United States Patent [19]

Zimmerman

[11] **3,896,822**

[45] **July 29, 1975**

[54] **BRUSH APPLICATOR DEVICE**

[76] Inventor: **Eli Zimmerman,** 159 W. 76th St., Apt. 5A, New York, N.Y. 10023

[22] Filed: **Apr. 30, 1973**

[21] Appl. No.: **355,962**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 131,275, April 5, 1971, Pat. No. 3,734,106.

[52] **U.S. Cl.** ..... **132/79 B;** 401/186

[51] **Int. Cl.** **A45d 40/00**

[58] **Field of Search** ..... 401/186, 187; 132/79 B

[56] **References Cited**

UNITED STATES PATENTS

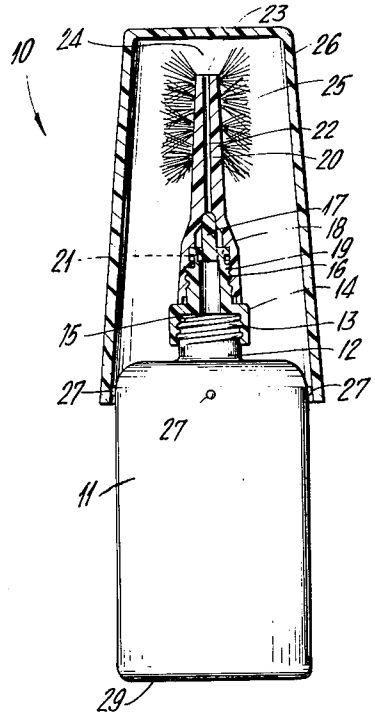
2,097,010	10/1937	Arnegger	401/186
2,582,404	1/1952	Zavada	401/186
2,976,560	3/1961	Turner	401/186

Primary Examiner—Louis G. Mancene

[57] **ABSTRACT**

In a preferred embodiment of the invention, a liquid-containing compressible bulb shaped to define a base on which it can be readily stably set with the outlet thereof preferably elevated above the base position, and joined in flow communication with the bulb outlet there being an adapter valve member adjustable to open and close the bulb outlet and extending outwardly with a scrub or applicator material mounted on the exterior of the valve member which embodies therein a through passage to an outlet port substantially adjacent to the brush material but directed in a direction not to be obstructed by the brush material which is in non-linear alignment with the outlet port, and there being preferably a tumbler cap breathably and drainably mounted on the bulb in a manner enclosable substantially of the adapter and brush scrub or applicator material which may be brush bristles, cloth, steel wool, sponge(s), or the like, typically for use in applying detergent as needed to the dishpan and/or to a fabric being scrubbed and/or into the glass being washed and scrubbed with the brush or steel wool, or to the surface such as a cabinet surface or floor being waxed or cleaned, or the like.

10 Claims, 9 Drawing Figures



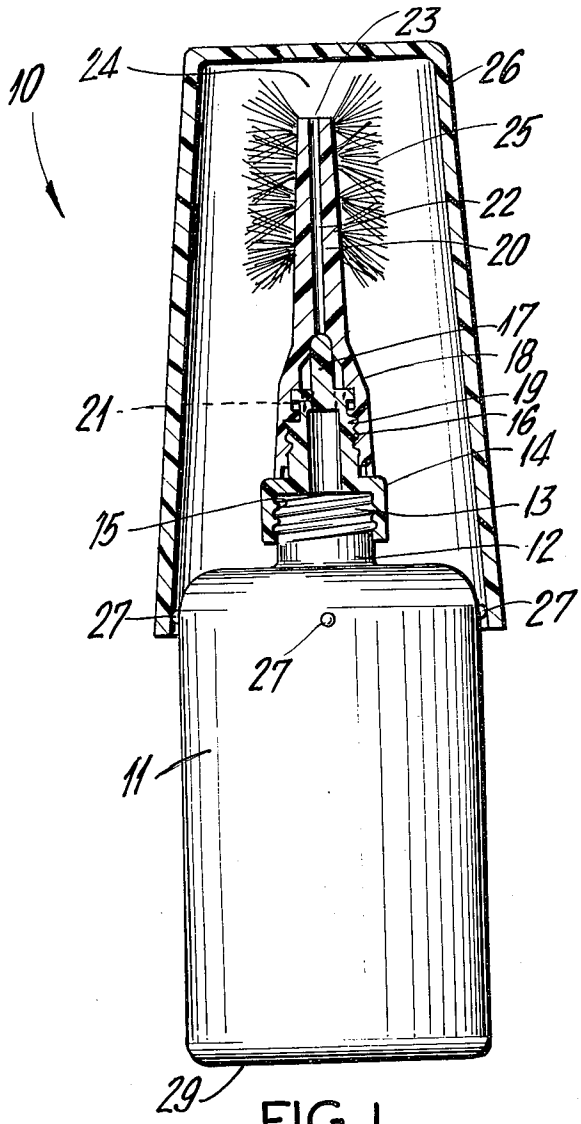


FIG. 1

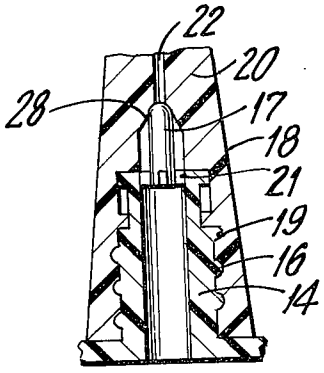


FIG. 2

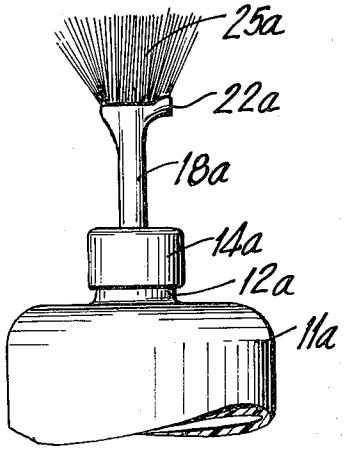


FIG. 4

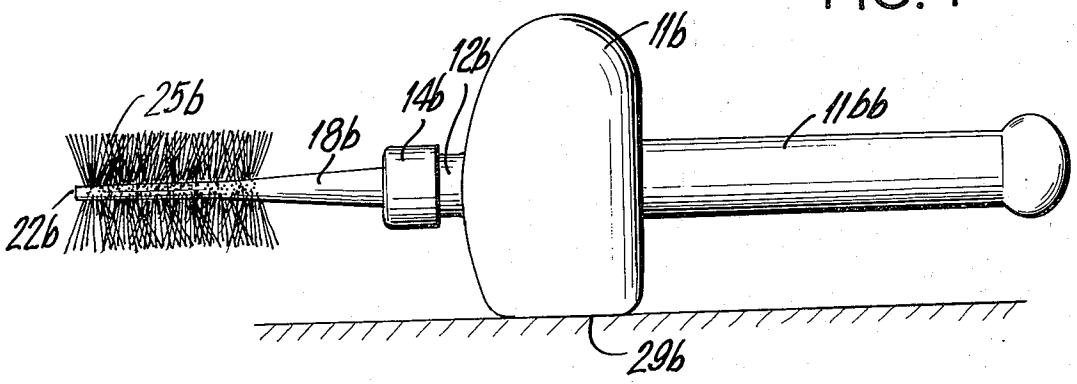


FIG. 3

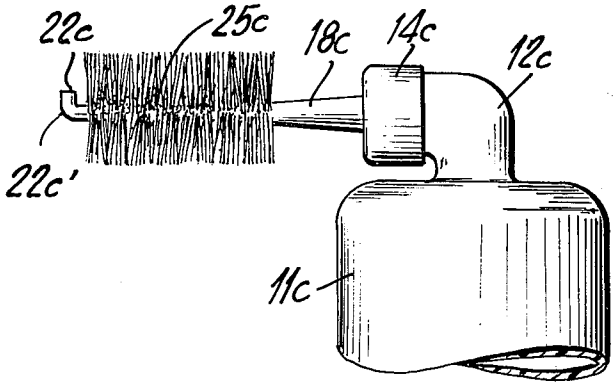


FIG. 5

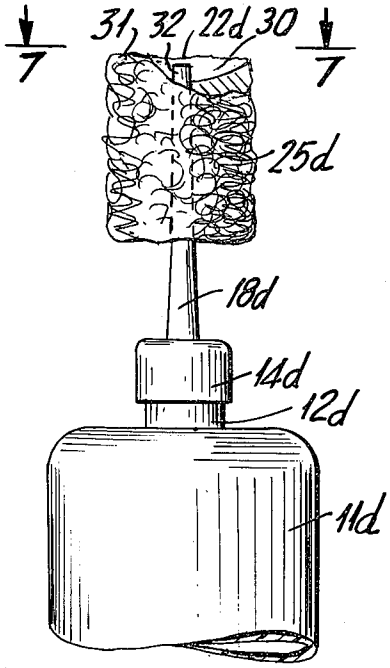


FIG.6

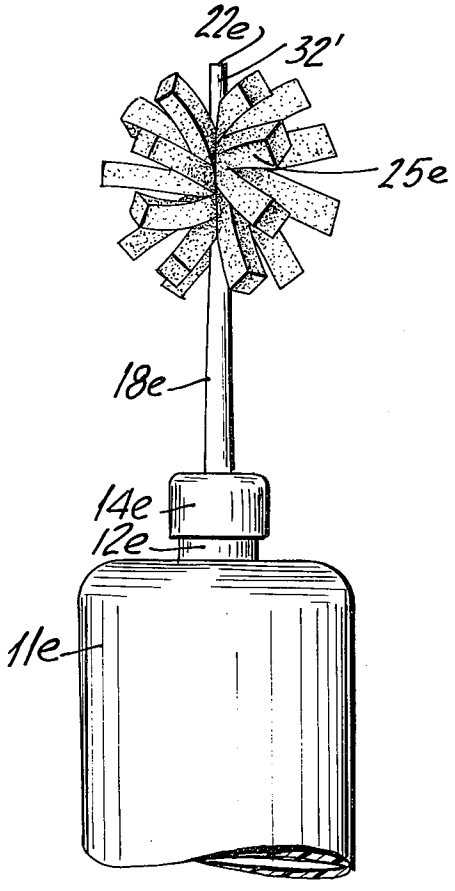


FIG.8

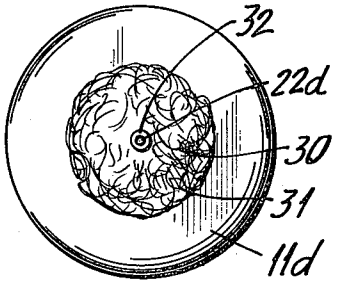


FIG.7

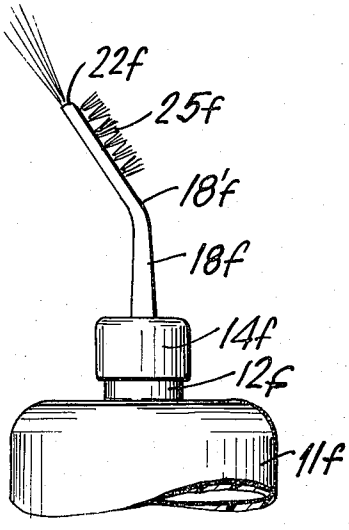


FIG.9

BRUSH APPLICATOR DEVICE

This application is a continuation in part application of my copending parent application U.S. Ser. No. 131,275 filed Apr. 5, 1971 and entitled A TOOTHBRUSH MOUTHWASH RINSER KIT issued into U.S. Pat. No. 3,734,106 on May 22, 1973, of which this application claims the benefit of the earlier filed date for the generic invention and common subject matter.

BACKGROUND TO THE INVENTION

The patentability of the structure of the present invention has been established in the prior issued patent to the present inventor. However, in the prior patent emphasis was placed on the benefits of the invention in the toothbrush embodiment. Because in other fields of endeavor in which scouring pads, bristled brushes, sponges and the like are normally used in washing, waxing, scouring, brushing, polishing, and the like, it is apparent that the present invention is of equal value in embodiments making the invention utilizable for these additional utilities. Also, consistent with the present invention as heretofore patented, it is advantageous that while the overall principle of the invention not be changed that the outlet port or the liquid to be sprayed from the outlet port be directed in one or the other of varying directions depending upon the nature or utility to which the particular brush or rubber or sponge or scouring pad is to be put.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to obtain benefits and advantages directed to the additional fields of use in the overcoming of problems of the type discussed above.

An additional object is to obtain new or novel advantages as compared to both prior art and the previously issued patent directed to other embodiments of the same invention.

Other objects become apparent from the preceding and following disclosure.

One or more objects of the invention are obtained by the invention as described herein.

Broadly the invention may be defined as a squeezable bulb having an outlet valve port with the valve being detachable and when mounted being easily adjusted to open or close the outlet port of the bulb, while mounted as a part of the valve structure is an adapter extension having a channel therethrough for the forcing of the liquid upon the squeezing of the bulb, with an outlet port to the adapter extension being directed either distally axially or alternatively being structured to direct the spray or stream to be squeezed therefrom substantially laterally to the longitudinal axis of the extended portion of the adapter, with the brush or scrub member either being distal to the outlet port of the adapter member or alternatively the brush portion occurring nearer to the bulb and the outlet being more distal, or alternatively there being brush member elements both distal to and proximal to the bulb relative to an intermediately located outlet port of the adapter member with the port thereof directed laterally, an essential element of the invention being that the brush elements, whatever the nature of the brush elements be, not be in an obstructing alignment with the outlet port of the adapter member. Typical of the brush elements within the scope of the invention is a waxing element(s), pad or cloth mounted on the adapter section, or alternatively brush bristles arranged in a desired fashion, provided as noted above that they do not obstruct the path of spray from the adapter outlet port, or a collection of sponges or a single sponge, as the case may be, or steel wool or copper wool or equivalent scouring pad(s), or the like. Additionally, in a preferred embodiment, instead of the flattened portion of the bulb being such for the adapter member extended portion to be directed merely vertically upwardly, it is equally desirable for particular utilities that the flattened portion be on the side of the bulb in order that the adapter member may extend substantially horizontally or parallel to the surface on which it is supported, this adding to the simplicity of use of the item, and in a preferred embodiment thereof there being an additional handle member extending therefrom preferably coaxial and divergent to the adapter member extension. Also in preferred embodiments of the invention, the neck to the bulb and/or the extended portion of the adapter member may include one or more bends adding to the convenience to the user of the entire member in the scrubbing of glassware or other surfaces as the case may be. In an additional preferred embodiment of the invention, particularly for example where it is desired to protect the brush member from becoming soiled between consecutive uses thereof over a period of time, there is included a tumbler or cap member which fits invertably over the adapter member and brush elements thereof and preferably snaps onto the bulb, preferably with there being raised or irregular surfaces in one or the other of the edge of the tumbler or cap, or on the surface of the bulb where it meets the tumbler or cap member such that there is provided at the snap-on portion space defined by which breathing and draining may take place to prevent the breeding of bacteria and of undesirable odor-development and unsanitary conditions. Such a tumbler-cap member is also of advantage where for example for a shoe-shine kit or the like the brush would have polish on it which could soil other surfaces, the tumbler-cap serving to prevent such possibilities whenever the entire device is not in use for its intended utility.

THE FIGURES

FIG. 1 illustrates a side view shown in-part in cross-section a typical embodiment of the present invention.

FIG. 2 illustrates an enlarged view of the adapter member and valve thereof, for better understanding of the exact nature thereof.

FIG. 3 illustrates an alternative and preferred embodiment of the present invention in elevation side view.

FIG. 4 illustrates an in-part view in side view an alternate embodiment to that of FIG. 1, in which the adapter member and brush bristles are directed in different directions from that of the FIG. 1 embodiment.

FIG. 5 illustrates still another embodiment, basically similar to that of FIG. 1, except as viewed in an in-part side view thereof having a bent neck directing the extended adapter portion laterally but additionally having a bent adapter port outlet for redirecting the liquid to be sprayed or stream to be excreted therefrom in a transverse direction to the adapter extension's longitudinal axis, which in this particular embodiment would be in a final direction about parallel to the longitudinal axis of the bulb itself uprightly.

FIG. 6 illustrates an embodiment basically similar to that of FIG. 1, except in substitution for the brush bristles, there is typically a copper or steel or other metal scouring pad, i.e., a steel wool-like scrub member mounted about the extended portion of the adapter member, this embodiment also an elevation side view shown in an in-part view.

FIG. 7 illustrates an elevation top view as taken along lines 7—7 of FIG. 6.

FIG. 8 illustrates an embodiment in elevation side view basically similar to those of FIGS. 1 and 6 except substituting sponge-like strips for the brush bristles or for the scouring steel wool.

FIG. 9 illustrates still another variation, basically similar to that of the prior patent, but additionally having a bend in the elongated portion of the adapter member, adding to the ease and convenience of the brush member, as dependent upon the preference of the particular user thereof, either for purposes of brushing teeth or silver or any other purpose, such as utilities discussed above.

DETAILED DESCRIPTION OF THE INVENTION

In greater detail, FIG. 1 illustrates a typical brush embodiment of the present invention identified as **10**, including a bulb **11** and a neck **12** thereof having threads **13** onto which is screwable a valve adapter **14** having female threads **15** matable with male threads **13**, and additionally the adapter value structure having male threads **16** with which the adapter member **18** is matable of its female threads **19**, and with a plug device **17** of the valve portion **14** serving to — in the nature of a valve — block or open the passage **22** of the elongated portion **20** of the adapter member **18**. The extended portion **20** has the conduit **22** with its outlet port **23** and with a free space **24** void of bristles or other obstructions which might interfere with or block the spray or stream being squeezed from the outlet port **23**. The brush bristles **25** are mounted around the distal end of the adapter member extension **20**. Cap or tumbler **26** is invertedly removably mounted on the bulb **11** by virtue of preferably snap-on or wedge projections or bumps **27**, with there being defined a breathing and/or drain space between the spaced-apart bumps **27** as the space is defined between the bulb surface and an edge of the tumbler or cap **26**.

FIG. 2 illustrates also in cross-section the valve device and adapter member mechanism, with the valve device structure **14** having its projection **17** which is the valve element there of, with the adapter extension **20** being screwable longitudinally axially of the member **14** in order to open and close the valve element **17** from the conduit **22** defined by the converging walls **28** which space defined between the inner walls **28** is fed through the through passages **21** of the structure **14**.

FIG. 3 illustrates an alternative embodiment in which the bulb **11*b*** rests on its flat side surface **29*b***, and additionally has a handle element — in addition to its bulb **11*b*** which also serves as a handle if desired, extending as handle **11*bb*** axially to and divergent from the oppositely extending adapter member extension **18*b***.

FIG. 5 illustrates a variation on the embodiment of FIG. 1, in which the neck **12*c*** includes a bend in order to direct the adapter member laterally, and additionally illustrating an embodiment in which the outlet end portion of the adapter, labeled as **22*c'***, directs the outlet port of the adapter in a transverse direction relative to the longitudinal axis of the adapter member **18*c*** whereby the outlet port **22*c*** in this particular embodiment continues to be directed in a direction substantially parallel to the longitudinal axis of the bulb **11*c***.

FIG. 6 illustrates still another variation on the embodiment of FIG. 1, in which in the place of the bristles of a brush of FIG. 1, there is substituted a scouring pad **25*d*** of typically steel wool, with the outlet port structure **32** being unobstructed within the space **30** of a concave nature such that the outlet port **22*d*** remains unobstructed.

FIG. 8 differs from that of FIG. 1 and FIG. 6 in the utilization of sponges **25*e*** in substitution for the brush bristles of FIG. 1 and the scouring pad of FIG. 6.

FIG. 9 illustrates an embodiment basically similar to that of the prior patent, except additionally the extended portion of the adapter having the longitudinally directed proximal portion **18*f*** and a bend at **18'*f*** whereby the port **22*f*** is directed substantially laterally and whereby the brush bristles **25*f*** are also angled slightly more upwardly, typically in this embodiment at about 45°, adding to the ease of use for various purposes.

FIG. 7, as noted above, is an elevation view taken along lines 7—7 of FIG. 6, the parts thereof having been previously identified.

For items of alternative embodiment numbered but not discussed where there are corresponding numbers in other embodiments, the corresponding numbers (but different letters) identify the corresponding parts for all embodiments.

It is to be understood that the illustrated embodiments of the present invention are merely illustrative of some of the many possible embodiments and various utilities to which the broad concept may be put, and that accordingly it is within the scope of the invention to make variations and modifications and substitutions of equivalents as would be obvious to a person of ordinary skill in this particular art.

I claim:

1. A brush device comprising in combination: a squeezable bulb means having an outlet opening, an adapter member connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter through which liquid can be forced with the hole being structured such that the hole extends in a direction facing substantially transversely to the longitudinal axis of the extended portion of the adapter member such that liquid spray is directable laterally to the elongated adapter member, and a brush means carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, said outwardly extending adapter member being of a resilient semi-rigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

2. A brush device comprising in combination: a squeezable bulb means having an outlet opening, an adapter member connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter

member through which liquid can be forced, and a brush means carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, the brush means comprising substantially bristles, said outwardly extending adapter member being utilizable as at-least in part a handle with a bulb means being of a resilient semi-rigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

3. A brush device comprising in combination: a squeezable bulb means having an outlet opening, an adapter member connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter member through which liquid can be forced, and a brush means carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, the brush means comprising substantially open-celled water-retainable composition, said outwardly extending adapter member being utilizable as at-least in part a handle with a bulb means when the assembly is being used for brushing an item, said bulb means being of a resilient semirigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush means mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

4. A brush device of claim **3**, in which said composition is a sponge-like material.

5. A brush device comprising in combination: a squeezable bulb means having an outlet opening, an adapter member connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter member through which liquid can be forced, and a brush means carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, the brush means comprising substantially steel-wool-like material for scouring, said outwardly extending adapter member being utilizable as at-least in part a handle with a bulb means when the assembly is being used for brushing an item, said bulb means being of a resilient semirigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush means mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

6. A brush device comprising in combination: a squeezable bulb means having an outlet opening, an adapter member connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter member through which liquid can be forced, the elongated portion of the adapter member including a bend therein directing the distal portion thereof substantially laterally to a predetermined degree, and a brush means carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, said outwardly extending adapter member being utilizable as at-least in part a handle with a bulb means when the assembly is being used for brushing an item, said bulb means being of a resilient semi-rigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush means mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

7. A brush device comprising in combination: a squeezable bulb means having an outlet opening and a neck portion a distal end of which is mateable with an adapter member in flow communication therewith, the adapter member being connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter member through which liquid can be forced, the neck portion including a bend therein directing the distal neck portion thereof substantially laterally to a predetermined degree, and a brush means carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, the brush means comprising substantially open-celled water-retainable composition, said outwardly extending adapter member being utilizable as at-least in part a handle with a bulb means when the assembly is being used for brushing an item, said bulb means being of a resilient semi-rigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush means mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

8. A brush device of claim **7**, in which the elongated portion of the adapter member includes a bend therein directing the distal protion thereof substantially transversely to the longitudinal axis of the adapter member's extended portion.

9. A brush device comprising in combination: a squeezable bulb means having an outlet opening and a flattened face extending in a plane substantially parallel with a longitudinal axis of an adapter member's extended portion such that the bulb is settable on its side with the adapter member and a brush means extending laterally about parallel with a supporting surface, the adapter member being connected to the squeeze bulb means and extending outwardly from the opening thereof and having a hole at a substantially distal end of the adapter member through which liquid can be forced, and the brush means being carried on the outwardly extending member in flow-non-alignment with the hole and spaced from the hole, the brush means comprising substantially open-celled water-retainable composition, said outwardly extending adapter member being utilizable as at-least in part a handle with a bulb means when the assembly is being used for brush-

ing an item, said bulb means being of a resilient semi-rigid composition and having a portion thereof at a point distant from said adapter member shaped such that the bulb means includes a supporting base supportable of the adapter member and of the brush means mounted on the adapter member substantially above the supporting base when said bulb means is set on a substantially flat horizontal surface whereby the brush means is held in a position free of contact with the horizontal surface.

10. A brush device of claim **9,** including an elongated handle element extending from the bulb means in a direction substantially divergent from said adapter member.

* * * * *