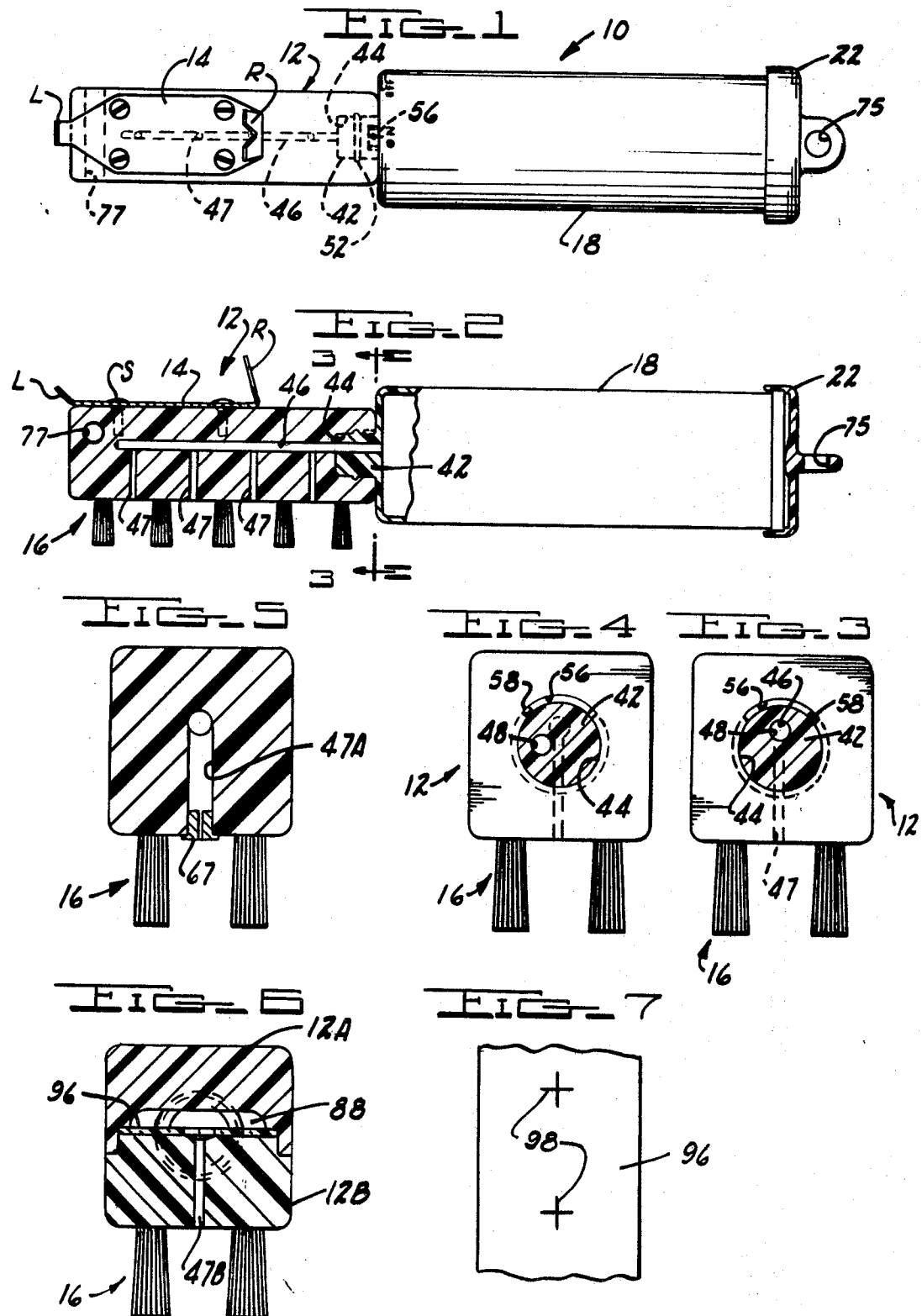


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BRUSH CONSTRUCTION

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BRUSH CONSTRUCTION

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8 Claims

ABSTRACT OF THE DISCLOSURE

A brush construction, wherein the brush is secured to a hollow, resilient container, with a valve intermediate the resilient container and brush to control the flow of liquid in said container when said container is squeezed and the liquid is exhausted through a plurality of openings in said brush onto the surface to be cleaned. Additionally, scraper means are provided to assist in the cleaning operation after the debris has been softened by the liquid.

It is a primary object of the present invention to provide a portable liquid dispensing brush construction which is adaptable for use in the cleansing of symmetrical as well as nonsymmetrical objects.

Another object of the invention is the provision of an inexpensive, durable hand tool that is simple and light weight which can be used by adult and child alike.

Still another object of this invention is the provision of a liquid dispensing brush construction which can be used among other things for the cleaning of golf club heads, both on and off of the course, as well as the spikes on golf shoes and the wheels of the player's golf cart.

Additionally, another object of the instant invention is the provision of a liquid-detergent dispensing brush construction which has scraper means secured thereto for cleaning the grooves in golf club faces, as well as providing means for cleaning barbecue grills and the like, after a picnic.

From the above, it is noted that the present invention has many applications, both household and otherwise and the objects thereof can be accomplished by the provision of a liquid dispensing brush construction having a brush of unitary or multiple piece construction or configuration, a liquid inlet and outlet in said brush, means in said brush for receiving a resilient liquid container, an opening in said resilient container which forms a filler means therefore, a closure means for said filler means, a second opening in said resilient container disposed within said receiving means in said brush, a valve intermediate said second opening in said resilient liquid container and said liquid outlet in said brush, compression of said resilient liquid container operating to dispense liquid from said container, through said brush and onto the surface or object to be cleaned when said valve is opened.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification, wherein like reference characters designate corresponding parts in the several views.

In the drawings:

FIG. 1 illustrates a plan view of a liquid dispensing brush construction which embodies the present invention.

FIG. 2 shows an elevational view of the brush illustrated in FIG. 1, with the brush portion thereof being shown in section, as is a portion of the resilient liquid

container and closure means therefore, which forms the handle thereof.

FIG. 3 is a section taken substantially along lines 3-3 of FIG. 2 illustrating the open position of an eccentric shut off valve.

FIG. 4 is a view similar to FIG. 3 which shows the valve in the off position, through rotation of the resilient liquid container handle.

FIG. 5 is a modified form of the present brush construction wherein the manifold outlets of the brush are fitted with small independent orifices for ease of manufacture and flow control of the dispensed liquid.

FIG. 6 is a modified form of the brush as used, in which a diaphragm is disposed between the upper and lower sections thereof, compression of the liquid to be dispensed opens the valve therein.

FIG. 7 illustrates the diaphragm shown in FIG. 6.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Looking now at FIG. 1 of the drawings, it will be observed that the complete brush assembly is identified by the numeral 10. The head or brush portion 12 has secured thereto, a scraper member 14 adjacent the brush section 16. Additionally, secured to the head 12 is a resilient handle member 18 fitted with a closure member 22 on the outer end thereof. All of the above is also illustrated in FIG. 2 of the drawings.

The head portion 12 is of generally symmetrical configuration and has located therein a plurality of bristles, wire, nylon tufts or combination thereof, which are secured by any suitable means, such as vulcanizing, etc. Centrally positioned in the right end of the brush head 12 is a cylindrical step-opening for receiving the cooperable cylindrical end 42 of the resilient handle member 18, which is hollow. The larger of the openings is identified by the numeral 44 and can be seen in FIGS. 1-4. The smaller opening can be seen in FIGS. 1-5 respectively and identified as numeral 46. A similar opening 48 is eccentrically located in end of the resilient container for the egress of liquid therethrough when the resilient container 18 is squeezed when the rotary valve is opened. The valve consists of two axial openings eccentrically located with respect to each other, wherein alignment of the respective axial openings will permit the passage of liquid therethrough, while displacement thereof causes mis-alignment of said openings and fluid passage is no longer possible. This is best observed in FIG. 3, wherein the rotary valve is open and in FIG. 4, wherein the rotary valve is closed.

In this valve, a circumferential flange 52 is located integral with the cylindrical end 42 of the hollow resilient handle member 18 and cooperates with a groove of similar configuration in the head portion 12. It will be readily apparent that when the respective flat end of the cylindrical opening 44 is in abutment with the corresponding flat end portion of the cylindrical section 42 that rotation of the handle 18 with respect to the head portion 12 will open and close the valve. To limit the rotation of the valve rotary, an undercut section is provided in the head portion head 12 and extends arcuately about the circum-

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ference of opening 44 a sufficient amount to permit misalignment of the respective openings 46 and 48. The arcuate undercut is shown by numeral 56. A longitudinal tab 58 is provided on the outside diameter of the cylindrical section 42 and is adapted to abut and engage the ends of the arcuate section 56 to limit the rotation thereof.

As will be noted in FIGS. 1 and 2, a number of openings 47 are provided in the head portion 12 each being directed toward the brushes so as to provide a manifold for the egress of liquid. Should better distribution be found desirable or necessary, it will be seen in FIG. 5, that opening 47A is fitted with an orifice 67 which can be used. The fitted orifices may of course all be of the same size, or of differing sizes without departing from the spirit of the invention, to obtain the proper flow characteristics.

In FIG. 6, a diaphragm valve structure is illustrated. In this embodiment, a diaphragm is disposed between the two mating members of the brush head portion 12A and 12B respectively. Members 12A and 12B are cemented together or otherwise securely joined together while the diaphragm is cemented to the lowermost member 12B. Therefore, when fluid is passed into the chamber 88 above the diaphragm and the fluid container is compressed, the "X" in the diaphragm identified by numeral 98 will be displaced and fluid will pass through the outlet 47B. The valve diaphragm is shown by the numeral 96.

In each and all of the above described modifications, the scraper member is removably secured to the top of the head portion 12. The left end of the scraper is shown disposed in angular relationship to the end of the head, with the body portion thereof being in parallel relationship and is shown in this manner for purposes of illustration, since this portion thereof might also be disposed in parallel relationship with the sides of the head portion 12. This portion of the scraper member is especially useful in removing the debris from the grooves in the faces of golf clubs, although it has other utility.

The rearmost or left end of the scraper member is also angularly disposed with respect to its base and is bifurcated to permit the cleaning of the spikes on golf shoes as well as the scraping of the wires on a barbecue grill or the like.

While the resilient closure member 22 of the cylindrical handle has illustrated a snap over flange type closure 22, it may be internally or externally threaded on the end of the hollow fluid container and may or may not be fitted with a tab having an opening 75 therein. The same may be said for the opening 77 in the head which can be used for hanging this tool if desired, or looping a string there-through.

From the foregoing description, it is apparent that the present invention is simple, durable and utilitarian. In addition, because of its size and weight, it is portable. It can be used in the home by the housewife, in the garage by the man of the household as well as by a sportsman.

Having thus described my invention, I claim:

1. In a fluid dispensing brush, the combination of,
 - a rectangular brush head;
 - a hollow cylindrical resilient fluid container which forms a handle secured to said brush head;
 - flat, generally parallel ends on said hollow cylindrical resilient container;
 - axial ingress and egress means in said hollow cylindrical resilient container;
 - a flange on each end of said hollow cylindrical resilient container;
 - closure means cooperable with one of said flanges on the ingress means of said hollow cylindrical resilient container;
 - ingress means and egress means in said rectangular brush head;
 - a generally flat bottomed cylindrical opening in one end of said brush head, said cylindrical opening having an undercut portion cooperable with the flange

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portion on said hollow cylindrical resilient container to position the flat end of said resilient container in abutment with the flat bottomed cylindrical opening in said brush head;

cooperation between the egress means in said resilient container and the ingress means in said brush head providing a rotationally controlled valve means when said means are positioned in alignment;

compression of said cylindrical resilient container displacing the fluid contained therein through said egress and ingress means when said rotationally controlled valve is open.

2. A brush construction as in claim 1, wherein the rectangular brush head is fitted with a scraping means, said scraping means secured to the back of said brush head, one end of said scraping means having a bifurcated portion thereon, while the other end thereof is squared, with the respective top edge surfaces of each respective portion thereof being in generally parallel relationship with each other as well as the back surface of the brush head, the said bifurcated portion and said squared end portion while being angularly disposed, the angular relationship need not be parallel.

3. A brush construction as in claim 1, wherein the closure means is resilient, the inner diameter thereof having an undercut portion thereon, adapted to cooperate with a flange on the outer diameter of the resilient handle, with vent means intermediate thereof, the end portion thereof having an integral loop member thereon.

4. A brush construction as in claim 1, wherein the rotary valve intermediate the abutting flat surfaces of the resilient cylindrical container and the flat bottomed opening in the brush head incorporates the displacement of at least two eccentrically positioned axial openings therein into alignment to open said valve.

5. A brush construction as in claim 1, wherein said rotary valve structure has limiting means on each of the interengaging cylindrical surfaces of the respective members, an undercut on the circumference of the brush head opening disposed about a predetermined arc, while a tab extends from the cylindrical resilient container in such a manner as to engage the ends of the arcuate undercut and limit the rotation of the respective members.

6. A device as in claim 1, wherein the rectangular brush head is fitted with a scraping means secured to the flat back thereof, one end of said scraping means having a bifurcated portion thereon, while the other end thereof is squared, with the respective outer edges thereof being in generally parallel relationship with each other as well as the back surface of the brush head and the ends thereof, the bifurcated and squared portions being disposed in angular relationship to each other and the back and ends of the brush head.

7. A device as in claim 6, wherein the rotary valve incorporates the use of two abutting flat surfaces co-axially positioned and having at least two axial passages therein which are eccentrically positioned and adapted for alignment, limiting means being provided on the coaxial co-operable surfaces to permit accurate alignment and misalignment of the respective passages.

8. A brush as in claim 1, wherein the egress means in said handle is in the form of an eccentric passage, while the ingress means in said brush head is also in the form of an eccentric passage, rotational displacement of the respective members providing a means for alignment of said passages to open said handle and brush passages and permit the flow of fluid therethrough when said resilient handle is compressed.

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