

W. CUTHBERTSON.

BRUSH.

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Fig. 1.

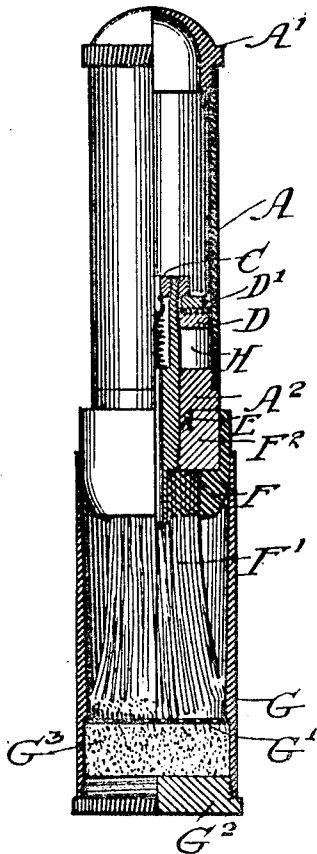
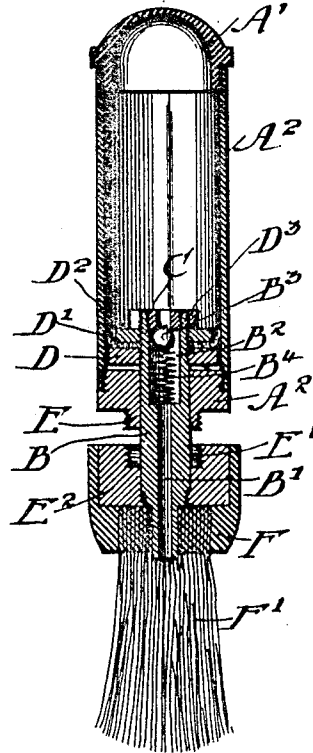


Fig. 2.



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UNITED STATES PATENT OFFICE.

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BRUSH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM CUTHBERTSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Brushes, of which the following is a specification.

My invention relates to brushes, and has for its object to provide a new and useful form of liquid-carrying, sanitary brush.

The invention is illustrated in one form in the accompanying drawing, wherein—

Figure 1 is a plan elevation and part sectional view of the brush; Fig. 2, a sectional view with the parts in a different position.

Like parts are indicated by the same letter in all the figures.

A is the handle cylinder having at one end a screw-threaded removable cap A¹, and a screw-threaded removable cap A², and at the other, the screw-threaded plug A².

B is a piston rod having the longitudinal channel B¹ therethrough, and the chamber B² with ball valve B³ and seating spring B⁴ in the upper end. The outer end of the chamber is partially closed by the screw-threaded ring C. On the outside of the piston rod is secured, by a screw thread or otherwise, the piston D, upon which seats the inwardly-opening cup valve D¹ within which and about the piston rod lies the washer D², adjustably held in position by the nut D³. Projecting from the plug is the screw-threaded portion E, adapted to be received into the screw-threaded recess E¹ on the brush body E², which is in turn screw-threaded onto the piston rod.

F is a shell of some suitable material, such as vulcanized rubber, which surrounds the brush body, and which holds the bristles F¹, which form the brush proper.

G is a brush cylinder adapted to inclose and be frictionally held upon the shell F, and provided with a perforated diaphragm G¹ and a screw cover G², which with the perforated diaphragm forms a chamber to receive, for example, an antiseptic powder G³.

H indicates the pumping chamber between the screw plug A² and the piston D, such chamber being formed when the parts are in the position indicated in Fig. 1.

I wish my drawings to be taken in a sense as diagrammatic, although they are intended to represent a practical form of the

device which I have actually made and used, but, of course, the size, proportions, shape and relation of the several parts could be greatly altered without departing from the spirit of my invention, and in my claims I shall point out what appears to me to be its essential elements.

The use and operation of my invention are as follows: The device is normally when not in use in the condition indicated in Fig. 1. All the plugs and caps and covers are in position, the brush is inclosed within the brush cylinder, and the brush body is screw-threaded to the plug projection. An air or pumping chamber, H, is thus left. The screw cap is now removed, and the upper part of the cylinder A filled with liquid soap, and the cap again screwed into position. The brush is now ready for use. By unscrewing the brush body from the end of the plug the parts may be brought into the position shown in Fig. 2, the piston rod and piston being pulled down, the latter into substantial contact with the upper, inner surface of the plug. The air in the chamber H by this action is forced outwardly around the edges of the cup valve. All this time the ball valve B³ is held in position by the spring B⁴. By now pushing the brush body toward the handle cylinder, pressure will be applied to the liquid in the handle cylinder sufficient to unseat the valve B³ and force a quantity of liquid soap down through the channel B¹ toward the bristles, and the brush, being thus supplied with liquid soap in the midst of the bristles, will be ready for use. This action may be repeated as often as necessary, for every time the brush body is pushed in the chamber H is opened and filled with air, which rushes into it along the clearance space between the piston rod and the plug, and every time the brush body is pulled away from the handle cylinder this charge of air is forced into the handle cylinder past the edge of the cup valve.

When the use of the brush is finished, the bristles may be washed in the usual manner, and whatever soap remains in the channel B¹ will remain there because of the atmospheric pressure on the outer end of that channel. For convenient transportation the bristles may then be inclosed by the brush cylinder. The antiseptic therein

can be used in any desired manner. Of course the brush cylinder and antiseptic receptacle could be dispensed with.

I claim:

- 5 1. In a brush the combination with a hollow cylindrical handle adapted to contain a liquid, of a piston, cup valve and piston rod having a duct therethrough, an air chamber, and means for operating said piston rod.
- 10 2. In a brush the combination with a hollow cylindrical handle adapted to contain a liquid, of a piston, cup valve and piston rod having a duct therethrough, an air chamber, with a valve closing said duct, and means for operating said piston rod.
- 15 3. A brush comprising a liquid containing handle, a bristle holding member, a piston rod mounted upon said bristle holding member having a duct therethrough and slidably mounted within said handle and a piston and cup valve within said handle connected with and operated by the bristle holding member by means of said piston rod upon which it is mounted to force the liquid through the handle from the duct through the bristles.
- 20 4. A brush comprising a liquid containing handle, a bristle holding member, a piston rod having a duct therethrough attached to the bristle holding member and slidably passing through the end of the handle, and a piston on the end of the rod within and in slidable engagement with the walls of the handle.
- 25 5. A brush comprising a liquid containing handle, a bristle holding member, a piston rod having a duct therethrough attached to the bristle holding member and slidably passing through the end of the handle, said duct enlarged at its upper end to form a valve chamber, and a valve and valve seat in said chamber.
- 30 6. A brush comprising a liquid containing handle, a bristle holding member, a piston rod having a duct therethrough attached to the bristle holding member and slidably passing through the end of the handle, a piston on the end of the rod within said handle, the duct enlarged at its upper end to form a valve chamber, and a valve and valve seat in said chamber.
- 35 7. A brush comprising a liquid containing handle, a bristle holding member movable with reference to each other, a piston rod having a duct therethrough connecting the interior of the handle with the bristles and means for forcing liquid therethrough from the handle to the bristles, said means operable by the relative movement of the parts, and containing a piston in slidable contact with the walls of the handle.
- 40 8. A brush comprising a liquid containing handle and a bristle holding member movable with reference to each other, a piston

rod having a duct therethrough connecting the interior of the handle with the bristles and means for forcing liquid therethrough from the handle to the bristles, said means operable by the relative movement of the parts and comprising a piston and valve.

9. A brush comprising a hollow handle, a bristle holding member and a piston and valve connected with the bristle holding member and placed in the handle so as to divide the same into soap and air receptacles.

10. A brush comprising a hollow handle, a bristle holding member and a piston and valve connected with the bristle holding member and placed in the handle so as to divide the same into soap and air receptacles, the air receptacle intermediate the soap receptacle and the bristle holding member.

11. A brush comprising a hollow handle, a piston which divides the same into a soap and an air chamber, a piston rod having a duct which leads from the soap chamber through the air chamber and a bristle holding member attached to the outer end of the rod.

12. A brush comprising a hollow handle, a piston which together with the valves divides the same into a soap and an air chamber, a piston rod having a duct which leads from the soap chamber through the air chamber and a bristle holding member attached to the outer end of the rod and a plurality of valves near the inner end of said tube.

13. A brush comprising a hollow handle, a bristle holding member, a tubular connection between the handle and bristle holding member, a movable piston and valve in the handle dividing it into a liquid reservoir and an air chamber, a valve between the reservoir and air chamber and a valve between the reservoir and bristle holding member.

14. A brush comprising a hollow handle, a bristle holding member, a tubular connection between the handle and bristle holding member, a movable piston and valve in the handle dividing it into a liquid reservoir and an air chamber, and two valves associated with said piston, one to connect the air chamber with the reservoir and the other to connect the reservoir and the bristle holding member, said valves mounted one within the other about said tubular connection.

15. A brush comprising a liquid containing handle and a bristle holding member movable with reference to each other, a duct connecting the interior of the handle with the bristles and means for forcing measured quantities of liquid therethrough from the handle to the bristles.

16. A brush comprising a liquid containing handle and a bristle holding member movable with reference to each other, a duct connecting the interior of the handle with

the bristles and means for forcing measured quantities of liquid therethrough from the handle to the bristles, said means operable by the relative movement of the parts and comprising a piston valve.

17. A brush comprising a hollow handle, a bristle holding member and a piston connected with the bristle holding member and placed in the handle so as to divide the same into soap and air receptacles, said piston adapted to force measured quantities of soap out of said hollow handle.

18. A brush comprising a hollow handle, a bristle holding member slidably connected therewith, a duct between said handle and bristle holding member and means for forcing a measured quantity of liquid from the handle through the tube, said means operable by the relative movement of the handle and bristle holding member.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."