May 30, 1950 M. SOSS 2,509,992

DISPENSING BRUSH

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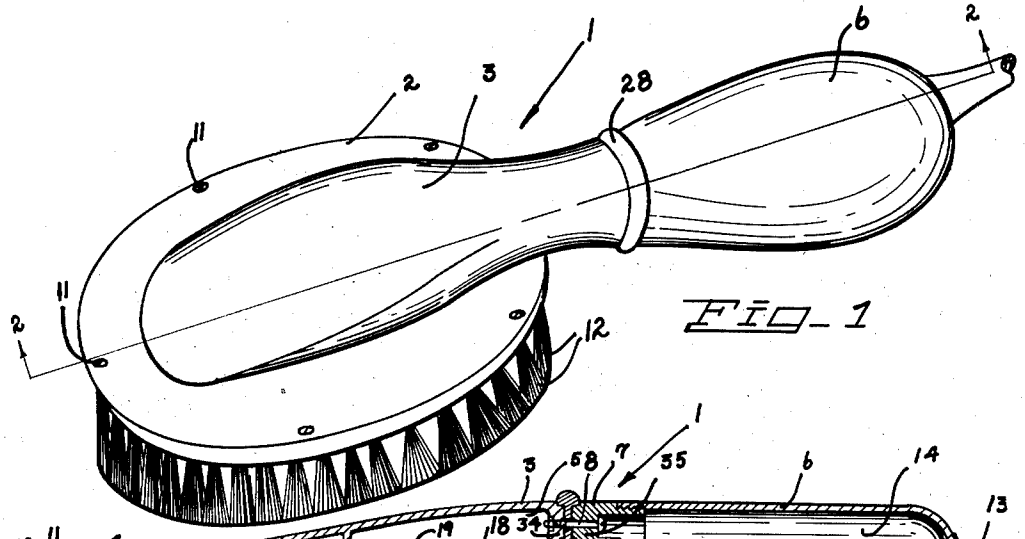


Fig. 1

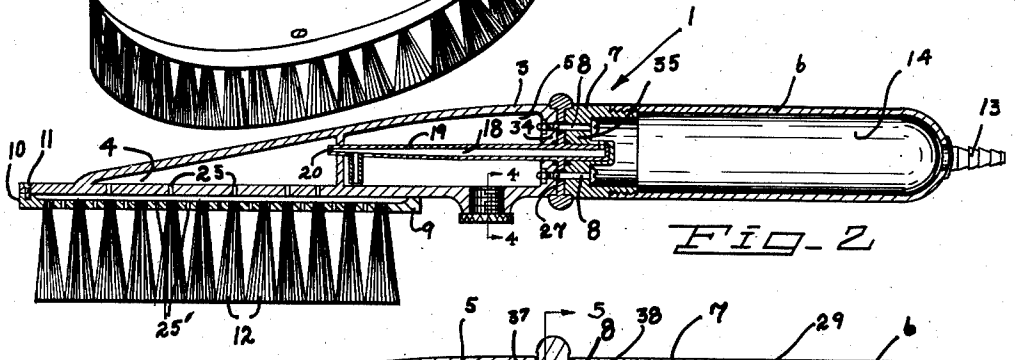


Fig. 2

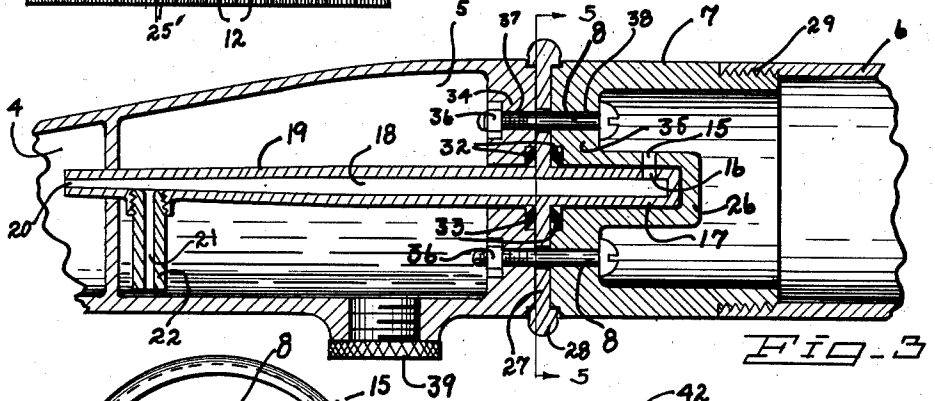


Fig. 3

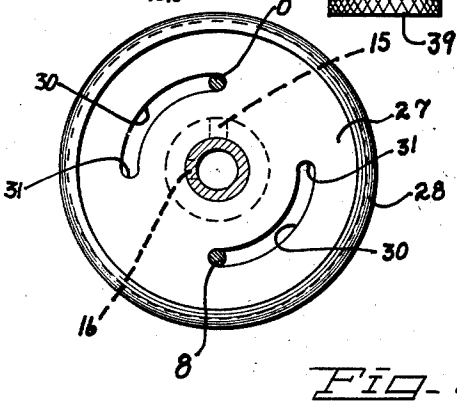


Fig. 5

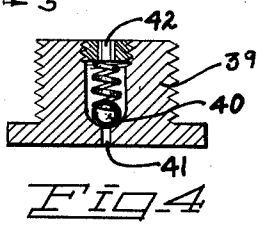


Fig. 4

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DISPENSING BRUSH

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3 Claims. (Cl. 15—129)

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This invention relates to brushes, and certain objects of the invention are to provide a brush having a compartment for liquid solutions such as soap or ammonia, and a compartment for water which is in direct communication with the brush bristles, and controlled by valve action, the said valves allowing the desired percentage of the solution to be mixed with the water before entering the brush bristles.

Another object of the invention is to provide a means whereby the brush may be used with or without a running supply of water, positive valve control means for the solution, and means whereby the running water is supplied evenly and with reduced force to the water compartment.

Another object of the invention is to provide a rotary type control valve mounted in the handle of the brush and when operated, permits the water to pass through a tube and discharge from a jet, which causes a vacuum within the soap compartment, drawing the soap solution therefrom and mixing the said solution with the water, and means whereby the mixture is delivered from the mixing chamber to the bristles.

With the above other objects will appear as the description progresses. The invention consists of the novel construction, adaptation, combination and arrangement of parts hereinafter described and claimed. These objects are accomplished by devices illustrated in the accompanying drawing; wherein:

Fig. 1 is a view in perspective of the assembled brush.

Fig. 2 is a view in longitudinal section taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary view showing the valve in an enlarged section.

Fig. 4 is a sectional view of the vent valve taken on line 4—4 of Fig. 2.

Fig. 5 is a sectional view showing the valve taken on line 5—5 of Fig. 3.

Referring to the drawings, throughout which like reference numerals designate like parts, the brush 1 as a whole, comprises a cover 2, which is cast integral with a head portion 3 and contains a mixing chamber 4 and a solution chamber 5. A handle 6 is secured to an intermediate section 7 which is bolted to the head portion 3 by bolts 8. A disk or plate 9 is provided with a rim 10, which contacts the underface of the cover plate 2 and is attached thereto by screws 11.

The plate 9 is preferably made of plastic material and is drilled to receive the bristles 12 in the usual manner. The water is conveyed to the brush through a hose which is attached to a

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coupling 13 imbedded in the end of the handle, through which the water flows into the chamber 14 of the hollow handle 6. From this chamber the water flows through ports 15 and 16. The port 16 is formed in the side wall of a stem portion 17, of the valve and when the ports 15 and 16 are in alignment, the water flows through the ports and into an opening 18 extending longitudinally through a tube 19. As the water leaves the end portion through a restricted opening 20 of the tube 19, a partial vacuum is formed in the port 21 of a stem 22 screwed into the lower side of the tube 19, which partial vacuum draws a prepared solution from the chamber 5 through the port 21. The mixed solution enters the chamber 4, where it is distributed over the complete inner surface of the bottom wall of the chamber 4. Perforations 25 and 25' formed through the wall of the chamber 4 and through the plate 9 respectively allow the mixed solution to flow into the bristles of the brush while being used.

The water stream is controlled by the valve which has the stem 17 revolvably mounted into a boss 26 carried by and located centrally of the member 7. The valve stem 17 protrudes from a disk 27, which is circular and is provided with a rim 28. This rim extends beyond the periphery of the brush handle and can be operated by revolving the said disk to the right or left, a one-quarter turn, the movement of which is controlled by bolts 8, extending through slots 30 in the disk.

By revolving the disk or valve to the right, the ports 15 and 16 are aligned, permitting the water to flow into the stem 17. To control the flow, the valve may be turned to an adjusted position in which the openings 15 and 16 allow the amount of water required to flow to the brush, or it may be entirely shut off by revolving the valve in the reverse direction until the bolts 8 contact the ends 31 of the arcuate slots 30. Gaskets 32 are placed on both sides of the disk and rest in recesses 33 formed in the contacting end walls 34 and 35 of the head 3 and the handle section 7, thus preventing the water from leaking past the disk.

To assemble these numbers the disc 27 is placed between the head 3 and the handle section 7 with its valve stem 17 fitting into the boss or socket 26 and the tube 19 extending longitudinally through the chamber 5. Nuts 36 are cast in the head portion 34. The heads 34 and 35 are provided with openings 37 and 38 to receive the bolts 8. Before the handle 6 is screwed at 29 to the member 7, the bolts 8 are passed through

the openings 37 and 38 and by applying a screw driver to the slots in the heads of the screws, they are threaded into the nuts.

A filler plug 39 is provided at the underside of the member 3 and normally closes an opening through which a desired solution may be poured to fill the chamber 5. To permit the solution to be removed from the chamber 5, it is necessary to vent the chamber.

To accomplish this, I have provided a spring held ball 40, which seals a port 41. When a partial vacuum is created in the chamber 5, the spring allows the ball 40 to rise to an open position out of closing relation to the port 41 and air passes through ports 41 and 42 into the chamber 5.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:

1. A fountain brush comprising a cover plate, a hollow head upon said plate having a portion extending rearwardly from the plate and formed with an opening at its rear end, a partition extending transversely in said head and dividing the head into front and rear chambers, the rear chamber being formed with a filling opening, said plate having a portion constituting a bottom wall for the front chamber formed with outlet openings, a perforated backing plate carrying tufts of bristles and formed with outlet openings between the tufts, a flange about the margin of said backing plate secured to the cover plate and holding the backing plate spaced from the cover plate, a hollow handle having a water inlet at its rear end and having its front end formed with a socket aligned with the opening at the rear end of said head, a valve-controlled tube extending longitudinally through the rear chamber and having its rear portion mounted in the aligned opening and socket, said tube and socket formed with openings for flow of water from the handle into the rear of said tube, said tube having its front end portion passing through the partition into the front chamber, and a tubular stem disposed vertically in the front end portion of the rear chamber under said tube and having its upper end mounted in an opening formed in the tube and communicating with the bore of the tube.

2. A fountain brush comprising a plate, a hollow head over said plate having a portion projecting rearwardly from the plate, a transverse partition dividing the hollow head into front and rear chambers, said plate having a portion forming a bottom for the front chamber and perforated to provide outlets, bristles mounted under the plate in position to be moistened by liquid flowing through the perforations in the plate, a hollow handle aligned with the rear end of said head and provided with a water inlet,

the front end of the handle being provided with a socket and the read end of the head with an opening registering with the socket, a tube extending longitudinally through the rear chamber and having its front end passing through said partition and its rear portion rotatably mounted in the registering opening and socket, said socket having an opening formed through the upper portion of its wall and said tube being formed with a side opening moved into and out of registery with the opening of the socket by turning adjustment of the tube, and a tubular stem extending laterally from the tube at the front end of the rear chamber and moving with the tube from a horizontal position transversely of the rear chamber to a depending position towards the bottom of the rear chamber when the tube is turned to a position disposing its side opening in registry with the opening formed through the wall of the socket.

3. A valve structure for fountain brushes comprising confronting walls, one wall being formed with an opening and the other with a socket aligned with the opening of the first wall and having a closed end and a side opening adjacent its closed end, a tube rotatably passing through the opening of the first wall and into the socket of the second wall and having a closed end abutting the closed end of the socket, said tube being formed near its closed end with a side opening moved into and out of registry with the side opening of the socket by rotation of the tube, a disk surrounding said tube and disposed between the confronting walls with its peripheral portion projecting outwardly therefrom and enlarged to form a turning rim, said disk being formed with arcuate slots concentric with the disk, and fasteners passing through the walls and through said slots and serving to secure the walls at opposite sides of the disk and limit turning movement of the disk and the tube.

MARK SOSS.

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