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TOOTHBRUSH WITH CREASABLE HANDLE

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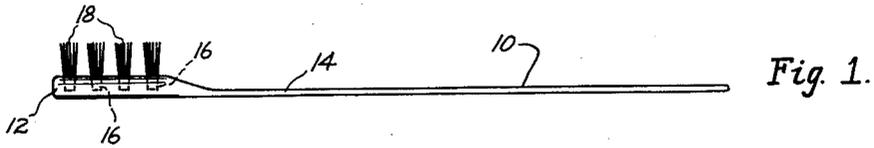


Fig. 1.

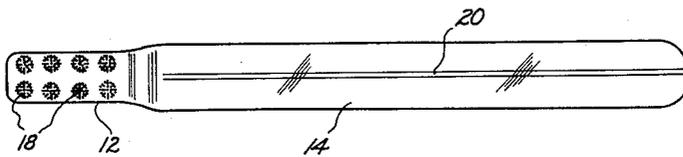


Fig. 2.

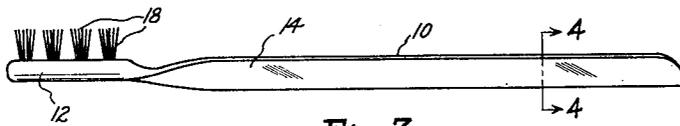


Fig. 3.



Fig. 4.

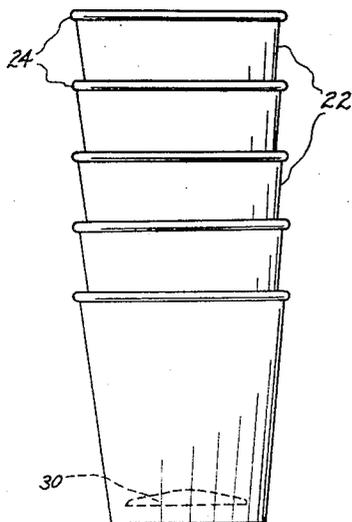


Fig. 6.

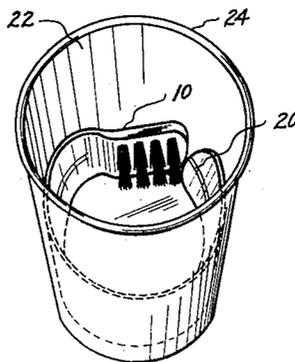


Fig. 5.

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# UNITED STATES PATENT OFFICE

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## TOOTHBRUSH WITH CREASABLE HANDLE

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1 Claim. (Cl. 15-167)

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This invention relates to dental hygiene, and more particularly, relates to a disposable toothbrush adapted to be dispensed in association with a paper cup from a coin-operated automatic vending machine.

Good dental hygiene requires frequent brushing of the teeth, particularly after eating foods which have a tendency to accumulate in the interstices between the teeth. Such deposits should be removed as soon as possible. Because it is inconvenient to carry a toothbrush and tooth paste or powder on the person, most people tolerate the presence of foreign matter on or between the teeth until such time as access to their personal lavatory facilities is expedient, generally not before retiring for the night. This situation could be remedied by providing in public lavatories, such as those in restaurants, theaters and the like, inexpensive disposable facilities for cleansing the teeth.

The primary object of my invention is to provide a paper cup containing a disposable toothbrush and a modicum of tooth powder, adapted to be dispensed from a coin-operated automatic vending machine.

Another object of my invention is to provide an extremely cheap toothbrush which is durable enough to be used at least once.

A further object of my invention is to provide a disposable toothbrush in which the body and handle are made of paper or cardboard.

Still another object of my invention is to provide a toothbrush having a handle adapted to be curled whereby the toothbrush may be fitted into the bottom of a paper cup.

With these and other objects in view which will become apparent from the ensuing description and claim, the following sets forth the details of construction and combination of parts of a specific embodiment of my invention which I illustrate as an example, and which will best be understood when read in conjunction with the accompanying drawing, in which—

Fig. 1 is a side view of the toothbrush of my invention showing the handle flattened out.

Fig. 2 is a plan view of the toothbrush of Fig. 1.

Fig. 3 is a side view of the toothbrush of Fig. 1 showing the handle folded for longitudinal stiffening.

Fig. 4 is a section on the line 4-4 of Fig. 3.

Fig. 5 is a perspective view of a paper cup with my disposable toothbrush curled up in the bottom.

Fig. 6 is an elevational external view of a stack of paper cups similar to the one shown in Fig. 5, each containing a toothbrush, illustrating the

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manner in which the cups are stacked for vending.

Referring to the drawing, Fig. 1 shows a toothbrush 10 having a body portion 12 of cardboard about three-eighths of an inch wide and one-quarter inch thick. Integrally attached to and extending longitudinally from the bottom of one end of the body 12 for a distance of approximately four inches is a flat handle 14 comprising a strip of heavy paper or light cardboard about three-quarters of an inch wide. Between the body 12 and the handle 14 there is a neck portion in which the body 12 is gradually thinned out to the thickness of the handle and gradually widened to the width of the handle. Two rows of tufts 18 of bristles are cemented into suitable apertures in the body 12.

A narrow longitudinal depression is impressed medially in the top flat side of the handle 14 for its full length to form a folding line or groove 20. When the handle 14 is creased or folded along the folding line 20 so that it is V-shaped in transverse section as shown in Figs. 3 and 4, sufficient stiffness or rigidity is imparted to the handle to permit the toothbrush to be wielded in the usual fashion. Adjacent the neck portion which forms the transition between the body 12 and the handle 14, the folding of the outer edges of the handle begins before the neck portion is thinned down longitudinally to the thickness of the handle. This provides requisite rigidity between the body 12 and the creased handle. To oppose the tendency of water to soften or wilt the paper or cardboard body and handle, these parts are suitably waxed. This permits the toothbrush to be used for a considerable time before the body or handle softens to the point of uselessness.

For vending purposes, the toothbrush 10 with the handle 14 flat or unfolded, is curled up into a ring or cylinder and placed in the bottom of a paper cup 22 of the customary conical frustum shape with a rolled lip 24. Fig. 6 shows a group of such paper cups 20, each containing a toothbrush, stacked for dispensing in the customary manner from the well-known coin-operated automatic cup-vending machines (not illustrated) which release the lowermost cup when operation is initiated by insertion of the proper coin. For facility in handling, the cups 20 may have a suitable conical angle such that they will stack with a slight degree of adherence while leaving space for a toothbrush 10 in each cup.

A small quantity of tooth powder or paste wrapped in a container 30 of paper or cellophane

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is placed in the bottom of each cup along with the toothbrush 10.

It is evident that the combination of paper cup, inexpensive disposable toothbrush and modicum of tooth powder or paste, can be vended by automatic machines for a sum small enough to meet the purse of most persons.

Although I have shown my toothbrush as having a single folding line or groove, it is within the scope of my invention to have a multiplicity of parallel folds in the handle, for example so that it is W-shaped instead of V-shaped as shown in Fig. 4. Also, the folding line or lines may be formed by perforations or like well-known means for predisposing the handle 14 to be readily creased into any desired folded shape. Furthermore, it should be understood that although illustrated as having two rows of four tufts of bristles, my toothbrush may be provided with as few or as many tufts as desired.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting, as other embodiments will be evident to those skilled in the art, as well as obvious modifications in construction and arrangement without departing from the spirit of the invention.

I claim:

A toothbrush comprising a pliable cardboard strip handle creasable for longitudinal stiffening, a bristled stiff body substantially thicker and narrower than said handle, and a neck portion uniting said handle and said body and forming a transition between them, said neck portion be-

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ing gradually thinned out and widened from the body toward the handle in a manner to permit the thinned outer edges of the neck adjacent the handle to be bent when the handle is creased, whereby to provide rigidity between the body and the handle when the handle is creased.

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