J. H. TRAYNE.

TOOTH BRUSH HOLDER AND STERILIZER.

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Patented Aug. 19, 1913.

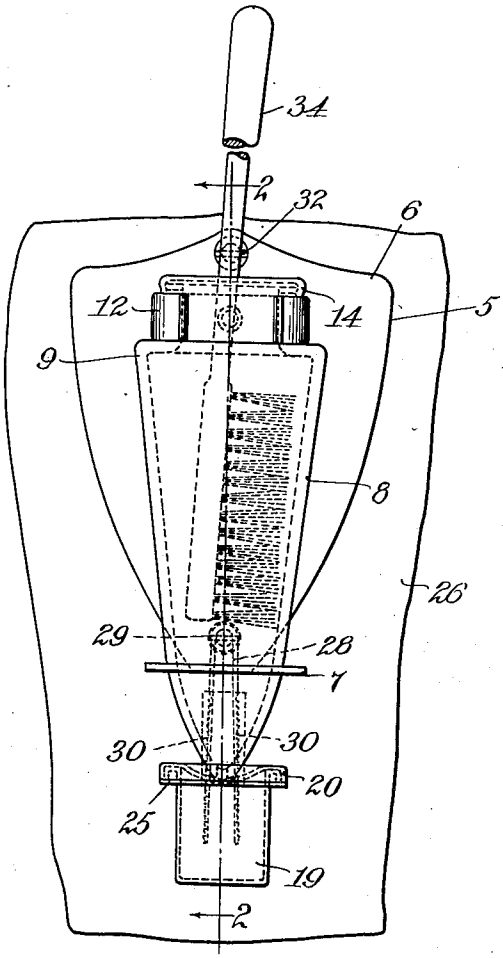


Fig. 1.

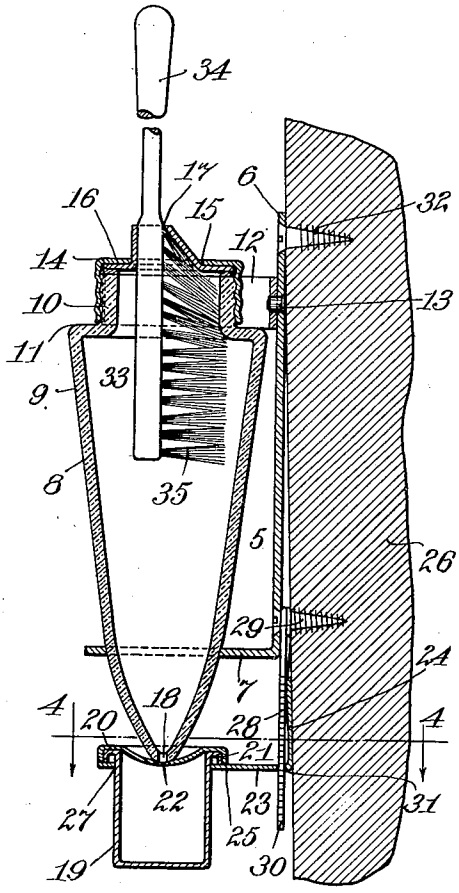


Fig. 2.

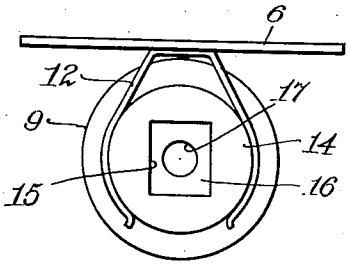


Fig. 3.

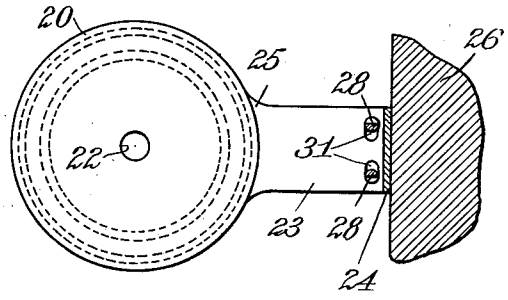


Fig. 4.

Witnesses:
Leonard A. Powell.
Sydney E. Taft.

Inventor
John H. Trayne
by his attorney, Charles S. Gooding.

UNITED STATES PATENT OFFICE.

JOHN H. TRAYNE, OF GROTON, MASSACHUSETTS.

TOOTH-BRUSH HOLDER AND STERILIZER.

1,070,858. Specification of Letters Patent. Patented Aug. 19, 1913.

Application filed October 4, 1912. Serial No. 723,823.

To all whom it may concern:

Be it known that I, JOHN H. TRAYNE, a citizen of the United States, residing at Groton, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Tooth-Brush Holders and Sterilizers, of which the following is a specification.

This invention relates to a device for holding a tooth brush when the same is not in use and particularly adapted to be used in bath rooms, lavatories and hospitals.

The object of the invention is to provide a device in which the tooth brush can be suspended without being exposed to dust, dirt or germs of any kind.

The object is further to provide a device of the character set forth in which the holder for the tooth brush is combined with a receptacle for a suitable disinfectant, the two being so combined as to coöperate in supplying the fumes of a suitable disinfectant to the brush while the said brush is within the holder, said disinfectant receptacle being so constructed that the disinfectant can be removed and the receptacle will then perform the function of a drip receptacle so that water from the brush will drip from the tooth brush holder into the receptacle and thus prevent the water from falling upon the floor or upon the bath room basin above which it may be located.

In carrying my invention into practical operation I preferably utilize a bottle for the holder and provide said bottle with a closure which consists of elastic means for gripping the handle of the brush in such a manner as to hold the bristle portion of the brush suspended within the bottle and which is so constructed that the brush, when drawn outwardly from the bottle, will be cleansed and any water that may be in the bristle portion of the brush substantially removed by the elastic gripping means embodied in the bottle closure. This water will drip out of a hole in the bottom of the bottle and into a receptacle located therebeneath.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings: Figure 1 is a front elevation of my improved tooth brush holder and disinfectant receptacle showing a tooth brush suspended within the holder. Fig. 2 is a sectional elevation taken on line 2—2 of Fig. 1, showing the brush partly withdrawn from the holder and the disinfectant receptacle in operative position. Fig. 3 is a plan view of the holder with the brush removed. Fig. 4 is an enlarged sectional plan taken on line 4—4 of Fig. 2, the tooth brush receptacle being removed.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a bracket formed of sheet metal and consisting of a plate 6 adapted to be fastened to a stationary support such as the wall of a room and having an annular arm 7 at the bottom thereof adapted to receive the lower end of a bottle 8.

At the juncture of the body portion 9 and the neck 10 of the bottle a shoulder 11 is formed and said neck is partly encircled by a U-shaped spring arm 12 which is fastened by a rivet 13 to the plate 6. The annular arm 7 is preferably formed integral with the plate 6. A cap 14 has screw-threaded engagement with the neck 10 of said bottle and has a hole 15 extending through the top thereof.

A disk 16, of elastic material, preferably rubber, is clamped to the top of the bottle by the cap 14, said disk and cap forming together a closure for the bottle 8. The disk 16 has a circular hole therein of a diameter less than the distance across the hole 15 in said cap 14. A drip hole 18 is provided in the bottom of the bottle 8 through which liquid may pass out of said bottle and into a receptacle 19 located therebeneath and in alinement therewith. The receptacle 19 is adapted to contain water or a suitable disinfectant and is provided with a cover 20 which rests upon a flange 21 formed on the top of the receptacle 19. Said cover is concaved and at the bottom of the concave portion thereof is provided a hole 22, so that any water which passes out of the bottle 8 will pass through the holes 18 and 22 and into the receptacle 19.

The receptacle 19 is supported upon a bracket 23 preferably formed of sheet metal and bent to form a right angle. One arm 24 of said bracket is adapted to bear against the wall 26 to which the plate 6 is fastened. The other arm 25 of said bracket is provided with a hole 27 through which the body portion of the receptacle 19 projects,

the flange 21 on the upper end of said receptacle resting upon the arm 25 of the bracket 23.

A U-shaped spring 28 is fastened at its closed end by a screw 29 to the wall 26. The two legs of said U-shaped spring are provided upon their outer edges with teeth 30 and said legs project through slots 31 provided in the arm 25 of the bracket 23 and engage the bracket 23 at opposite ends, respectively, of said slots. Thus the bracket is adjustably supported on the spring.

When the holder is in use it is fastened preferably to a wall 26 by means of screws 32 and 29, the screw 29 being utilized to fasten the bracket 5 to the wall and also to fasten the spring 28 to the wall.

My improved holder is used in connection with a tooth brush in the following manner: Assuming the bracket 5 of the holder to be attached to a wall or to any suitable support by means of the screws 29 and 32 and the spring 28 also to be attached to the wall, with the receptacle 19 supported on the bracket 23, as illustrated in Figs. 1 and 2, and that the brush 33 is held suspended within the bottle, as illustrated in Fig. 1, with the handle 34 projecting through the hole 17 in the elastic disk 16, the user removes the brush from the bottle by grasping the handle 34 and pulling upwardly thereon. The bristles 35 of the brush as they pass through the hole 17 in the elastic disk cause the rubber of the disk to stretch, as illustrated in Fig. 2, and the bristles are scraped by the rubber and by the edge of the hole 15 in the cap 14. When the brush is inserted in the bottle the reverse of this operation will be performed and the bristles will in that case again be cleansed and the water pressed out of the same when they are forced through the hole 17 in the disk 16.

In pushing the brush into and in withdrawing the same from the bottle, the bottle is held in a vertical position against longitudinal or lateral movement in either direction by means of the arms 7 and 12. The arm 12 encircling the neck 10 of the bottle and with its under side bearing against the shoulder 11 firmly locks said bottle against upward movement and when the bottle is removed for the purpose of cleaning the same it is tipped forwardly upon the arm 7 and the neck portion thereof pulled out from between the opposite sides of the U-shaped spring arm 12. The water which has passed from the brush into the bottle passes downwardly through the holes 18 and 22 into the receptacle 19.

When it is desired to use the receptacle 19 as a means for holding disinfectant, said disinfectant is placed within the receptacle 19 and the bracket 23 is pushed upwardly on the legs of the U-shaped spring 28 until the cover 20 contacts with the lower end of the bottle, with the holes 18 and 22 in alinement. The fumes of the disinfectant will then pass upwardly into the bottle and will disinfect the bristles of the brush. When it is desired to remove the disinfectant, the two legs of the U-spring 28 are pressed toward each other in the slots 31 until the teeth 30 are disengaged from the ends of the slots and the bracket 23 can then be pushed downwardly, the cover 20 removed and the disinfectant taken out of the receptacle, the cover then being replaced upon the receptacle, and said receptacle moved upwardly into the position illustrated in Fig. 2, the legs of the U-shaped spring are released and again lock the bracket 23 in position, with the receptacle 19 properly located to receive any liquid from the bottle. It will be understood that the bottle is held firmly in position so that the brush can be inserted or removed with one hand without holding onto the bottle if desired, said U-shaped arm performing the function of holding the bottle against tipping and also preventing the same from being withdrawn from the annular arm 7 when the brush is pulled upwardly, more especially by reason of said U-shaped arm resting upon the shoulder at the top of the body portion of the bottle. If desired, the brush can be cleansed and partially dried by pushing the same upwardly and downwardly through the disk 16 several times.

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

1. A tooth brush holder having, in combination, a bottle with a hole in the bottom thereof, means to support said bottle in a vertical position, a receptacle adapted to contain disinfectant located beneath said bottle in alinement with said hole, a bracket upon which said receptacle is supported and means fastened to a stationary support with which means said bracket has slidable and interlocking engagement.

2. A tooth brush holder having, in combination, a bottle with a hole in the bottom thereof, means to support said bottle in a vertical position, a receptacle adapted to contain disinfectant located beneath said bottle in alinement with said hole and a bracket upon which said receptacle is supported, a U-shaped spring adapted to be fastened at its closed end to a stationary support, the legs of said U-shaped spring being provided with teeth and projecting through slots provided in said bracket, said teeth adapted to engage said bracket at opposite ends, respectively, of said slots, whereby said bracket is adjustably supported on said spring.

3. A tooth brush holder having, in combination, a bottle with a hole in the bottom thereof, means to support said bottle in a

vertical position, a receptacle adapted to contain disinfectant located beneath said bottle in alinement with said hole, a bracket formed of sheet material bent to form a right angle, one arm of said bracket adapted to bear against a wall, the other arm having a hole therein through which said receptacle is adapted to project and a U-shaped spring adapted to be fastened at its closed end to said wall, the legs of said spring being provided with teeth and projecting through slots provided in said last named arm of said bracket.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN H. TRAYNE.

Witnesses:
SYDNEY E. TAFT,
ANNIE J. DAILEY.