Aug. 25, 1936. W. S. HALSTEAD 2,051,847

TOOTH BRUSH HOLDER

Filed June 17, 1933 5 Sheets-Sheet 1

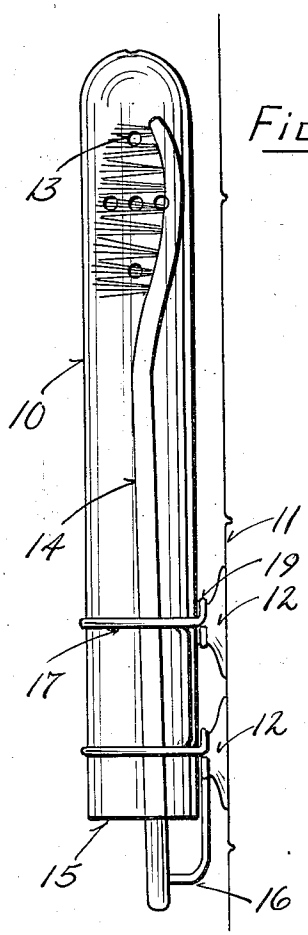


Fig. 1.

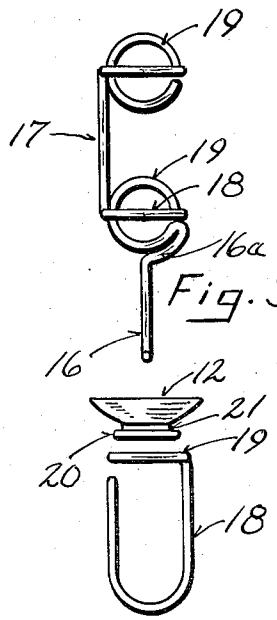


Fig. 3.

Fig. 4.

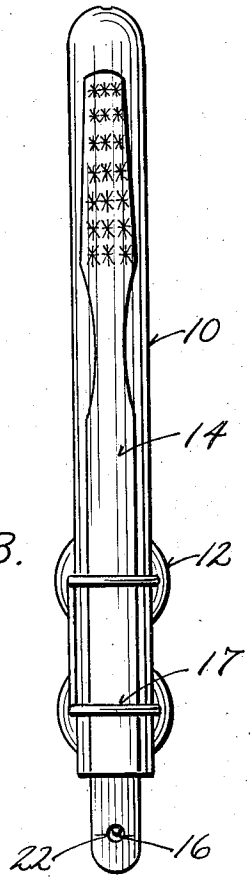


Fig. 2

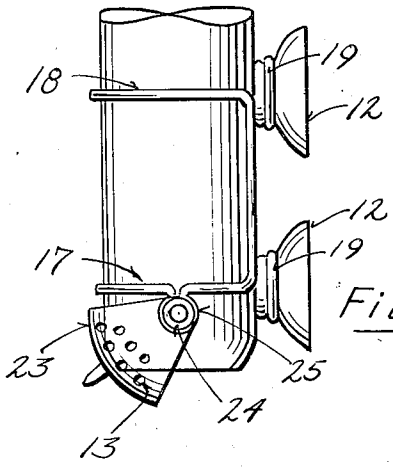


Fig. 6.

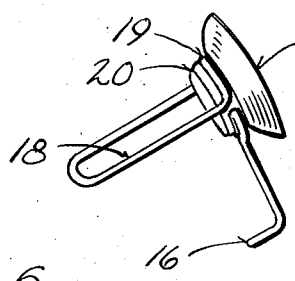


Fig. 5.

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TOOTH BRUSH HOLDER

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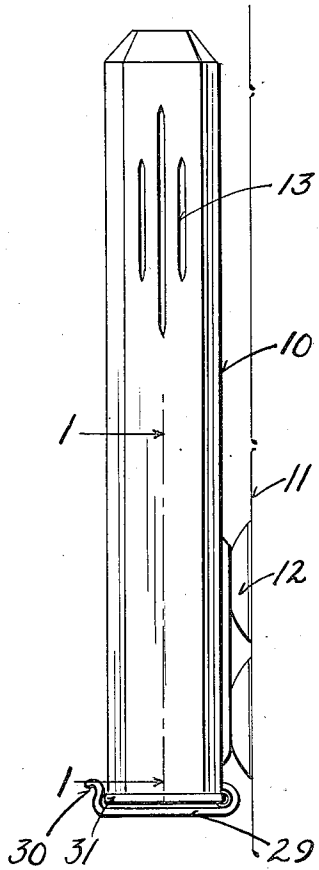


Fig. 9.

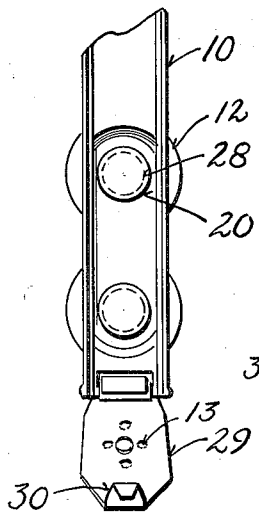


Fig. 11.

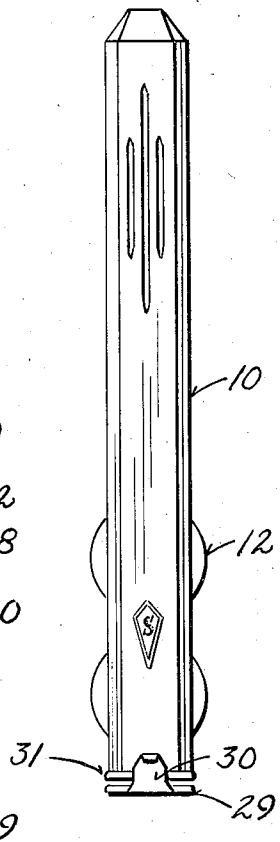


Fig. 10.

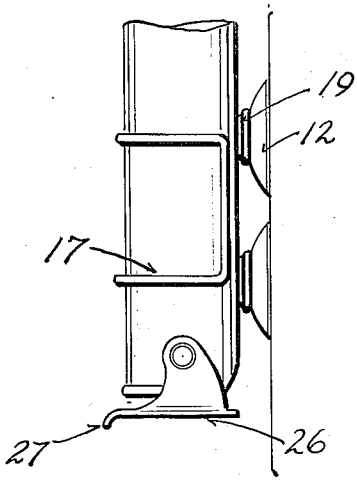


Fig. 7.

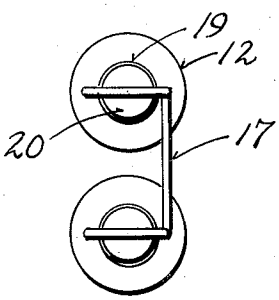


Fig. 8.

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TOOTH BRUSH HOLDER

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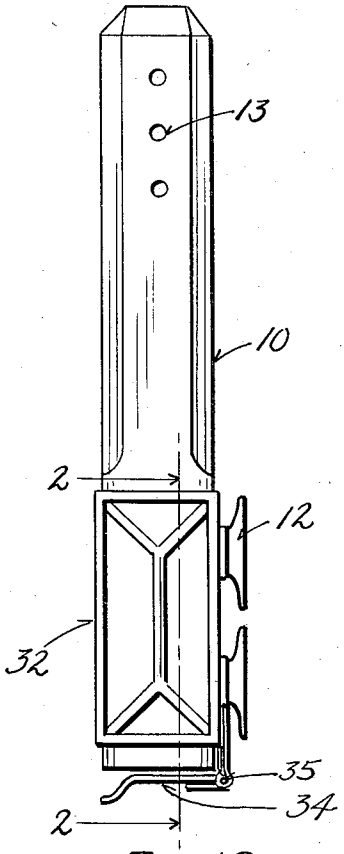


Fig. 12.

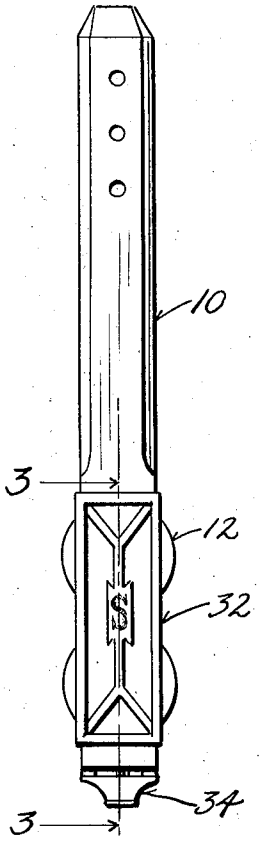


Fig. 13.

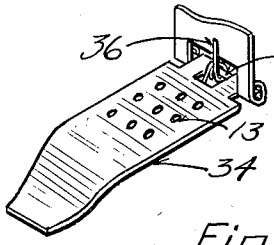


Fig. 14.

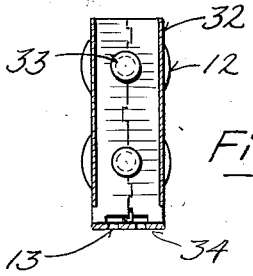


Fig. 15.

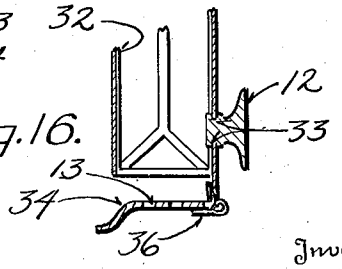


Fig. 16.

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TOOTH BRUSH HOLDER

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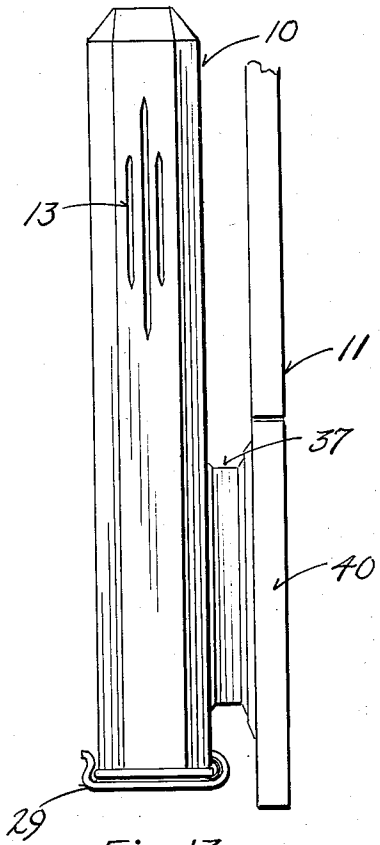


Fig. 17

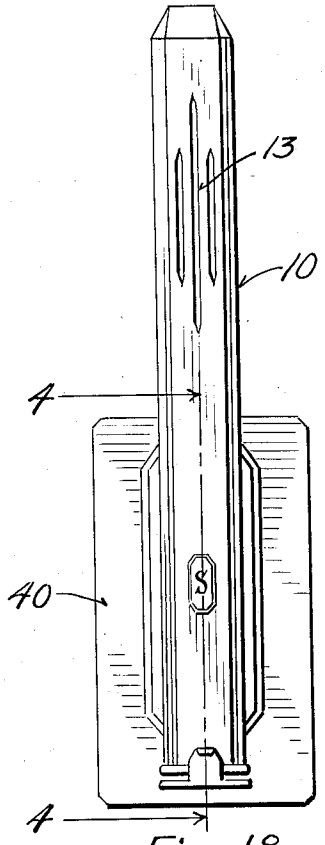


Fig. 18

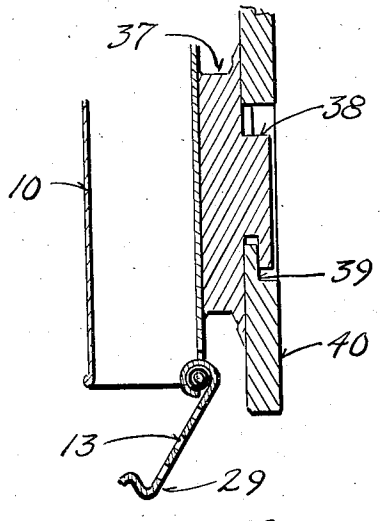


Fig. 19

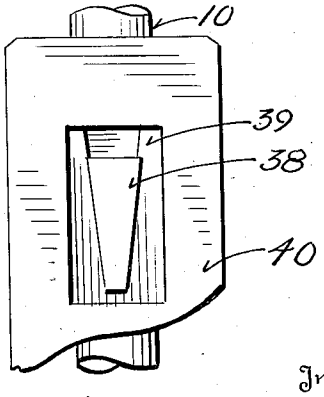


Fig. 20

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TOOTH BRUSH HOLDER

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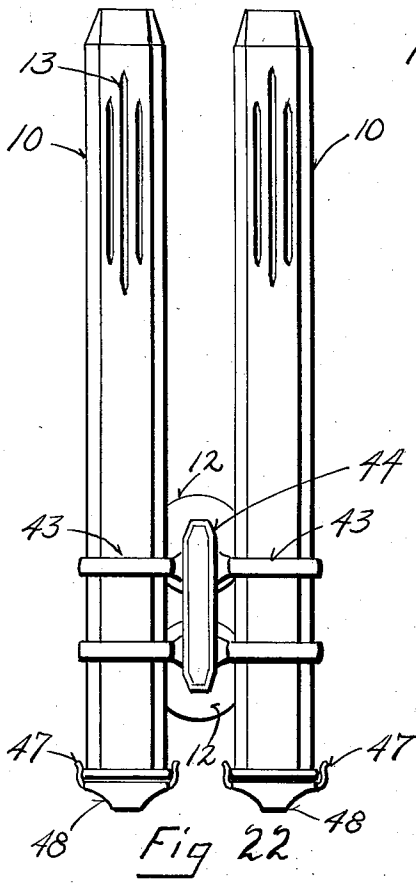


Fig 22

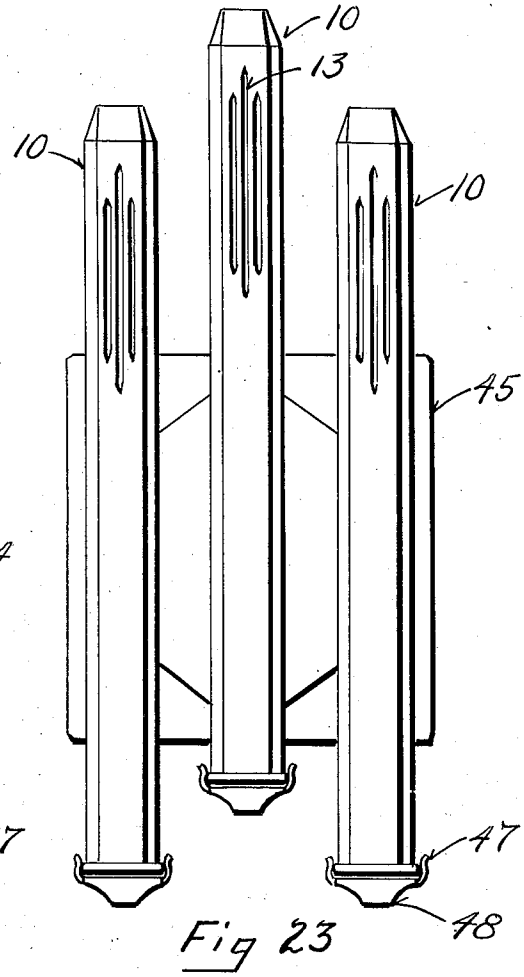


Fig 23

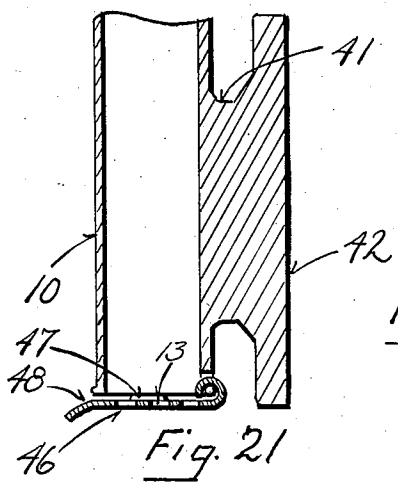


Fig. 21

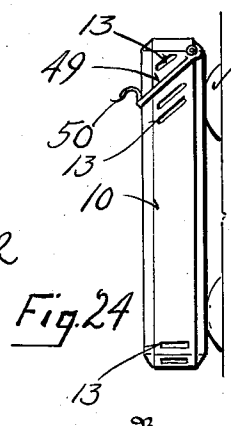


Fig. 24

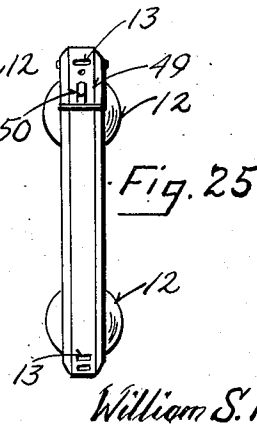


Fig. 25

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Patented Aug. 25, 1936 2,051,847

UNITED STATES PATENT OFFICE

2,051,847

TOOTH BRUSH HOLDER

William S. Halstead, White Plains, N. Y.

Application June 17, 1933, Serial No. 676,391

5 Claims. (Cl. 312—112.5)

My invention relates broadly to tooth brush holders and more particularly to a holder of that type provided with means for supporting the tooth brush in a vertical position in a sanitary ventilated container attachable to a wall or other plane surface.

One of the objects of my invention is to provide a simple, attractive and durable wall-mounting tooth brush holder in which a ventilated, protective case or container enclosing both the handle and bristles of a tooth brush is rigidly supported in such manner that the encased tooth brush is held in vertical position, shielded from accumulation of dust or moisture, the handle extending downward in such manner that proper drainage is facilitated and the bristles are maintained in a drying current of air.

Another object of my invention is to provide a tooth brush holder in which the supporting means may be easily and quickly affixed to or removed from a tile bathroom wall, steel medicine closet door or other hard plane surface without the use of tools or implements of any kind and which will not injure or mar in the slightest degree, the surface to which the supporting means is attached.

Still another object of my invention is to provide a tooth brush holder which may be used while traveling to encase the entire brush and which, when desired, may be temporarily attached to any smooth wall or plane surface to hold the brush and to isolate it from surrounding unsanitary conditions such as often exist in railroad cars, hotels or public lavatories.

A further object of my invention is to provide a detachable wall-mounting tooth brush holder of the above kind in which the brush may be easily and quickly inserted into or withdrawn from the vertically supported case or container with one hand and which will securely hold the brush within the case once it has been inserted.

A still further object of my invention is to provide a construction of supporting device for a tooth brush holder formed in a single member adapted to maintain the tooth brush holder in a vertical position and, at the same time, limit the vertical upward movement of the brush beyond a predetermined point within the holder.

Another object of my invention is to provide a construction of tooth brush holder in the form of an enclosing stack adapted to receive and maintain a tooth brush in a vertical position while subjecting the bristles of the tooth brush to drying currents of air.

Still another object of my invention is to provide a suction-cup supporting member for a tooth brush holder which is formed from a single piece of wire shaped to provide means for maintaining the tooth brush holder in a vertical position, said wire having an integrally formed extension thereon adapted to removably secure a tooth brush within the tooth brush holder.

Additional objects of my invention are to provide a tooth brush holder of the above kind which is simple and compact in construction, unbreakable, attractive in appearance, readily adaptable to various bathroom color and design motifs, and capable of production at a nominal cost.

Other objects will become apparent as the nature of the invention is better understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and set forth in the appended claims.

In the accompanying drawings, wherein like reference characters indicate corresponding parts throughout the several views, Figure 1 is a side elevational view of one form of tooth brush holder constructed in accordance with the present invention; Fig. 2 is a front elevational view of the same; Fig. 3 is a front elevational view of the combined suction cup holding and brush supporting means shown in the lower part of Figs. 1 and 2; Fig. 4 is a top view of the suction cup holding frame together with a suction cup detached from the frame showing their relative proportions; Fig. 5 is a perspective view of a suction cup holding frame and downwardly extending hook portion of the frame which serves to support a tooth brush in a vertical position within the protective case; Fig. 6 is a side elevational view of a modified form of the suction cup holding frame showing a hinged closure member for holding the tooth brush within the protective case; Fig. 7 is a side elevational view of another modified form of the invention showing an adjustable suction cup frame which may be slid along the protective case to any desired position, and a hinged closure member attached to the bottom of the protective case; Fig. 8 is a front elevational view of the adjustable suction cup supporting means shown in Fig. 7; Fig. 9 is a side elevational view of another form of the invention showing the suction cups attached directly to the rear of the protective container, and a modified form of hinged closure member provided with resilient closure locking means for firmly holding the closure member in position for supporting the tooth brush; Fig. 10 is a front elevational

view of the device shown in Fig. 9; Fig. 11 is a sectional view on line 1—1 of Fig. 9 showing the means for fastening the suction cups to the rear of the container and also showing the hinged closure member in the open position; Fig. 12 is a side elevational view of another modified form of the invention showing an ornamental metal frame or clasp provided with suction cups for holding the tooth brush container in a vertical position and a spring operated closure member; Fig. 13 is a front elevational view of the device shown in Fig. 12; Fig. 14 is a perspective view of the spring operated hinged closure member shown in the lower part of the drawings of Figs. 12 and 13; Fig. 15 is a sectional view on line 2—2 of Fig. 12 showing the method of attaching the suction cups to the supporting frame or clasp; Fig. 16 is a sectional view on line 3—3 of Fig. 13 showing the lower part of the suction cup supporting frame and further illustrating the method of attaching the suction cups to the frame; Fig. 17 is a side elevational view of another modified form of the invention showing the protective container attached directly to a tile wall by sliding-wedge supporting means; Fig. 18 is a front elevational view of the device shown in Fig. 17; Fig. 19 is a sectional view on line 4—4 of Fig. 18 showing the means for attaching the tooth brush holder to the wall; Fig. 20 is a rear elevational view of the device of Figs. 18 and 19 showing the inner surface of the tile wall with sliding-wedge supporting means attached to the tooth brush holder in position on the wall; Fig. 21 is a cross sectional view of a modified form of tooth brush holder similar to that shown in Fig. 17 and in cross section in Fig. 19, except that the container, supporting means and wall tile are made integral from the same material and formed as a single unit to be permanently installed in bathrooms; Fig. 22 is a front elevation of an assembly of two tooth brush containers each of which is similar to that shown in Figs. 9 and 10, showing how a plurality of containers may be supported by a modified form of suction cup frame modified from the structure shown in Fig. 8; Fig. 23 is a front elevational view of an assembly of three tooth brush containers similar to those shown in Figs. 10 and 18, the containers being secured to a single wall tile for permanent installation in bathrooms; Fig. 24 is a side elevational view of another modified form of tooth brush holder showing a closure member for insertion of the tooth brush through the top of the container instead of at the bottom as shown in the preceding figures; and Fig. 25 is a front elevational view of the device of Fig. 24.

Referring to the drawings in detail, each form of the invention illustrated in Figs. 1 to 16, inclusive, embodies means for fastening a sanitary protective case or container 10 in a vertical position on a wall 11 or other plane surface as a steel or wood medicine closet door or panel, such fastening means being adapted to permit the removal of the device from the supporting surface without in any way impairing the condition of the supporting surface and without the use of tools or implements of any kind. The protective case of container 10 is preferably attached to the wall or other plane surface by means of rubber suction cups 12, although other supporting means may be used as shown in Figs. 17 to 20, inclusive. The case or container 10 is provided with ventilating perforations 13, such as holes or slits which are preferably located at the upper part of the container and around all of the four sides thereof in proximity to the bristles of the vertically supported tooth brush 14 which is inserted into container 10 through an opening 15 preferably located at the bottom of the container. The brush 14 is held in place in container 10 by means such as hook 16, Fig. 1, or angularly movable closure member 23 as shown in Fig. 6.

In the device shown in Fig. 1, container 10 which is made of celluloid, glass, metal or other suitable material and which may be colored if desired to harmonize with various decorative schemes, is clasped in a wire frame 17 to which are fastened a pair of rubber suction cups 12 vertically disposed a short distance apart from each other so as to provide firm supporting means for the device and thereby insuring its rigid adhesion on the vertical surface to which it is attached. In the particular form of suction cup holding frame or clasp 17 shown in Figs. 1 to 5, inclusive, the clasp or supporting frame is formed by bending a portion of a wire into a loop 18 whose shape is such that the container 10 will fit into it without difficulty. Another portion of the same wire is then bent so as to form a circular eye 19 whose plane is at right angles to the plane of loop 18. Two of these clasps or loops 18 may be formed from the same wire, as shown in the drawings, and two eyes thus provided so that two suction cups may be inserted in the holding means thereby provided. Another portion of the same wire may be extended downward in a plane parallel to the plane of the two eyes, 19, and a brush supporting hook 16 thereby formed. In the drawing of Fig. 3, a preferred manner of forming the eyes 19 and the brush supporting hook 16 is illustrated in which the hook is made by bending a part of the lower portion of the wire back on itself for a quarter of the distance along the lower part of the circumference of the eye as shown at 16a. The suction cups 12 are preferably provided with a shoulder 20 whose diameter is slightly greater than that of eye 19 and a groove 21 which fits into eye 19. The suction cups are then attached to the container supporting frame by squeezing the rubber shoulder 20 through eye 19 so that groove 21 fits snugly into eye 19. It is, of course, recognized that many modifications of this particular structure are possible and within the scope of the invention. For example, rubber suction cups and a container clasping means may both be made of rubber and molded in a single piece, or the wire frame may be replaced by a frame made of metal or other readily workable material and the rubber suction cups inserted into small holes provided therein.

In Figs. 1 and 2 the brush 14 is shown held in place within the tube or stack by hook 16 which projects into hole 22 commonly provided adjacent the end of the handle in standard tooth brushes of modern design. In Fig. 6, tooth brush supporting hook 16 is replaced by a movable closure member 23 which is attached to the container clasp 17 by means of a small rivet or collar 24 inserted in a small eye 25 formed in the horizontal portion of the lower part of clasp 17.

In the diagrams of Figs. 7 and 8, a slight modification of the brush supporting and closure member structure is illustrated. In Fig. 7 a movable closure member 26 is attached to the bottom of the tooth brush container 10, the form of the closure member being such that a lip 27 projects forward so that it may be easily swung

downwards by the thumb, thereby ejecting the tooth brush directly into the palm of the hand. Figs. 7 and 8 show a slight modification of the wire clasp or frame 17 in which it is separate from the brush holding means illustrated in the preceding figures, thereby permitting its adjustment along the container to any desired position and facilitating the removal of the frame or clasp if desired.

In the diagrams of Figs. 9 to 11, inclusive, another modification of the invention is shown in which the rubber suction cups 12 are attached directly to the rear of the tooth brush container or stack 10. In this modification, the shoulders 20 of the suction cups are forced through perforations or holes 28, shown in dotted lines provided in the rear of the container, the holes being slightly smaller in diameter than those of the shoulders. The subsequent extension of the shoulder after insertion into the holes then locks the suction cups securely to the container. An additional modification of the device of Fig. 9, is the provision of a resilient locking hinged closure member 29. The front portion or lip 30 of the closure member is bent, so that when the member is in the closed position, the pressure of the lip against a beading 31 around the lower edge of the container holds the closure firmly in position. The perforations 13 are provided on all four sides of the container and by reason of the arrangement of the supports adjacent to the base of the container, no obstruction is offered to maximum circulation of moist currents of air at the top of the container or stack where the wet bristles of the tooth brush are disposed.

In another modified form of tooth brush holder shown in Figs. 12 to 16, inclusive, an ornamental metal clasp or frame 32 is employed to hold the container 10 in a vertical position. In this modification the suction cups 12 are fastened to the frame 32 by insertion in holes 33, shown in dotted lines provided at the rear of the clasping frame. The hinged closure member 34 is attached to frame 32 by means of pin 35 which serves as the axis of the hinge. A spring 36 wound around pin 35 provides sufficient pressure to hold the closure member against the lower part of the container 10.

Still another modification of the invention is shown in Figs. 17 to 20, inclusive. In this form of device container 10 which may be made of metal, celluloid, glass or porcelain is designed for permanent location on the wall of a bathroom. A hinged closure member 29 is provided at the bottom of the container as shown in Fig. 9. The container is held in a vertical position on the wall by means of a small extension or bracket 37 provided with a locking wedge 38 which fits into a coacting wedge locking member 39 of tile 40. With this method of mounting, commonly employed in modern bathroom fixtures, container 10 may be readily removed for cleaning purposes by sliding the container assembly upwardly. This type of tooth brush holder may be simplified as shown in Fig. 21 by forming the container 10, bracket 41 and tile 42 in one unit from the same material, such a unit being adapted for permanent installation of the holder on the bathroom wall. It is, of course, understood that the bracket or spacing member 41 may be eliminated if desired and the container 10 affixed directly to the tile without the spacing member intervening.

A plurality of tooth brush holders of this invention may be grouped together in a single unit, as shown in Figs. 22 and 23. In Fig. 22, two of the containers 10 are held by clasping bands 43 which extend around the outer surface of the containers adjacent the lower portions of the containers and are fastened to suction cups 12 by any of the arrangements previously described in connection with the support of a single container. The perforations 13 for effecting the release of air are provided on all four sides of the container or stack and by supporting the containers or stacks from a position adjacent the lower ends thereof there is no obstruction offered to the release of air currents from the upper ends of the containers or stacks.

A monogram escutcheon 44 may be provided between the two containers to cover the connection between the clasps and the suction cups, thereby improving the appearance of the unit and also providing means for easily pressing the two suction cups against the wall since the escutcheon bears directly over the centers of the shoulders of the suction cups.

In Fig. 23, three containers are shown assembled in a decorative unit. In this form of assembly, each of the containers is rigidly fastened to the wall tile 45 by means such as illustrated in Figs. 19 to 21, inclusive, the only difference being that three containers instead of one are employed. In Figs. 21 to 23 inclusive, the closure member 46 having air vents or perforations therein is hinged at the rear of the container as shown in Figs. 9 and 11, but the resilient locking means 47 are located at the side edges of the closure member instead of at the front as shown in preceding figures. A projecting lip 48 is provided at the front of the closure member to facilitate the opening process.

In Fig. 24 is illustrated a modification of the holder in which a hinged closure member 49 is located at the top of the container 10. Suction cups 12 are provided at the rear of the container, one located near the top and the other disposed near the bottom. In this form of holder, the brush is inserted into the container through the opening at the top. The brush then rests on the bottom of the container, which may be provided with ventilating perforations to insure circulation of air through the container from bottom to top. A small handle 50 is provided to facilitate the opening of the closure member. Perforations 13 are provided adjacent both the top and bottom of the stack to insure circulation of air for subjecting the bristles of the tooth brush to the influence of drying currents of air.

It is to be understood that the invention is not limited to the particular constructions shown and described hereinabove, as numerous changes and modifications may be made without departing from the essential elements of this invention. All such changes and modifications as come within the appended claims are embraced thereby and I intend no limitations upon my invention except as may be imposed by the scope of the claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A tooth brush holder comprising an enclosing casing in the form of a substantially vertical stack, means for admitting air adjacent to the base of the stack, means for releasing air adjacent to the top of the stack, means for removably securing a tooth brush wholly within said stack with the bristles thereof in the path of drying currents of air, and a wire suction-cup holding member embracing a portion of said cas-

ing, suction cups mounted in said wire holding member and disposed for supporting said casing in a substantially vertical position on a vertical supporting surface.

2. A tooth brush holder comprising a vertically disposed tubular enclosing casing, clip means engaging said casing, suction cups having shoulders projecting through said clip means thereby supporting said suction cups in position disposed one above the other, a closure member positioned at the lower extremity of said casing, and means maintaining said closure member in a horizontal position, said closure member having ventilating perforations therein, and said casing having ventilation perforations in the upper portion thereof whereby a circulation of air through said casing is effected.

3. A tooth-brush holder comprising a vertically disposed tubular enclosing casing, a wire-like member encircling said casing and terminating in suction cup supports for attaching said casing to a vertical surface, said wire-like member being formed into a journal on each side of said casing, and a closure member for the end of said casing pivotally mounted in the journals formed by said wire-like member.

4. A tooth-brush holder comprising a vertically disposed casing, suction means for attaching said casing to a vertical surface, a wire-like member extending from said suction means and encircling said casing, said wire-like member having a pair of journals formed therein, and a closure member for the end of said casing pivotally mounted in said journals and adapted to be moved from a position closing the end of said casing to a position removed from the end of said casing.

5. A tooth-brush holder comprising a vertically disposed casing, suction means for attaching said casing to a vertical surface, a wire-like member extending from said suction means and encircling said casing, said wire-like member having a pair of journals formed therein, and a closure member having a pair of segmental shaped side wall portions interconnected by a laterally extending end portion and pivots in said side wall portions engaging the journals in said wire-like member whereby said closure may be angularly shifted from a position closing the end of said casing to a position removed from the end of said casing.

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