

[54] **PROTECTOR FOR A TOOTHBRUSH OR THE LIKE**

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[57] **ABSTRACT**

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The protector for a toothbrush has a rear wall, having integrally formed transverse walls, has a front wall adhesively secured to the transverse walls to complete an open ended enclosure, and has resilient end flaps across the open end thereof to form a sanitizing agent compartment containing a sanitizing agent, a bristle receiving space below the sanitizing agent compartment for collecting sanitizing agent fumes, guides for guiding the bristle end of the toothbrush into the bristle receiving space, and an opening for receiving the bristle end of the toothbrush therethrough, whereby the bristle end and the bristles passing through the opening along the guides into the bristle receiving space, while the flaps close about the handle to retain the fumes of the sanitizing agent around the bristle and bristle end of the toothbrush.

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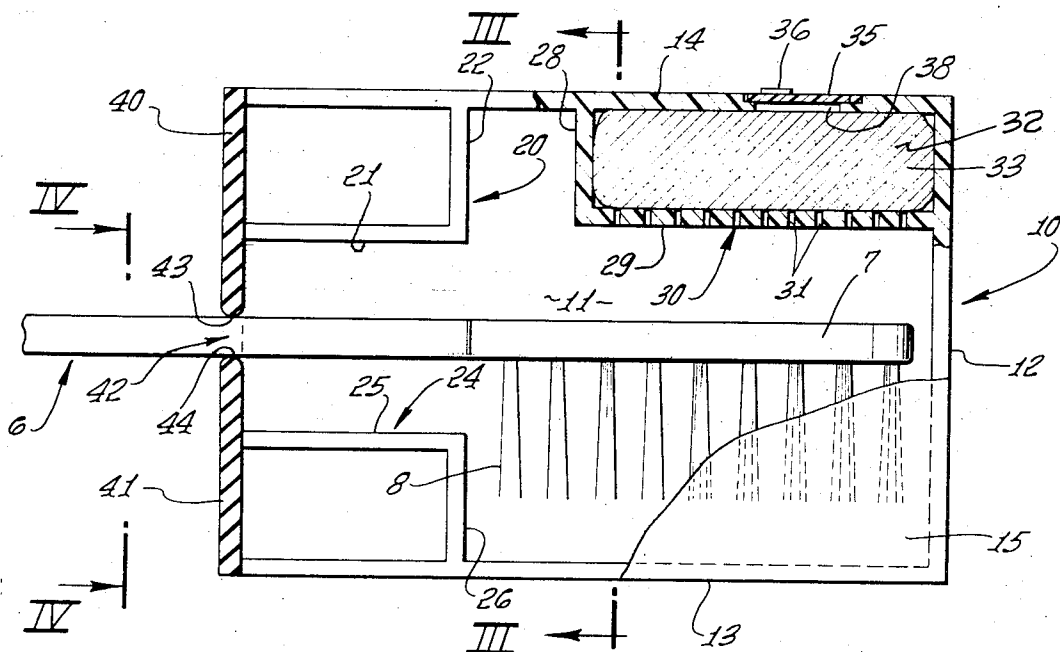
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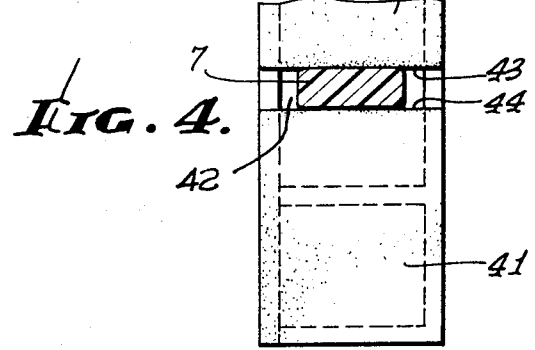
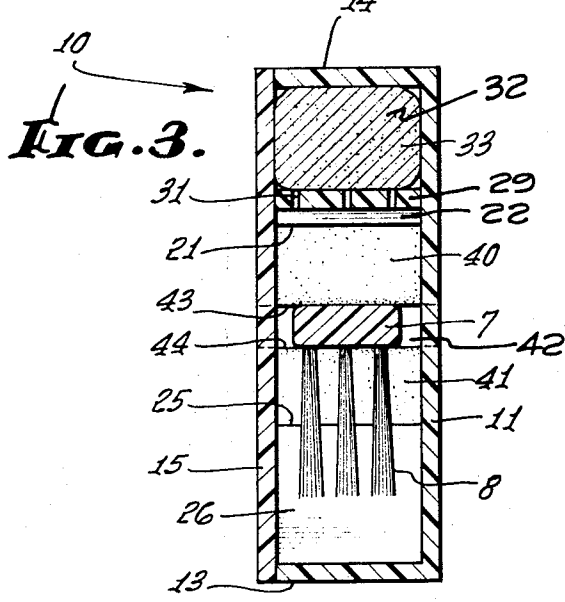
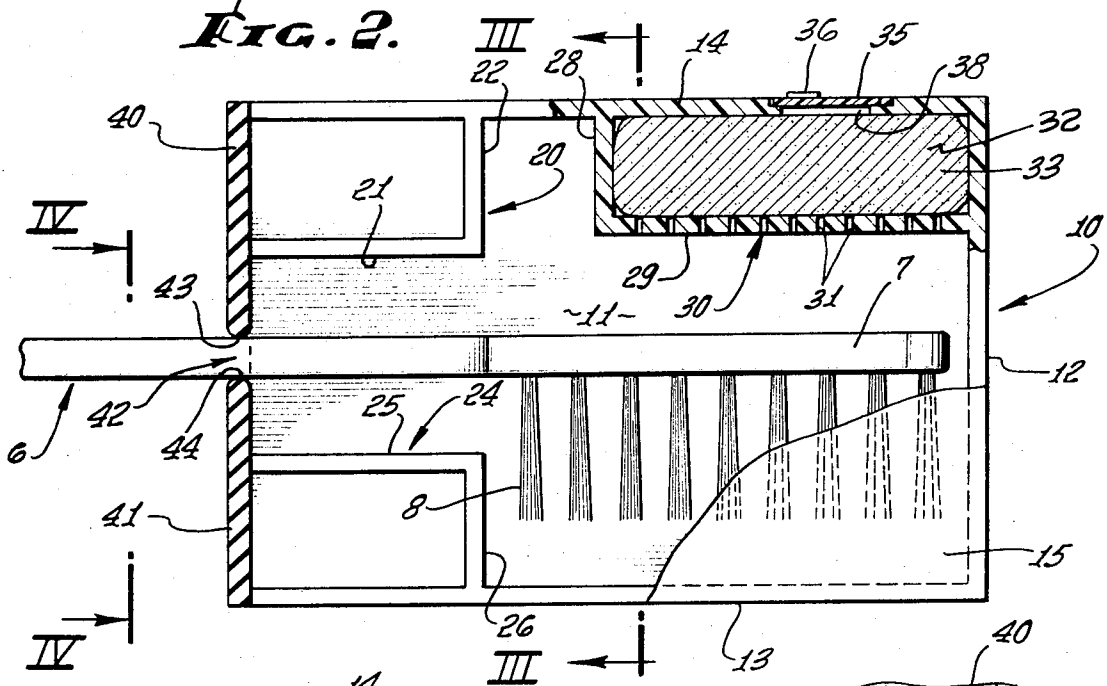
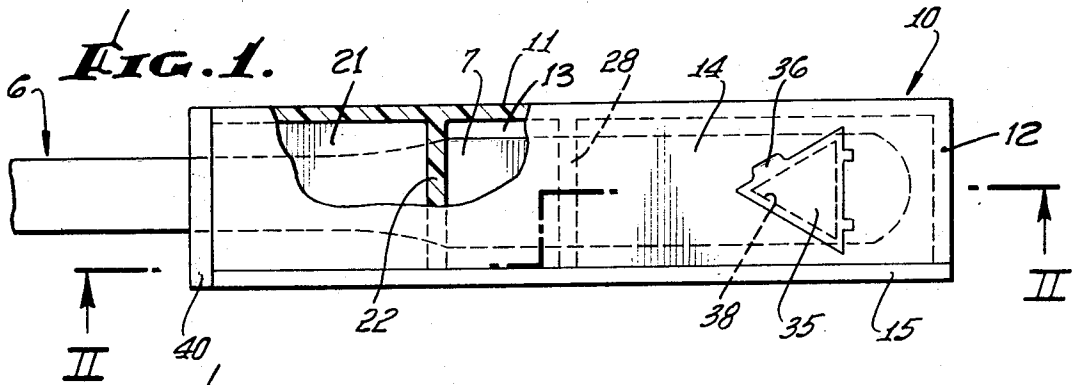
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2 Claims, 4 Drawing Figures





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PROTECTOR FOR A TOOTHBRUSH OR THE LIKE**BACKGROUND OF THE INVENTION**

This invention relates to brush protectors and more particularly to such protectors suited for toothbrushes or the like.

Toothbrush holders per se are old. Yet none of these toothbrush holders has found commercial acceptance. The reasons for the lack of commercial acceptance are many. They can be understood by examining the various holders shown in prior art patents and grouped according to the shortcoming of each one.

The most common shortcoming of the prior art holders is found in the operations required to insert the bristle end of the toothbrush into the holder. In such patents as Quartararo U.S. Pat. No. 1,194,540, Goodnow U.S. Pat. No. 1,303,884, Thompson U.S. Pat. No. 1,278,789, Thompson U.S. Pat. No. 1,419,593, Bash U.S. Pat. No. 1,501,835 and Schmidt U.S. Pat. No. 1,506,257 for example, a closure member such as a cap or a door must be opened, the toothbrush inserted or removed, and then the closure member closed. It is much simpler to lay the toothbrush down or insert it into an opening in a water glass holder on the wall than it is to insert the toothbrush into the sanitizing holder. Therefore the holder is not used. An inventive toothbrush holder would require no more than the single motion to insert or withdraw the toothbrush.

Another common shortcoming of the prior art patents, especially the few patents showing toothbrush holders which permit insertion of the toothbrush without removing a closure member, is the lack of a space which receives the bristles of the toothbrush and which holds a sanitizing agent around the bristles. For example, patents such as Ciglia U.S. Pat. No. 1,272,010, Speidel U.S. Pat. No. 1,554,694 and Koch U.S. Pat. No. 2,038,941, all of which permit the insertion of the toothbrush into the holder without removing a closure member also permit the escape of the sanitizing agent fumes, wasting the sanitizing agent. An inventive sanitizing holder would provide a bristle receiving space which holds the sanitizing agent fumes around the bristles.

Still other toothbrush holder patents, such as MacShane U.S. Pat. No. 1,708,423, shows a device which does not provide a sterilizing agent at all, but merely purifies the air around the toothbrush. An inventive toothbrush holder should do more than purify the air around the toothbrush.

None of these prior art toothbrush holders combines any of the above features, let alone combining all of these features with additional features, into a compact product which is easy and inexpensive to manufacture to permit sale to the consumer-user at an attractive price.

BRIEF DESCRIPTION OF THE INVENTION

Therefore it is the primary object of this invention to provide a novel toothbrush protector.

Other and additional objects of this invention are to provide such a toothbrush protector which effectively sanitizes a toothbrush located therein, which permits the bristle end of a toothbrush to be inserted into the protector in one motion, which holds the vapors from the sanitizing agent in the protector, which permits easy refilling of the sanitizing agent, and which is integrally formed to be inexpensive to manufacture, easy to

assemble and effective to protect a toothbrush or the like.

Generally the protector, according to this invention, for a toothbrush or the like having a handle from one end of which bristles depend, includes an enclosure having walls and an open end, upper and lower guides means in the enclosure at the open end for guiding the insertion of the toothbrush handle and for defining a bristle receiving space, and end flap means over the open end having an opening for receiving the toothbrush handle therebetween. The protector may have a sanitizing agent compartment containing a sanitizing agent, with one wall thereof being ported to permit the fumes of the sanitizing agent to flow into the enclosure, and with another wall thereof having a hole selectively closed by a cap to permit the refilling of the sanitizing agent. The enclosure may be made in two parts with all of the walls integrally formed, except the front wall, which is adhesively secured thereto. The flap means may include upper and lower end flaps of a resilient material having opposed edges defining the opening.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a partially broken away top view of the protector according to this invention.

FIG. 2 is a partially broken away view taken along the stepped plane II—II of FIG. 1.

FIG. 3 is a cross-sectional view taken along the plane III—III of FIG. 2.

FIG. 4 is a fragmentary end elevational view taken along the plane IV—IV of FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, the protector according to this invention is best seen in FIG. 2. The protector is for receiving a toothbrush 6, or the like, having a handle 7 with one end thereof having transverse rows of bristles 8. The bristle rows 8 are illustratively shown as 9 in number and occupy a space on the handle 7 adjacent one end thereof.

As is well known, a toothbrush is used to brush particles and other debris from the teeth and gums of a person's mouth. However, most of the day, the toothbrush 6 is left exposed to dry in the air. During this time, the bristle end of the handle 7, containing the bristles 8, are vulnerable to injury. More importantly, the bristle end of the handle 7 and the bristles 8 collect bacteria, germs, etc. from the air. When the toothbrush is used again, these bacteria and germs are not only carried into the mouth, but are ground into the gums and teeth by the brushing action. The protector, according to this invention, protects and sanitizes the bristle end of the handle 7 and the bristles 8 of the toothbrush 6 to destroy these bacteria and germs and protect the user from infection thereby.

Generally, the protector, according to this invention, includes an enclosure 10 with a plurality of walls and an open end, guide means of upper and lower guides 20 and 24 for guiding the insertion of the bristle end of the handle 7 into the enclosure 10 and into a bristle receiving space, a sanitizing agent container 30 for holding a sanitizing agent 32 which passes into the bristle receiving space to collect therein for sanitizing the bristles 8 and bristle end of the handle 7, and end flap means including upper and lower end flaps 40 and 41 for defining an opening 42 through which the bristle end of the

handle 7 is inserted, for opening while the bristle end of the handle 7 is inserted or withdrawn and for closing around the handle 7 to hold sanitizing agent 32 in the enclosure 10.

The enclosure 10, of the preferred embodiment, is illustratively shown as having a generally rectangular shape and is constructed of plastic or other easily formed material. The illustrative enclosure 10 is shown as a self-contained portable unit, but could be designed to mount on a wall, such as a bathroom wall, or could be combined with another item of related function into a combination toiletry article. The enclosure 10 could also be grouped with other enclosures 10 for receiving a plurality of toothbrushes 6 or the like.

The enclosure 10 of the preferred embodiment is constructed in two parts. The primary part is a rear wall 11 integrally including a right end wall 12, a bottom wall 13 and a top wall 14. The other part of the enclosure 10 is a front wall 15 which is adhesively or otherwise suitably secured to the transverse walls 12, 13 and 14 to complete the enclosure 10. The left end of the enclosure 10, opposite the right end wall 12, is open for receiving the toothbrush 6.

The guide means for guiding the insertion of the bristle end of the handle 7 into the enclosure 10 includes, in the preferred embodiment, an upper guide 20 and spaced therebelow, a lower guide 24. The upper guide 20 has a lower wall 21 integrally formed with the rear wall 11 and extending from the open end of the enclosure 10 toward the right end wall 12, a distance less than half way. The upper guide 20 also includes an end wall 22 integrally formed with the rear wall 11 and extending from the inner end of the lower wall 21 to the top wall 14.

Likewise, the lower guide 24 includes an upper wall 25 and an end wall 26 integrally formed with the rear wall 11. The upper wall 25 is spaced below the lower wall 21, a distance greater than the thickness of the handle 7 and extends from the open end of the enclosure 10 towards the right end wall 12, a distance less than half way. The end wall 26 then depends from the inner end of the upper wall 25 to meet with the bottom wall 13. For reasons which will become apparent later, the end wall 26 is spaced from the right end wall 12 a distance greater than the length of the space occupied by the rows of bristles 8 on the end of the handle 7 to provide a bristle receiving space.

An end wall 28 and a lower wall 29 together with part of the top wall 14 and part of the right end wall 12 of the enclosure 10 form the sanitizing agent container 30. The lower wall 29 is spaced from the top wall 14 and extends forwardly from the right end wall 14 to terminate in the end wall 28, spaced from the right end wall 12 of the enclosure 10, spaced from the end wall 22 of the upper guide 20, and extending to the top wall 14. The lower wall 29 is provided with rows of ports 31 to permit the fumes of the sanitizing agent 32 to pass from the container 30 into the enclosure 10. A sponge 33 or other absorbent material is located in the container 30 to hold the liquid sanitizing agent in the container.

It is contemplated that the sanitizing agent will be a volatile liquid which will be held by the sponge 33, and will slowly oxidize or vaporize. The vapors of the sanitizing agent will then descend through the ports 31 into the enclosure 10. The fumes of the sanitizing agent 32, being heavier than air, will settle into the bristle receiving

space, around the bristle end of the handle 7 and the bristle 8 to sanitize them while the enclosure 10 protects them.

As the liquid sanitizing agent 32 is oxidized or vaporized, it will be consumed and therefore the container 30 will need to be periodically refilled with sanitizing agent. To facilitate the refilling of the container 30, a cap 35 with an easily grasp tab 36 is provided over a hole 38 opening into the container 30 through the top wall 14. By grasping the tab 36 and raising the cap 35, the hole 38 is opened to permit the liquid sanitizing agent 32 to be poured into the container 30, filling the sponge 33. When the sponge 33 is saturated with liquid sanitizing agent, the cap 35 closes the hole 38, to prevent the spilling of the sanitizing agent.

The end flap means for closing around the handle 7 to retain the loss of sanitizing agent vapors 32 in the enclosure 10 includes, in the preferred embodiment, upper and lower end flaps 40 and 41. The end flaps 40 and 41 are generally rectangular in shape and are made of a resilient material such as rubber. Each end flap 40 or 41 has a length slightly less than half of the height of the enclosure 10. The upper end flap 40 has a lower edge 43 and the lower end flap 41 has an upper edge 44 which when the end flaps 40 and 41 are mounted over the open end of the enclosure 10, define the opening 42 between the end flaps 40 and 41. This opening 42 is midway between the upper and lower walls 21 and 25 of the guides 20 and 24, to receive the handle 7 of the toothbrush 6 therethrough. After the handle 7 has been inserted into the enclosure 10, the flaps 40 and 41 close around the handle 10 to effectively close the open end of the enclosure 10 and retain the sanitizing agent vapor in the enclosure 10.

After a person has used his toothbrush 6, for example in the morning, he inserts the bristle end of the handle 7 through the opening 42, bending the flaps 40 and 41 inwardly to pass the bristles 8 and handle 7 between the upper and lower walls 25 and 21 of the guides 24 and 20 until the bristle end of the handle 7 bottoms against the right end wall 12 and the bristles 8 extend into the bristle receiving space. After the bristles 8 pass through the flaps 40 and 41, the resilience of the flaps 40 and 41 returns them to an aligned position around the handle 7. The toothbrush 6 is left in the enclosure 10 the rest of the day, to be protected therein, while the vapors of the sanitizing agent flow from the container 30 through the ports 31 in the lower wall 29 thereof, downwardly past the bristle end of the handle 7 to settle in the bristle receiving space and engulf the bristles 8. The vapors are held in the enclosure 10 by the flaps 40 and 41. The next time the toothbrush is needed again, it is pulled from the enclosure 10 sanitized ready for use.

Thus the protector according to this invention provides a novel toothbrush holder which easily yet effectively protects and sanitizes the bristles 8 and bristle end of a toothbrush 6 inserted therein.

I claim:

1. A protector for a toothbrush or the like having a handle, with bristles depending from one end thereof, said protector comprising:

an enclosure having a rear wall, a front wall, a top wall, a bottom wall, and one end wall, the other end being open,
upper and lower guides in the enclosure at the open end, said guides being spaced apart a distance

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greater than the handle thickness and the lower guide being spaced from the one end wall a distance greater than the length of space the bristles occupy on the handle, to form a bristle receiving space therebetween,

wherein the top wall, the bottom wall, the one end wall and the upper and lower walls of the guides, are integrally formed on the rear wall and receive the front wall thereagainst, and

end flap means on the enclosure at the open end for closing the open end, said end flap means having an opening for receiving the handle of the toothbrush therebetween and being flexible to permit the passage of the bristles end of the toothbrush therebetween into and from the bristle receiving space.

2. A protector for a toothbrush or the like having a handle, with bristles depending from one end thereof, said protector comprising:

an enclosure having a rear wall, a front wall, a top wall, a bottom wall, and one end wall, the other end being open,

upper and lower guides in the enclosure at the open end, said guides being spaced apart a distance greater than the handle thickness and the lower

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guide being spaced from the one end wall a distance greater than the length of space the bristles occupy on the handle, to form a bristle receiving space therebetween,

end flap means on the enclosure at the open end for closing the open end, said end flap means having an opening for receiving the handle of the toothbrush therebetween and being flexible to permit the passage of the bristles end of the toothbrush therebetween into and from the bristle receiving space said enclosure also including a sanitizing agent compartment, said sanitizing agent compartment having ports communicating with the bristle receiving space and having a sterilizing agent therein, said agent passing through the ports into the bristle receiving space to sanitize the end of the handle and bristles therein, and

wherein a wall of the enclosure, contains a hole opening into the interior of the sanitizing agent compartment, to permit the refilling of the compartment with sanitizing agent, and wherein a cap is provided for selectively closing the hole to prevent the loss of the sanitizing agent therethrough.

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