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COMBINED SPONGE AND BRUSH TOILET BOWL CLEANER

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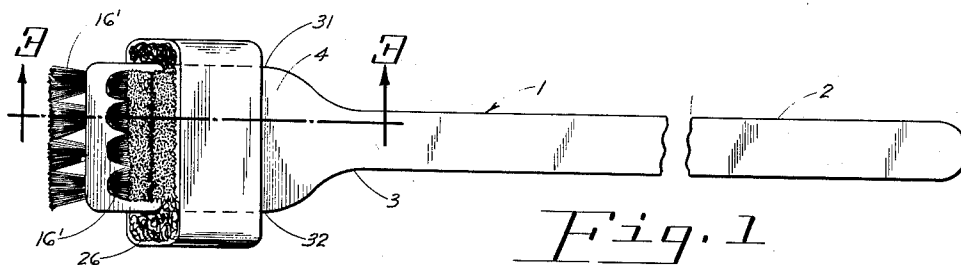


Fig. 1

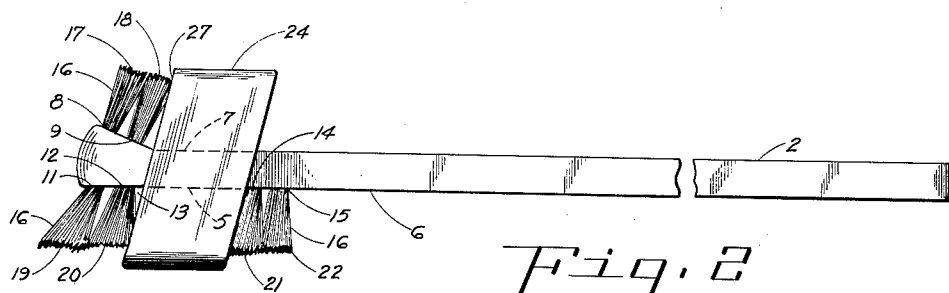


Fig. 2

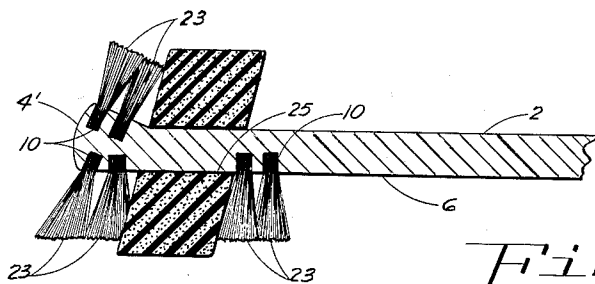


Fig. 3

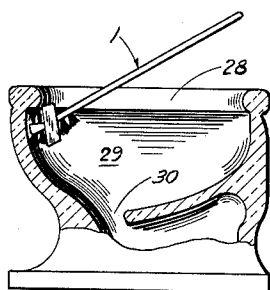


Fig. 4

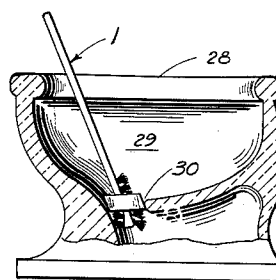


Fig. 5

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COMBINED SPONGE AND BRUSH TOILET BOWL CLEANER

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3 Claims. (Cl. 15—115)

The invention relates to means particularly adapted to clean toilet bowls, inside and outside.

An important object of the invention is to provide simple, efficient, economical and practical means capable of being conveniently and manually operated to clean toilet bowls, including the under side of the rim or head of the bowl.

Other objects of the invention are to provide a brush capable of being quickly and conveniently manually operated for cleaning toilet bowls and other objects without necessity of frequently immersing or dipping the brush into water or other cleansing liquid; to provide practical and economical means for enabling persons who desire to clean toilet bowls particularly and other surfaces to do so conveniently and relatively swiftly; to provide means to efficiently and with dependability retain said water or other cleansing liquid adjacent bristles in the brush head; and to provide a brush having rubbing or scouring surfaces with different characteristics.

Other objects of the invention will be apparent by reference to the drawings and hereinafter description.

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

In the drawings:

Fig. 1 is a plan view of the invention;

Fig. 2 is a side elevational view of the invention;

Fig. 3 is a section taken on the line 3—3 in Fig. 1;

Fig. 4 is a vertical section taken through a toilet bowl showing the invention in position for cleaning the lower side of the lip of the bowl; and

Fig. 5 is the same showing the trap of the bowl being cleaned.

In the preferred construction of the invention I provide the brush 1 comprising the manually operated handle 2 having integrally connected with its inner end 3 the enlarged head 4 which has its bottom or lower side 5 substantially in longitudinal alignment with the lower side 6 of the handle 2. The handle 2 and the head 4 may be formed from wood, or other suitable material.

The top or upper side 7 of the head 4 extends and is disposed at an inclined angle to the lower side 5 of the head. The top outer end portion of said head 4 is inclined upwardly and outwardly from the handle 2. In the top 7 of the head 4 are two rows 8 and 9 of aligned drilled holes 10.

As above mentioned the bottom or lower side 6 of the head 4 is aligned longitudinally with the lower side 6 of the handle 2, and in the bottom 6 are two rows 11 and 12 of spaced aligned spaced apart holes 10 separated by the space 13 from the two rows 14 and 15 of aligned and spaced apart holes 10.

In each of the holes 10 are fixed a plurality of bristles 16 whereby rows or sets 17, 18, 19, 20, 21 and 22 of clumps 16 of bristles are provided. The bristles consist of stiff, coarse hairs or the appendages of certain plants.

The rows 8 and 9 of the holes 10 are drilled with

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their walls extending upwardly and outwardly with respect to the inclined top 7 whereby the rows 17 and 18 of the bristles extend at right angles to the inclined top.

The holes 10 in the row 11 are drilled at an angle to the bottom 5 of the head 4 and the walls of the holes in row 11 extended downwardly and inwardly of the bottom 5 whereby the outer ends of the row 19 bristles 16 extend downwardly and outwardly of the bottom 5 and beyond a vertical plane taken through the outer edge 4' of the head 4.

The holes 10 in the rows 12, 14 and 15 are drilled with their side walls at right angles to the bottom of the brush head 4. In each hole of the rows 12, 14 and 15 the bristles 16 extend downwardly and at right angles to the bottom of the head.

The outer ends 23 of the bristles 16 in all rows 17, 18, 19, 20, 21 and 22 are trimmed or cut to form relatively flat outer ends to each clump of bristles.

Positioned around the head 4 is the doughnut shape collar or liquid absorbent element 24 formed from porous resilient material, as sponge rubber, which can be strained to near the extreme limit within which it can be strained again and again without the material breaking or taking a permanent set. The collar 24 has the hole 25 therein in which the head 4 is received. The material from which the collar 24 is formed has formed therein a plurality of cavities 26 provided with one or more inhaled and exhaled artifice through which water or other liquid flows or pours in and out each cavity, whereby, when compressed from its natural or original state or formation, while in water or other liquid, and afterward pressure from the material is released the resiliency of the material causes it to assume its natural state or form and while doing so the material absorbs said water or other liquid which is forced into the cavities, or when the material is immersed in water or other liquid, the latter is naturally absorbed by the material. When pressure is exerted externally of the collar 24 the material from which it is formed is compressed thus forcing the water or other liquid from the cavities 26.

The collar 24 is positioned in the space 13 between and in contact with the rows or sets 20 and 21 of the bristles and in contact with the row 18 of the bristles. The sets 20 and 21 of the bristles retain the collar 24 in predetermined position on the head 4. The front outer edge 27 of the collar 24 protrudes slightly beyond the outer ends of the bristles.

When the brush is in use, the operator (not shown) grasps the handle 2 of the brush 1 and immerses the head 4 in clean water or a specially prepared cleansing liquid, and causes the collar 24 to be saturated with the liquid, and at the same time the bristles 16 are soaked with the liquid. Then either or both rows 20 and 21 of the bristles 16 are manually moved in frictional contact with the inner portion of the lower side of the head or lip 28 of the toilet bowl 29, as shown in Fig. 4, and the collar 24 simultaneously contacts and cleans the outer portion of the lip. Without necessity of the operator again immersing the head 4 in the cleansing liquid, the head may be used to clean other surfaces of the toilet bowl and the trap 30, as shown in Fig. 5, since cleansing liquid remaining in the cavities 26 of the collar 24 gradually oozes out during movement of the head 4 and frictional contact of the bristles and collar with the surface being cleaned. The side edges 31 and 32 of the head 4 has the collar in contact therewith and the collar may be used to scour or clean relatively tender surfaces which the bristles may scratch.

An advantage of the invention resides in the adaptability of the collar 24 to absorb and retain for a period of time a liquid, as water or suitable cleansing agent, whereby when pressure is exerted manually on the handle 2 to

cause the outer surface or edge of the collar 24 to contact a toilet bowl, or other surface being cleaned, the thickness of the collar will be reduced or squeezed thereby reducing the size and cubical area of the spaces or cavities 26 in the collar whereby the water or other liquid cleaning agent saturated in the collar is forced from the collar onto the toilet bowl, or other surface being cleaned, and also the liquid or other cleaning agent is forced from the cavities onto the adjacent bristles, and then the head 4 is manually moved parallel with the toilet bowl or other surface being cleaned and with the collar 24 and the outer ends of the bristles in frictional contact therewith, and the toilet bowl or other surface being cleaned is conveniently and efficiently cleaned without necessity of frequently removing the collar 24, and the bristles 16 from contact with the toilet bowl, or other surface being cleaned, and subsequently dipping the head, collar and bristles into water or other liquid cleaning agent in order to supply fresh liquid into and onto the bristles. Thus, considerable time, effort and inconvenience of the operator of the brush 1 is saved.

Another advantage of the invention is that the top 7 of the head 4 is inclined upwardly and outwardly whereby when the brush is utilized to clean the under surface of the lip 28 of the toilet bowl 29 the handle 2 may be held by the operator substantially in inclined position and the bristles 16 in row 8 very readily enter crevices, grooves or other indentations of the lower parts of the lip when the head 4 is manually moved in various and suitable directions with the bristles in frictional contact with the lip.

Another advantage of the invention is that the head 4 may be manually inserted into the hole or trap 30 of the toilet bowl and moved by the operator in various directions and also rotated while the bristles and the collar are in frictional contact with the adjacent surfaces of the bowl.

Still another advantage of the invention is that when it is desired by the operator to clean relatively tender surfaces that may be scratched by frictional contact of the bristles, the brush may be held by the operator with the side edge of the collar in contact with the tender surface, and the relatively soft surface of the collar may be applied frictionally to the surface thereby eliminating possibility of the bristles scratching or marring such tender surface.

Still another advantage of the invention is that the resilient collar 24 is held in stationary position on the head 4 as by being positioned between the rows 12, 14, and 18 of the bristles whereby not only may the brush head be moved by the operator in contact with a surface being cleaned in a direction of a plane taken transversely of the brush and through its side edges, but also the brush held may be manually moved in frictional contact with the surface being cleaned in a direction of plane taken longitudinally of the brush, and without any likelihood of the collar's position on the head being disturbed or varied.

I believe that the form of the invention illustrated in the drawings, and referred to in the above description, as the preferred embodiment, is efficient and practicable. However, realizing that the conditions concurrent with the adoption of the invention will vary, I desire to emphasize the fact that changes in the details may be resorted to, as for instances in materials used to form the collar and the bristles and the relative location of the various parts with-

out sacrificing any of the advantages of the invention, as defined in the claims.

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

1. In a device of the class described and comprising a manually operative handle having an enlarged head integrally formed with one end thereof, said head when the handle extends horizontally having the outer portion of the top thereof inclined downwardly and inwardly, the bottom of said head being aligned longitudinally with the bottom of said handle, a plurality of bristles being fixed in the bottom of said head some of which extend beyond the front outer edge of said head, a plurality of bristles being fixed in the top of said head and extending substantially at right angles with said inclined portion, a collar formed from sponge rubber encircling said head, the outer periphery of said collar being beyond the outer ends of said bristles extending from said top and bottom of said head, and means to retain said collar in stationary position on said head, said means comprising a plurality of said bottom bristles.

2. In a device of the class described and comprising a manually operative handle having an enlarged head integrally formed with one end thereof, said head when the handle extends horizontally having a portion of its top inclined downwardly and inwardly, the bottom of said head being aligned longitudinally with the bottom of said handle, a plurality of bristles being fixed in the bottom of said head and extending beyond the front outer edge of said head, a plurality of bristles being fixed in the top of said head and extending substantially at right angles with said portion of the top, a collar formed from sponge rubber encircling said head, the outer periphery of said collar being beyond the outer ends of said bristles extending from said top and bottom of said head, and means to retain said collar in stationary position on said head.

3. A cleaning device comprising a handle, a head integral with said handle, said head having a portion of one side thereof inclined at an angle to said handle, a plurality of bristles being fixed to the inclined portion of said head, said bristles extending inwardly toward the said handle, additional bristles being fixed in spaced apart relationship on said head, and resilient cleaning means on said head intermediate certain of said last mentioned bristles and retained in predetermined position on said head by said last mentioned bristles.

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