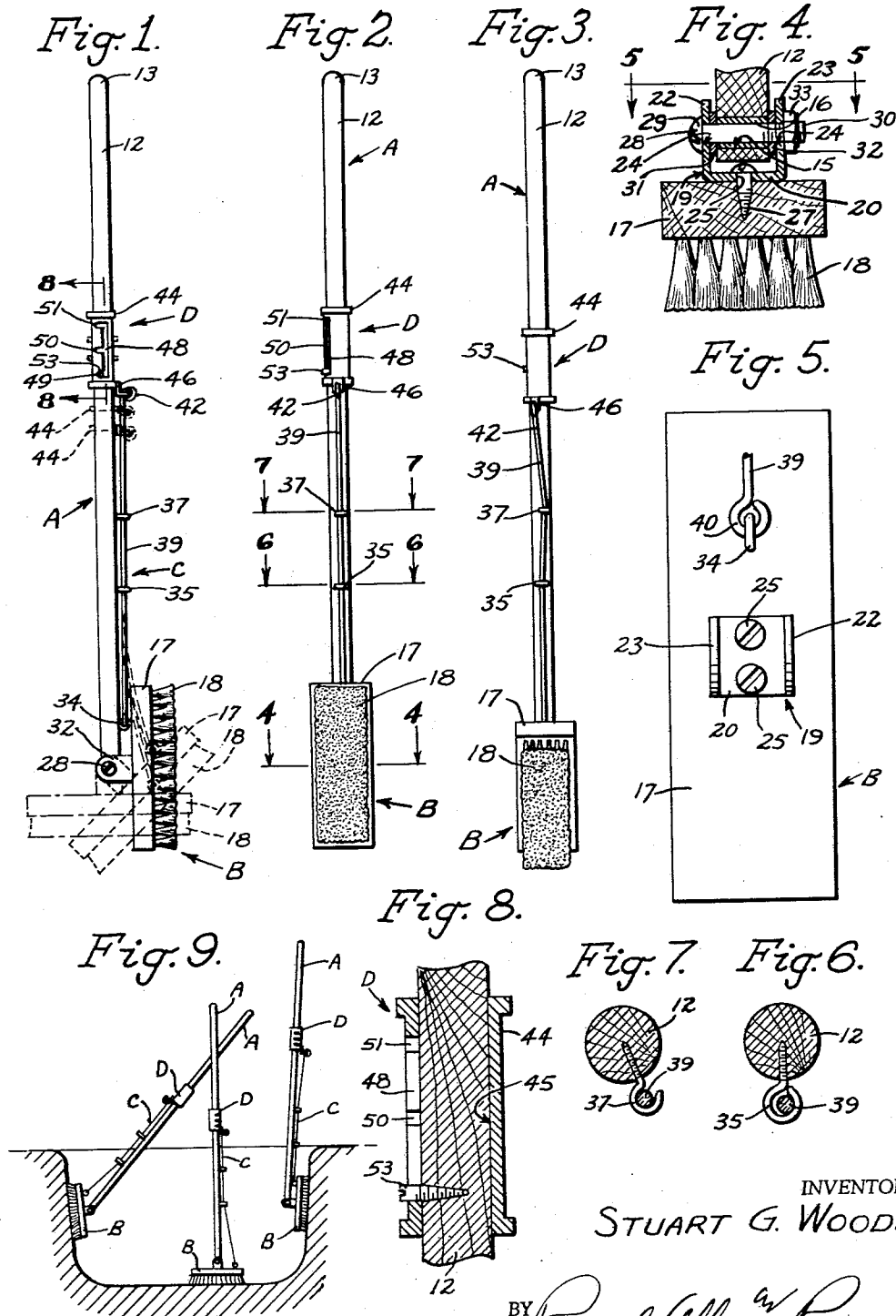
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BATH TUB CLEANING BRUSH

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BATH TUB CLEANING BRUSH

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2 Claims. (Cl. 15-172)

This invention relates to improvements in brushes or cleaners that are particularly designed for scrubbing relatively difficult-to-reach places, such as the sides and bottom of a bath tub, without the usual laborious processes of extreme bending and stretching.

The primary object of this invention is the provision of a bath tub brush or cleaner that may be utilized for scrubbing the sides and bottom surface of a bath tub from substantially a standing position, without the usual contortions of stretching and bending that are necessary in order to properly scrub these surfaces.

A further object is the provision of a device having an angularly adjustable brush that embodies a minimum of mechanical construction so that the same is relatively inexpensive to manufacture and assemble, can be marketed at a fraction of the price of other types of available devices having angular adjustable brushes, and requires little or no maintenance in order to keep the apparatus operational throughout the life of the brush.

A further object is the provision of a novel guide means for angularly adjusting the brush with respect to the handle thereof, which means consists of a flexible metal rod loosely connecting the brush with a slidable locking device on the handle, and which exerts a spring-like force upon said locking device constantly keeping the same in the desired locked position.

Other objects and advantages of this invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing, forming a portion of this specification, and in which drawing:

FIG. 1 is a side view of my improved bath tub cleaning brush with the brush thereof being shown in solid lines in one position and in dotted lines in two other positions.

FIG. 2 is a front elevational view of my improved brush locked in position with the brush parallel to the handle.

FIG. 3 is a front elevational view similar to FIG. 2, but showing the brush at an intermediate position between two locked positions, with the guide means for the brush urging the locking sleeve into a locked position.

FIG. 4 is an enlarged transverse sectional view taken substantially on the line 4-4 of FIG. 2.

FIG. 5 is a top plan view of the brush taken substantially on the line 5-5 of FIG. 4, with the handle removed.

FIG. 6 is an enlarged transverse sectional view taken substantially on the line 6-6 of FIG. 2.

FIG. 7 is an enlarged transverse sectional view taken substantially on the line 7-7 of FIG. 2.

FIG. 8 is an enlarged longitudinal sectional view taken substantially on the line 8-8 of FIG. 1.

FIG. 9 is a somewhat diagrammatic view showing the brush angle at various positions as it would be used for scrubbing a bath tub.

In the drawing, wherein for the purpose of illustration is shown a preferred form of the invention, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A may generally designate a handle having a brush B pivotally supported at one end thereof, with brush guide means C extending from the brush B and along the handle A to a sliding and locking means D for securing the brush in various positions with respect to the handle.

The handle A preferably comprises an elongated body portion 12 of metal, wood or like material, preferably

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having a rounded exterior, and having a rounded portion 13 at one end thereof, with an opening 15 provided adjacent the other end thereof, for pivotally receiving the brush B, as will be subsequently described. A bushing 16 may be provided through the opening 15, in order to eliminate wear upon the handle 12.

The brush B preferably comprises a conventional scrubbing brush having a base 17 with bristles 18 extending upwardly from one side thereof.

In the interconnection of the brush B to the handle A, I preferably provide a U-shaped bracket 19 having a bottom section 20 and depending lugs 22 and 23. The bottom section 20 is provided with a pair of openings 25 through which screws 27 may be applied for securing the bottom section 20 to the top surface of the brush 17 opposite the bristles 18. The depending lugs 22 and 23 are provided with aligned openings 24 so that a pin 28 may be positioned therethrough. The pin 28 is provided with a head 29 and a threaded end 30, which end 30 extends through the opening 24 in lug 22, through a washer 31 adjacent the lug 22, through the bushing 16, through a washer 32 adjacent the lug 23, and through the opening 24 in lug 23, a nut 33 being applied to the threaded end of the pin for securing the same in position. The pivotal bracket connection 19 is preferably located substantially equidistant between the ends of the brush B, as shown in FIG. 5, for balanced angular pivoting.

The brush guide means C preferably includes an eye 34 secured to the top surface of the base 17 of the brush B, intermediate the bracket 19 and one end of the brush; a second eye 35 secured to the handle A; a deflecting hook-like stop or fulcrum 37 secured to the handle A, below the eye 35; and a flexible connecting rod 39 provided with an eyelet 40 formed at one end thereof for attachment to the eye 34, the rod 39 extending through the eye 35, and contacting one side of the stop 37, and being provided with a hook or eyelet 42 at the opposite end thereof for attachment to the lock means D, as will be subsequently described.

In the mounting of this brush guide means C, the eye 34 is positioned substantially equidistant between the sides of the brush B, in a plane substantially coincident with the longitudinal center of the brush base 17, the eye 35 is mounted upon the handle A in substantially the same plane with the eye 34, so that the rod 39 extends in substantially a straight line from the brush head to the eye 35. The stop 37 is, however, positioned slightly off-center from the eye 35, which would be, in FIGS. 2 and 3, to the right of center of the handle A. Thus, in the extension of the rod 39 from the eye 35 to the lock means D, the rod 39 is placed under spring-like tension to urge the lock means D to rotate in one direction, which would be to the right as shown in FIGS. 2 and 3. This spring-like tension cooperates with the lock means in maintaining the lock means in a locked position, as will be subsequently described. The rod 39 is thus bowed from the eye 35, about the stop 37, to its connection with the lock means D.

The lock means D preferably includes a sleeve-like member 44 having an internal diameter 45 of slightly larger diameter than the outer circumference of the handle A, with the sleeve 45 freely rotatable and slidable with respect to the handle A. One end of the sleeve 44 is provided with a bracket 46 for receiving the hook 42 of the rod 39 therewithin. One side of the sleeve 44 is provided with a longitudinally extending slot 48, which longitudinally extending slot 48 has radially extending slots 49, 50 and 51 extending from one side thereof. A stop 53 is secured to the handle A and is adapted to fit within the slot 48 and the slots 49, 50 and 51. It will be seen by this arrangement that the sleeve 44 is freely slidable and rotatable with respect to the handle A, the movement there-

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of being limited by the length of the slot 48 and the depth of slots 49, 50 and 51 moving longitudinally transverse of the stop 53 within the slot 48 and moving rotatably by entry of the stop 53 into one of the slots 49, 50 or 51. Engagement of the stop 53 into one of the slots 49, 50 or 51, will stop further longitudinal movement and lock the sleeve longitudinally in position upon the handle A.

By the bowing of the rod 39 about the hook-like stop 37, so that the sleeve 44 is urged in a given direction, to the right as shown in FIGS. 1, 2 and 3, the sleeve is constantly urged in a direction so that the stop 53 will fall into one of the slots 49, 50 or 51, when one of these slots is aligned therewith.

There is therefore provided a brush having a minimum of mechanically movable parts, with the brush guide means having the dual function of changing the brush to angular positions with respect to the handle and cooperating with the lock means in securing the brush in a given position. It will be observed that the guide means is constantly spring urging the sleeve 44 so that the stop 53 will have a tendency to fall into one of the slots 49, 50 or 51, so there is no likelihood of the brush changing its angular position once it has been locked in position.

As shown in FIG. 9, the parallel position of the brush with respect to the handle, stop 53 in slot 49, is suitable for scrubbing the near side of a tub; the angled position, stop 53 in slot 50, suitable for scrubbing the far side of the tub; and the substantially 90 degree position of the head with respect to the handle, stop 53 in slot 51, suitable for scrubbing the bottom of the tub.

Various changes may be made to the form of the invention herein shown and described without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. In a brush for scrubbing bath tubs and the like, a handle, a brush pivotally mounted upon said handle, brush guide means mounted upon said handle and co-operatively engaging said brush for angular pivotal movement of said brush with respect to said handle, a sleeve-like member slidably and rotatably mounted upon said handle, said sleeve-like member being provided with a longitudinally extending slot and a plurality of radially extending slots leading from said first mentioned slot, a stop mounted upon said handle for interengagement with said slots, said stop moving within said first mentioned slot for longitudinal movement of said brush guide means and angularly pivotally moving said brush, with

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said stop moving into one of said radially extending slots for preventing further longitudinal movement of said sleeve-like member and locking said brush in a given pivotal position, and spring means constantly urging said sleeve-like member in a direction against said stop for movement of said stop into said radially extending slots.

2. In a brush for scrubbing bath tubs and the like, a handle, a brush pivotally mounted upon said handle, brush guide means mounted upon said handle and co-operatively engaging said brush for angular pivotal movement of said brush with respect to said handle, and a sleeve-like member slidably and rotatably mounted upon said handle, said sleeve-like member being provided with a longitudinally extending slot and a plurality of radially extending slots leading from said first mentioned slot, a stop mounted upon said handle for interengagement with said slots, said stop moving within said first mentioned slot for longitudinal movement of said brush guide means and angularly pivotally moving said brush, with said stop moving into one of said other slots for preventing further longitudinal movement of said sleeve-like member and locking said brush in a given pivotal position, said brush guide means comprising a spring-like rod interconnected at one end thereof to said brush and interconnected at the other end thereof to said sleeve-like member, a guiding eye being provided aligning said rod from its interconnection to said brush and along said handle, and a tensioning stop mounted upon said handle and engaging said rod for applying spring-like tension to said rod so that said spring-like rod will urge said sleeve-like member in a direction for interengagement of said stop with said radially extending slots, for locking the same for given angular pivotal positions of said brush, said tensioning stop being mounted upon said handle intermediate said guiding eye and said lock means.

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