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R. F. HURLEY

STERILIZING HOLDER FOR TOOTHBRUSHES

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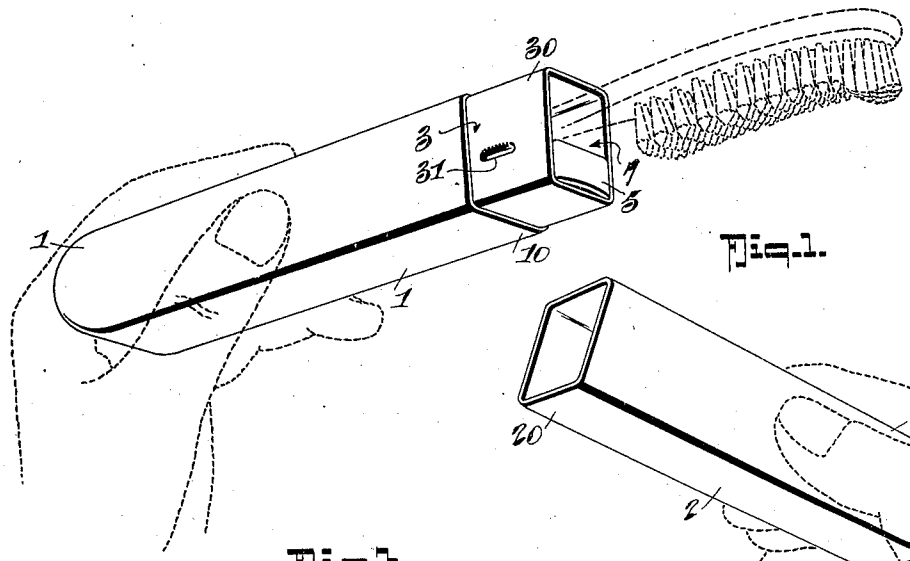


Fig. 1.

Fig. 3.

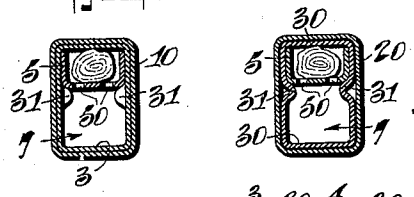


Fig. 4.

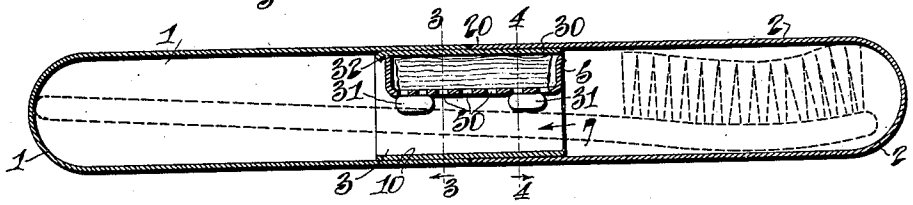


Fig. 2.

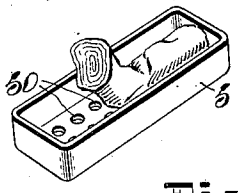


Fig. 6.

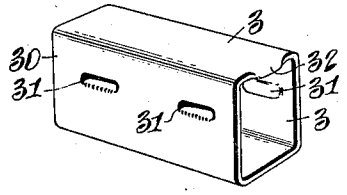


Fig. 5.

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UNITED STATES PATENT OFFICE.

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STERILIZING HOLDER FOR TOOTHBRUSHES.

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To all whom it may concern:

Be it known that I, ROY F. HURLEY, a citizen of the United States, residing at Galesville, in the county of Trempealeau and State of Wisconsin, have invented a new and Improved Sterilizing Holder for Toothbrushes, of which the following is a specification.

This invention is a tooth brush holder and sterilizer and primarily has for its object to provide a simple, neat, inexpensive and easily carried device adapted to hold a tooth brush when not in use, to keep it clean, and at the same time to sterilize the brush so that, between each successive use thereof, the brush is thoroughly sterilized and danger of infection is overcome.

Another object of my invention is to provide a combination brush holder and sterilizer of the character stated of a compact form that can be readily carried in a hand grip or coat pocket when traveling and in which the parts are so joined that the holder may be quickly opened to release the brush when it is desired to use it and as expeditiously reassembled to rehouse the brush in sterilizing position.

An essential feature of my present invention is the provision of a tooth brush holder of the character stated that is composed of two like half sections which, when held together, end for end, form a regular elongated receptacle suitable for the reception of the standard lengths of tooth brushes, the two half sections being stamped or otherwise shaped up from aluminum or other like metals, a supplemental elongated sleeve-like member of aluminum, or other suitable light metal stamped or otherwise formed to the desired shape from a blank piece that constitutes a housing for the reception of a removable cup or container for holding the antiseptic gas generating substance, it also serving as a resilient coupling means for securely holding the two sections of the main body of the holder in fixed relation when the brush is housed within the said holder.

Again, my present invention in its more complete nature embodies a holder of two like shaped sections and a sleeve connection therefor, which connection and the holder section are adapated for being shaped up from a light metal, preferably aluminum, and with the sleeve formed with punched portions that constitute ways for slidably receiving an antiseptic container that is also adapted for being struck up from a suitable aluminum blank, the sleeve having stop portions for limiting the insertion of the antiseptic container and for maintaining it at suitable position for being readily withdrawn from the sleeve-like holder when it is desired to clean the parts of the holder or for re-supplying the antiseptic container with a fresh quantity of the sterilizing agent.

Features other than those stated will be apparent from the following detail description of my said invention which embodies the peculiar features of construction and novel arrangement of parts, specifically mentioned in the appended claims and illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of my present form of tooth brush holder and sterilizer, the same illustrating the manner in which the two sections of the main body or holder are separated.

Figure 2 is a longitudinal section of the device with a brush shown housed therein.

Figure 3 is a transverse section thereof on the line 3—3 of Figure 2.

Figure 4 is a similar section on the line 4—4 of Figure 2.

Figure 5 is a perspective view of the coupling sleeve hereinafter specifically mentioned.

Figure 6 is a perspective view of the antiseptic substance container.

In the practical development of my present invention, a holder for housing a tooth brush is provided and, as shown, the said holder is of rectangular shape in cross section, the parts thereof, when closed together, forming a housing for the reception of the standard lengths of tooth brushes, and to facilitate carrying the device in the pocket the opposite ends of the holder and its corner edges are rounded as is clearly shown in the drawing.

The holder consists of two like half sections 1—2, one of which 1 is hereinafter

called the body portion and the other 2, the top or closure member. The members 1 and 2 are shaped up in any suitable manner, preferably from a resilient metal, and cooperating with the said members 1 and 2 is a coupling member or sleeve 3 also of a resilient metal and rectangular in cross section.

The coupling member or sleeve 3 is inserted into the brush receptacle or body portion 1 of the holder and to provide an efficient means for holding the said member 3 vertically interlocked with the member 1 that is,—against being readily pulled out from the said member 1, the receiving end of the said body 1 and that part of the sleeve that engages the body 1 are shaped for effecting such frictional contact that the sleeve, except when pulled out by a pliers or other like device, will not separate from the holder 1.

The member 3 when operatively pushed into the open end of the body 1 of the holder, has its free end 30 projected some distance beyond the end 10 of the body 1 to provide a coupling portion for frictionally receiving the open end 20 of the cap or closure end 2 of the holder, the co-engaging parts of the cap 2 and the member 3 being shaped for frictionally holding the member 2 from displacement when applied and yet permit of readily pulling the said cap or closure member 2 off the sleeve member 3 when it is desired to remove the brush from the holder.

The member 3 has a number of parallel indentations 31 punched or otherwise formed in the opposite long sides thereof and one of its narrow faces, the top, is shaped with an inturned flange 32 at the inner end thereof, the purpose of which will presently appear.

5 designates an elongated open top container that is also stamped or otherwise shaped up from a suitable spring metal and the said member 5, in which is contained the antiseptic or sterilizing substance, is of such width and length that when shoved into the outer open end of the sleeve member 3 it frictionally engages the said sleeve 3 and is held in the desired position within such member 3 during the ordinary use of the appliance.

The bottom of the container 5 has a series of apertures 50 for the escape of the antiseptic gases or fumes from the sterilizing element 5, which may be an elongated cotton filler saturated with the antiseptic or sterilizing substance.

In fitting the container into operative condition, it is slid into the upper end of the sleeve-like member 3, the opposite parallel indentations 31—31 of which constitute opposite guides upon which the container 5 is slid into place.

The container 5 is of the full length of the sleeve 3 and it is held from being pushed too far within the said sleeve 3 by the turned down flange 32 of the sleeve (see Figure 2), the relation of the several parts stated being such that when the container 5 is in place in the sleeve 3 its forward end will be sufficiently separated from the outer edge of the cylinder 3 that the finger nail or any sharp member may be readily inserted over the outer edge of the container to provide for pulling it out from the sleeve 3 when it is desired to recharge the container with the sterilizing substance.

It will be manifest that when the parts are assembled, as best shown in Figures 2, 3 and 4, a restricted passage 7 is formed at the entrance of the body 1 of the receptacle that is sufficiently large to permit the insertion of the handle of the tooth brush but is too restricted to allow of the insertion of the brush head end first.

It will also be apparent that the arrangement of the parts is such that the sterilizing substance is held adjacent the brush head when the latter is housed, thereby providing for a thorough dissemination of the sterilizing gases that pass through the foraminated bottom of the container 5 and over the brush bristles.

By fitting the cap or closure member relatively loosely onto the sleeve 3, that is with less friction than is incident on the sleeve 3 with the body portion 1, when it is desired to remove the brush by pulling the two members 1 and 2, as shown in Figure 1, the cap 2 will readily become detached from the sleeve 3 and thereby expose the brush head in position for being readily grasped for pulling the handle end out of the said body portion 1.

The several parts that constitute my brush holder are so arranged that a structure is provided wherein a tooth brush may be housed in a practically air-tight compartment with the brush constantly in communication with the sterilizing substance and with the brush head held from coming into direct contact with the antiseptic container 5, thereby avoiding danger of the antiseptic substance, from which the sterilizing fumes or gases are generated, from saturating the brush, which would tend to produce a disagreeable taste during the operation of brushing the teeth.

The specific arrangement of the parts shown and described, owing to the ease and economy of manufacture, I have found a preferred construction, but I desire it understood that the specific construction described and shown may be reasonably modified without departing from my invention as comes within the scope of the appended claims.

From the foregoing description, taken in connection with the drawing, the complete

construction, the manner of its use and the advantages of my invention will be readily apparent to anyone familiar with the use of brush holding means of the general shape described.

What I claim is:

1. In a tooth brush holder, a receptacle for a tooth brush composed of two like sections arranged for end to end connection, a coupling member for frictionally engaging the abutting ends of the two sections, one of the said sections being adapted for engaging the coupling member under less frictional contact than the contacting engagement of the other holder section with the coupling member, whereby to readily pull from off the coupling member, when it is desired to open the holder to remove the brush.

2. In a device of the class described, the combination of a brush containing holder composed of two half sections, a sleeve like coupling member onto which the adjacent ends of the two half sections are frictionally slidable and a disinfectant container adapted for endwise sliding into and frictionally engaging the sleeve-like coupling member.

3. In a device of the class described, the combination of a brush containing holder composed of two half sections, a sleeve like coupling member onto which the adjacent ends of the two half sections are frictionally slidable, a disinfectant container adapted for endwise sliding into and frictionally engaging the sleeve-like coupling member, the said sleeve-like coupling member having indentations in its opposite sides that constitute guides onto which to slide the container whereby to hold the container close up to one of the inner faces to the sleeve-like member to thereby restrict the passage through the sleeve and provide for the insertion therethrough, of the brush handle only.

4. In a device of the class described, the combination of a brush containing holder composed of two half sections, a sleeve like coupling member onto which the adjacent ends of the two half sections are frictionally slidable, a disinfectant container adapted for endwise sliding into and frictionally engaging the sleeve-like coupling member, the said sleeve-like coupling member having indentations in its opposite sides that constitute guides onto which to slide the container whereby to hold the container close up to one of the inner faces to the sleeve-like member to thereby restrict the passage through the sleeve and provide for the insertion therethrough, of the brush handle only, the said sleeve member having a stop portion to limit the insertion of the disinfectant container therein.

5. As a new article, the combination of the tooth brush holder and sterilizer, comprising a receptacle of a length to receive a tooth brush therein, the said receptacle consisting of two half sections of like shape and a coupling sleeve onto which the adjacent ends of the two half sections of the receptacle are frictionally engaged, an open top sterilizing agent container, the bottom of which is apertured for the escape of the sterilizing fumes, the said container being shaped for sliding into and frictionally engaging one portion of the coupling sleeve whereby to form a brush handle passage through the other portion of the sleeve, the said coupling sleeve having integral guides with which the sterilizing container engages when fitted within the sleeve, the said sleeve also having a stop portion to limit the end thrust of the container into the sleeve whereby to project the outer end of the container to position it for being withdrawn from the sleeve, the said sleeve and the container being formed of resilient metal and shaped to fit the sleeve within the holder ends, and the container within the sleeve.

6. A tooth brush holder and sterilizer comprising an elongated receptacle suitable for receiving a tooth brush therein, the said receptacle being composed of two like half sections adapted to fit end to end, a coupling sleeve with which the open ends of the two half sections frictionally engage, the frictional connection at one end of the sleeve and the corresponding receptacle section being such that the other receptacle section can be pulled off the sleeve without disturbing the connection between the sleeve and the first mentioned receptacle section, and a sterilizing substance container supported within the sleeve.

7. A tooth brush holder consisting of an elongated receptacle comprising two like half sections, a sleeve-like member having the cross sectional shape of the receptacle, the said member constituting a coupling adapted for frictionally receiving on its opposite ends the opposite open ends of the two receptacle sections and a sterilizing substance container endwise slidable into and frictionally engaging the coupling sleeve, and means on the sleeve for holding the container up against the top of the sleeve to thereby provide a passage through the sleeve for the brush handle.

ROY F. HURLEY.