Oct. 16, 1928. 1,687,831

G. COHEN

SCRUBBING BRUSH

Filed April 2, 1927

Fig. 1.

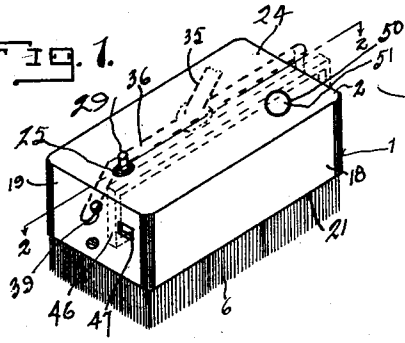


Fig. 2.

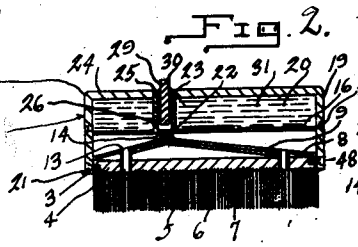


Fig. 11.

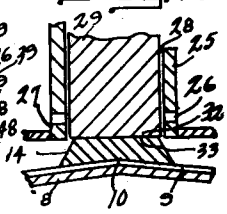


Fig. 4.

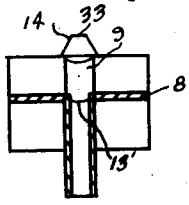


Fig. 3.

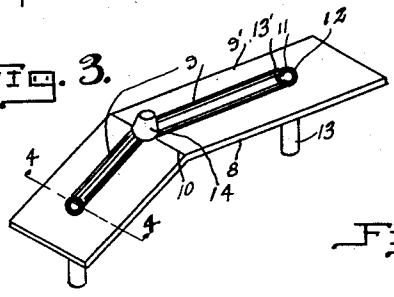
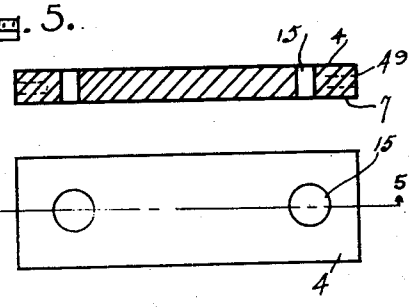


Fig. 5.



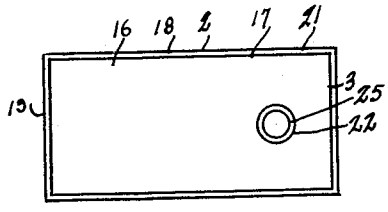
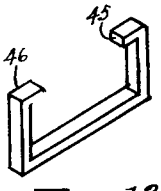


Fig. 6.

Fig. 7.



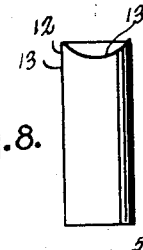


Fig. 8.

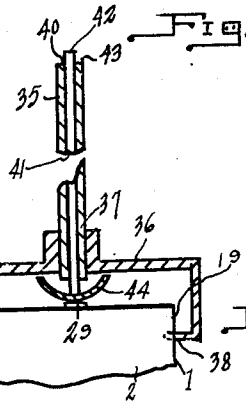


Fig. 9.

Fig. 10.

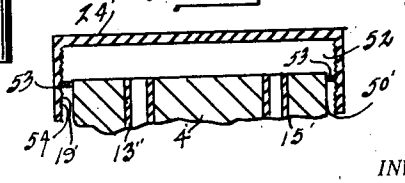


Fig. 12.

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UNITED STATES PATENT OFFICE.

GUSSIE COHEN, OF CINCINNATI, OHIO.

SCRUBBING BRUSH.

Application filed April 2, 1927. Serial No. 180,578.

The invention relates to scrubbing-brushes, particularly although not exclusively, adapted for utilization in scrubbing floors, walls, and the like.

Heretofore, considerable inconvenience, loss of time and expense has been occasioned by the users of scrubbing-brushes in applying soap to the bristles of the brush. Because if the soap is placed in the water while in disuse, a considerable portion of it dissolves and if it is laid upon the floor, while in disuse, valuable time and effort of the user is consumed in reaching or walking to get it when it is desired to apply it to the brush.

Furthermore, the users of the ordinary scrubbing-brushes, when scrubbing a floor, have found it necessary to stoop to the knees for the purpose of applying the brush in frictional contact with the floor, which position is extremely tiresome as well as resulting in the garments covering the knees of the person using the brush becoming soiled, and often saturated with unclean water.

Therefore, the objects of the invention are to provide a simple, efficient and durable scrubbing-brush adapted to contain soap; to provide simple manually operative means to cause the soap to be quickly and conveniently applied to the bristles of the brush in quantities suited to the requirement of the particular work being accomplished, and in accordance with the desires of the user; to provide means whereby the user of said brush may utilize it in scrubbing floors, walls and the like, while standing in an erect position; to provide means whereby the soap is adapted to be applied directly to the bristles of the brush; and to provide means whereby the bristles of the brush and the retainer thereof may be quickly and conveniently substituted for fresh and new ones when the old bristles are worn and require replacement.

The invention consists in the combination of the elements, arrangement of the parts and in the details of the construction, as hereinafter specified and claimed.

In the drawings:

Fig. 1 is a perspective view of the invention, showing parts in dotted lines;

Fig. 2 is a section taken on a line corresponding to 2—2 in Fig. 1;

Fig. 3 is a perspective view of the soap distributor plate;

Fig. 4 is a section taken on a line corresponding to 4—4 in Fig. 3;

Fig. 5 is a section taken on a line corresponding to 5—5 in Fig. 7;

Fig. 6 is a bottom view of the casing and container;

Fig. 7 is a plan view of the bristles retainer;

Fig. 8 is a side-elevation of the distributor tube;

Fig. 9 is a side-elevation showing the invention with the handle attached, and with parts in section and parts broken away;

Fig. 10 is a vertical longitudinal section showing a modified form of the invention, with parts broken away;

Fig. 11 is an enlarged section taken on a line corresponding to 2—2 in Fig. 1, with parts broken away, and showing the distributor in open position; and

Fig. 12 is a perspective view of the handle retainer.

In the preferred construction of the invention, I provide scrubbing-brush 1 of which casing 2 has open bottom 3 adapted to snugly receive retainer 4 of brush 5 having usual bristles 6 suitably secured in the lower side 7 thereof.

In Figs. 3 and 4 is shown a V-shape soap distributor plate 8 (formed from resilient metal) having grooves 9, in its top 9′. The grooves extend from shed 10 to holes 11 having the upper ends 12 of tubes 13 secured therein. In the top 12 of each tube is curved groove 13′ in the side of the tube adjacent shed 10. Suitably secured to the shed 10, and in alignment with holes 11 and grooves 9, is stopper 14 having its circular body tapered outwardly from the shed.

The distributor plate 8 is adapted to fit in opening 3, of casing 2, with the tubes 13 projecting downwardly into holes 15 in bristle retainer 4 in the manner shown in Fig. 2.

Within the casing 2 is plate 16 having its outer edges 17 secured, as by solder, to the inner sides of side-walls 18 and end-walls 19 of the casing, whereby liquid soap compartment 20 is provided in the casing. The plate 16 is spaced a sufficient distance from the bottom edge 21 of the casing, in consider-

ation of the other parts of the invention to permit the edge 21 to be in alignment with the lower side 7 of the retainer 4, as shown in Fig. 2, when the parts of the scrubbing-brush are assembled.

Secured in holes 22 and 23, respectively, in plate 16 and top 24, of the casing, is tubular cylinder 25, having perforations 26 in its lower end 27. Slidably received in hole 28 of the tubular cylinder is push rod 29 having its upper end 30 protruding from casing 2. The stopper 14, fixed to distributor 8, is normally received in the lower end of cylinder 25 to prevent the liquid soap 31 from draining through perforations 26, from compartment 20 onto the distributor.

When downward force is exerted on top 30, of rod 29, the lower end 32, of the rod, is adapted to engage top 33 of stopper 14 (as shown in Fig. 11) whereby the liquid soap 31 contained in compartment 20, of the casing, is adapted to drain through perforations 26, in the lower end 27 of cylinder 25, and thence through the lower end of the cylinder, upon stopper 14 and shed 10, of the distributor, whereby the flow of the liquid soap is divided and conveyed by the grooves 9, through grooves 13′ into tubes 13, from whence it flows in contact with bristles 6 of the brush 5.

When a sufficient quantity of soap has flowed from compartment 20 upon the bristles 6, of the brush 5, downward pressure against top 30 of the push-rod 29 is released, and the compression and tension of the resilient metal in distributor 8 is adapted to force the stopper 14 in hole 28 of the cylinder 25, thereby blocking further flow of the liquid soap from compartment 20 of the casing until the push rod again is manually forced downwardly.

In Fig. 9 is shown handle 35 having arms 36 suitably secured to its lower end 37. The ends 38 of the arms may be manually spread from each other to be rotatably received in holes 39 in the ends of the casing. Received through the hole 40, and extending longitudinally of the handle, is staff 41 having its upper end 42 protruding from the outer end 43 of the handle, whereby the scrubbing-brush 1 may be moved in frictional contact with the floor, wall, or the like, as by manually operating the handle. When the user desires to apply soap in contact with the bristles 6, the operator simply presses the upper end 42 of staff 41 downwardly, whereby the lower end 37 of the staff operatively engages the top 30 of push-rod 29, thereby forcing the stopper 14 from hole 28 in cylinder 25.

For the purpose of supplying a support against the handle 35 falling to the floor when manual grasp is released from the handle, the rectangular ends 45 of support 46, shown in Fig. 12, may be inserted in holes 47 in ends 19 of casing 2, whereby the arms 36, of the handle 35, is adapted to contact the support and limit the movement of the handle in the direction toward the support. The arrangement is represented by dotted lines in Fig. 1. However, for use with the design of handle 35 as shown, the push-rod should be centrally disposed of the top 24 of the casing, or the handle may be designed for utilization in consideration of the push-rod, whereby curved member 44 is adapted to engage the top of the push-rod.

For the purpose of releasably maintaining the retainer 4 in open bottom 16 of the casing, the screws 48 are received in the lower edge of the casing, and their inner ends are threaded in ends 49 of the retainer, whereby when the bristles become worn, the screws may be removed and a new brush may be quickly and conveniently secured in position for use with the casing 1.

In hole 50 in the top of the casing is threaded plug 51, whereby the casing may be refilled with liquid soap by unscrewing the plug.

The push-rod 29 may be positioned at the side of casing 1, or in other positions not shown in the drawings, but when handle 35 is incorporated with the invention it is important for the push-rod to be positioned beneath curved members 44.

In Fig. 10, I show a modified form of the invention adapted to contain paste or cream soap and tubes 13″ are secured in holes 15′ in retainer 4′, slidably received in compartment 52 of the casing. Extending outwardly from ends 50′ of the retainer are springs 53 adapted to engage teeth 54 in the inner surface of end 19′ of the casing, whereby downward pressure on the top 24′ of the casing is adapted to force the retainer upwardly within the compartment of the casing, and the soap paste or cream is forced through tubes 13″ upon the bristles (not shown) suitably secured in the retainer. When the casing is to be refilled, the retainer 4′ is removed from the compartment 53 of the casing.

An advantage of the invention is that the purchase cost of liquid or paste soap is less than cake soap, whereby the invention tends to save a user enough money, in a short time, to pay for my improved scrubbing-brush. Moreover, if desirable the brush may be utilized for the purpose of spreading paint, varnish, oil and the like. In some instances, it may be advantageous to substitute felt, material or the like for the bristles.

It is apparent that I have invented a highly desirable device for the purposes intended and which may be utilized for various kinds of brushes, such as tooth-brushes or other kinds of brushes, where it is desirable to apply a liquid or paste in contact with the bristles thereof.

The use of the invention tends to increase the safety of persons who use scrubbing-brushes with cakes of soap, because as is well known many serious accidents have occurred as a result of persons accidentally stepping upon a cake of soap which is very slippery and may easily cause the person to fall.

While I have chosen to illustrate the forms and constructions of the invention by the herein drawings and explanations of the same, it is understood that the invention resides in the combination, arrangement of the parts and in the details of the construction, as hereinafter claimed. It is further understood that changes in the precise embodiment of the invention, as disclosed herein, can be made within the scope of what is claimed without departing from the spirit of the invention, as other expedients may readily suggest themselves to the art.

What I claim as new and desire to secure by Letters Patent is:

1. A scrubbing-brush comprising a casing having a soap containing compartment therein, a brush secured to said casing and positioned below said compartment, a resilient distributor in said casing and having grooves therein, means to convey the soap from said compartment to said grooves, means to convey said soap from said grooves to the bristles of said brush, and means connected with said distributor and adapted to automatically stop the flow of said soap from said compartment.

2. In a scrubbing-brush, a retainer having a hole therein, bristles secured in said retainer, a casing having an open side adapted to receive said retainer and having a hole in its top, a resilient V-shape distributor having a hole therein, and having a groove in its upper side leading to said hole, a tube secured in said holes in said retainer and said distributor and leading to said bristles, a stopper fixed to said distributor, a plate fixed in said casing above said distributor, whereby a compartment for containing liquid soap is provided in said casing and said plate having a hole therein, a cylinder having its upper and lower ends respectively fixed in said holes in said casing and said plate, and having a perforation in its lower end, and said stopper normally received in the lower end of said cylinder, and releasably retained therein by pressure of said distributor, and means received in said cylinder whereby manual pressure of said means is adapted to force said stopper from said cylinder and said liquid soap is adapted to flow from said compartment to said bristles.

3. In a scrubbing-brush, a retainer having a hole therein, bristles secured in said retainer, a casing having an open side adapted to receive said retainer and having a hole in its top, a V-shape distributor having a hole therein, and having a groove in its upper side leading to said hole, a tube having a curved groove in its top and secured in said holes in said retainer and said distributor and leading to said bristles, a stopper fixed to the upper side of said distributor, a plate fixed in said casing above said distributor, whereby a compartment for containing liquid soap is provided in said casing having a hole therein, a cylinder having its upper and lower ends respectively fixed in said holes in said casing and said plate, and having a perforation in its lower end, and said stopper normally received in the lower end of said cylinder and a rod slidably received in said cylinder and having its upper end protruding from the top of said casing whereby manual downward pressure of said rod is adapted to force said stopper from said cylinder, whereby said liquid soap is adapted to flow from said compartment to said bristles.

4. In a scrubbing-brush, a retainer having a hole therein, bristles secured in said retainer, a casing having an open side adapted to receive said retainer and having a hole in its top, a resilient distributor having a hole therein, and having a groove in its upper side leading to said hole, a tube having its lower end received in said hole in said retainer and having its upper end received in the hole in said distributor and said tube leading to said bristles, a stopper fixed to the upper side of said distributor, a plate fixed in said casing above said distributor, whereby a compartment for containing liquid soap is provided, and said plate having a hole therein, a cylinder having its upper and lower ends respectively fixed in said holes in said casing and said plate, and having a perforation in its lower end, and said stopper normally received in the lower end of said cylinder, and a push-rod slidably received in said cylinder and having its upper end protruding from the top of said casing, whereby manual downward pressure of said rod is adapted to force said stopper from said cylinder and said liquid soap is adapted to flow from said compartment to said bristles.

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