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SUPPORTING MEANS AND METHOD FOR TOOTHBRUSHES AND THE LIKE

Filed Dec. 29, 1958

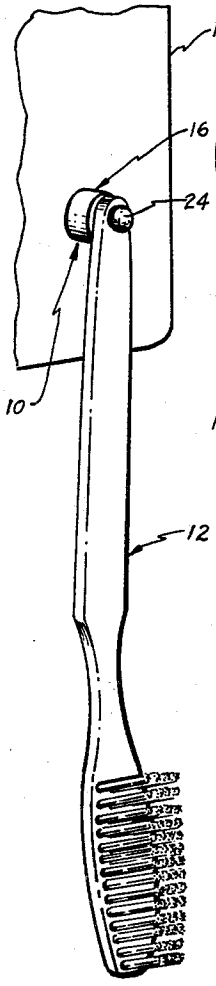


Fig. 1

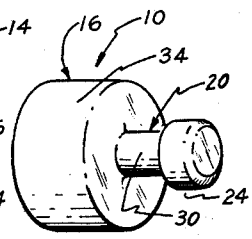


Fig. 2

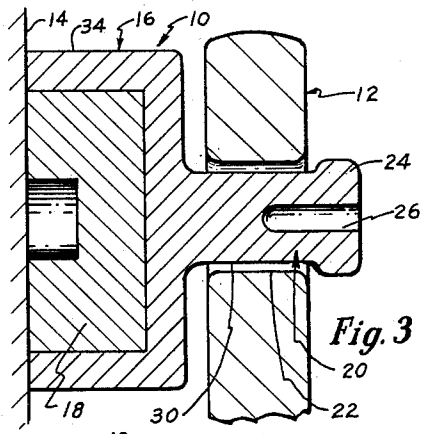


Fig. 3

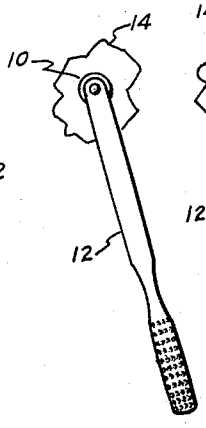


Fig. 4

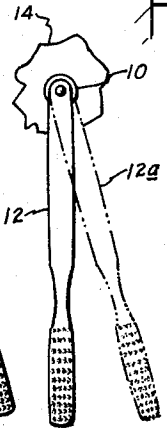


Fig. 5

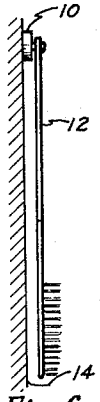


Fig. 6

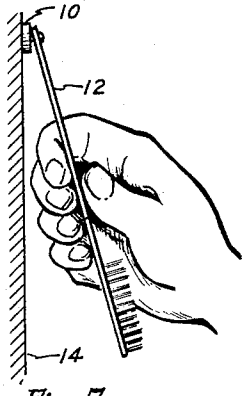


Fig. 7

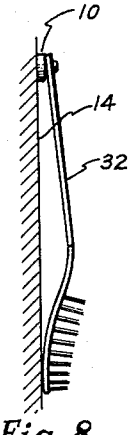


Fig. 8

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SUPPORTING MEANS AND METHOD FOR TOOTHBRUSHES AND THE LIKE

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1 Claim. (Cl. 248—360)

This invention relates to supporting means, and more particularly to a novel attachment means for magnetically supporting an article such as a toothbrush, and to a method for producing the same.

Articles such as toothbrushes often present a storage problem. The desired tidiness of many a home bathroom is often marred by an unsightly arrangement of toothbrushes. In fact, the term "arrangement," in referring to toothbrush storage, would often be an over-dignified expression; for the term "arrangement" implies some degree of orderliness which is not characteristic of toothbrush storage in many homes.

Toothbrushes are often seen lying on the water-tank of a bathroom commode; lying precariously on a rim of the bathroom sink; or lying, in a pile, on a wall shelf, or on a shelf of the medicine or vanity closet.

In such locations, they are not only unsightly but are unsanitary; for they are easily knocked off onto the floor, and are jammed up against other articles such as combs and hair-brushes. Toothbrushes of different members of the family lie up against each other in an unsanitary manner.

The condition of toothbrush disorderliness is aggravated by such factors as: the presence of children in the family who add to the quantity of toothbrushes and to the haphazardness of toothbrush placement; by the hurried nature of toothbrush placement even by adults, who often brush their teeth as a final activity of their hurried morning grooming; and by the characteristics of certain toothbrush holders which are somewhat inconvenient to use, are relatively expensive, or relatively difficult or bothersome to install.

Accordingly, it is an object of our invention to provide a novel toothbrush-supporting device which will provide and tend to assure an orderly arrangement of articles such as toothbrushes.

Another object is to provide a novel toothbrush-supporting device which is economical and convenient, overcoming disadvantages of other types of toothbrush holders and hangers.

A further object is to provide a new and improved toothbrush-supporting device which requires no installation, by advantageously employing features of magnetic adherence to associated ferrous material such as the walls or door of an associated medicine or vanity closet.

A still further object of our invention is to provide a toothbrush-supporting device having handiness characteristics and operating advantages tending to intrigue the user and thus encourage him to utilize it for orderly toothbrush storage.

Another object is to provide a toothbrush holder associated with the toothbrush itself, and requiring no specific co-operating retaining attachment or hook on the associated supporting surface, and providing that the quantity of toothbrushes to be held is not limited by the number of retaining means required by other types of toothbrush holders.

A more particular object is to provide a toothbrush-supporting device, which will provide that a toothbrush will hang in an orderly vertical disposition, regardless of the orientation imparted to the toothbrush by the user as he hangs the toothbrush in its storage position, thus rendering its use more convenient.

A further object of our invention is to provide a toothbrush-holding device for association with a toothbrush, which is attractive, light in weight, small in size, low in cost, yet which provides advantages as above indicated, providing a desirable device for low-cost distribution and sale or for distribution as an advertising premium as by manufacturers of toothbrushes or tooth-cleanser.

In carrying out our invention in an illustrative embodiment, we provide a toothbrush-supporting device in the form of a plastic body having an upstanding leg adapted to be inserted through the hole in a toothbrush handle. An enlargement on the head of the leg, which is deformable to permit the head to be initially pushed through the handle-hole, holds the toothbrush assembled onto the device; and a magnet in the body holds the assembled body and toothbrush onto any associated ferrous-metal surface.

Significant features of our invention include a loose swivel-type connection, which is provided by the relation between the body-leg and the toothbrush thickness and hole size, whereby the brush is freely rotatable on the body-leg to permit the brush to assume an orderly vertical position, regardless of the orientation of the holder-body onto the associated metal surface, and to provide other advantages as will be pointed out.

These and other objects, features, and advantages of our present invention will be further apparent from the following more detailed description of an illustrative embodiment thereof, together with the accompanying somewhat schematic drawings, in which:

FIG. 1 is a pictorial view of a toothbrush equipped with a supporting device according to this embodiment of our invention, the toothbrush and supporting device being shown as hanging on an associated metal supporting surface;

FIG. 2 is an enlarged pictorial view of the toothbrush-holder of FIG. 1;

FIG. 3 is a further enlarged, longitudinal cross-sectional view of the holder of FIGS. 1 and 2;

FIG. 4 is a diagrammatic front view of a toothbrush and holder, as a user might hastily place the toothbrush onto the supporting surface in a non-orderly, non-vertical position;

FIG. 5 is a view similar to FIG. 4, but in contrast to FIG. 4, illustrates the toothbrush in an orderly, vertical position, illustrating a feature of the invention whereby the holder provides that the toothbrush will orient itself into orderly vertical position from a non-orderly position in which the user may place it;

FIG. 6 is a diagrammatical side view of the toothbrush and holder hanging on the associated surface, in vertical disposition as in FIG. 5;

FIG. 7 is a view similar to FIG. 6, but showing the toothbrush displaced away from the vertical, as permitted by the holding-device, permitting convenient attaching and removal of the toothbrush and holder from the associated surface; and

FIG. 8 is a side-view similar to FIG. 6, but illustrating the device in use with a toothbrush of a type having a bent handle.

In the drawings, our invention is illustrated as a holding device 10 for supporting a toothbrush 12 on an associated ferrous supporting surface 14 such as the wall or inside door surface of a medicine or vanity closet.

The holding device itself is shown as a body 16, desirably formed of plastic, and containing a magnet 18 to magnetically hold to the supporting surface 14, and an integral, upstanding leg 20 adapted to extend through hole 22 in the handle of the associated toothbrush 12.

The free end of the leg 20 is shown as an enlarged

head 24 for holding the toothbrush on the leg, and the head is provided with an axial recess such as the bore 26 which permits the walls of the head 24 to be deformed inwardly to permit insertion of the leg into the toothbrush hole 22.

From the general description so far given, it will be noted that in use, the device leg 20 is inserted in the hole 22 of a toothbrush handle, and the leg-head 24 holds the toothbrush and holding device assembled, to provide that the magnet 18 in the body 16 will hold the assembly onto the associated surface 14.

In the more detailed description which follows, it will be seen that many concepts contribute to the effectiveness and advantages of the device.

In the embodiment shown, it will be noted that the shank portion 30 of leg 20 is of a diameter of about .140 inch, smaller than the diameter of the toothbrush hole 22, and is of a length of about .220 inch, longer than the thickness of the toothbrush.

This relation of leg-shank 30 to the size of the toothbrush handle and hole provides a sort of a loose swivel-type connection between the holder and the supported article, providing several advantages and desirable operating characteristics.

First, even though the user may place the toothbrush 12 in a non-orderly, non-vertical position on the supporting wall 14, as shown in FIG. 4, and as shown in the chain-line position 12*a* of FIG. 5, the relation of the leg-shank 30 to the toothbrush hole permits the weight of the toothbrush to swing the toothbrush downwardly into the orderly vertical orientation shown in the full-line position 12 of FIG. 5.

This characteristic provides for greater convenience, for the user need not bother to position his brush in a particular orientation; instead, the user can merely "slap" his toothbrush onto the supporting surface hastily, in a haphazard manner, yet the brush will assume the straight and orderly vertical position. This is of particularly advantage where there are a plurality of toothbrushes to be hung on the supporting surface, and where the user will be a child.

A second particular advantage of this relation between the leg-shank 30 and the toothbrush thickness and hole size is illustrated best in the side views of FIGS. 6 and 7.

FIG. 6, it is noted, shows the toothbrush in vertical, close-to-the-wall, free-hanging position. By contrast, FIG. 7 shows the toothbrush in a non-vertical position, swung at an angle with respect to the leg axis, as permitted by the loose swivel-type connection; yet even in this swung position, the body 16 still faces the supporting surface squarely, in the position of greatest magnetic adherence.

Accordingly, as shown in FIG. 7, the user may employ this advantage in both securing the toothbrush to the supporting surface, and in removing it therefrom.

That is, in securing his toothbrush to the supporting surface, the user can grasp his fingers completely around the brush handle, in a convenient manner, and can position the magnetic face of the body 16 against the supporting surface and obtain good magnetic adherence of the body thereto, while keeping his fingers conveniently completely around the toothbrush handle. After releasing his grasp, the brush will fall then to the orderly close-to-the-wall position of FIG. 6.

Moreover, this outward swinging of the brush relative to the body 16, as permitted by the loose swivel-type connection, and as shown in FIG. 7, is advantageous in removing the toothbrush from the wall; for it permits him to initially swing the toothbrush away from the wall, without restriction by the magnetic force, far enough to permit him to grasp his fingers completely around the handle before pulling the device body 16 from the supporting wall against the force of the magnetic attraction of the magnet and wall.

Another advantage of the swivel connection provided by the relation of leg-shank 30 and toothbrush handle thickness and hole size is illustrated in FIG. 8.

As there shown, the toothbrush associated with the holding device may be of the bent-handle type such as the bent-handle brush of FIG. 8. It will be there observed that the permissible outward swing of the handle with respect to the magnetic body 16, permits outward inclination of the handle sufficient to accommodate the bend of the handle of this type of brush 32. Thus a device according to our invention may be utilized with different types of brushes.

Another significant concept of our invention relates to the relation of the body 16 and the magnet 18. Magnet 18 is desirably formed from powdered metal, known as Alnico No. 2, and provides high magnetic qualities even though relatively small.

The magnet 18 is held to the body 16 by having a force-fit between the magnet and the cylindrical sidewall 34 of the body 16. No cement is required, yet the magnet and body are tightly locked. In the embodiment illustrated, the interference is in the order of .001 inch.

A special advantage of the plastic walls 34 and the powdered-metal magnet 18 is that no draft need be provided on the magnet walls to permit easy assembly of the magnet into the body; for the body walls 34 are desirably of less than one-sixteenth of an inch thick and readily yield to accommodate the ready assembly of the two pieces. The no-draft construction is of advantage in the powdered-metal construction of the magnet, for it permits the magnet to be economically formed by a stamping process.

In forming the device, the magnet 18 is inserted into the body 16, but the magnet 18 is then in a non-magnetized condition. Next, we face-grind the face of the assembly, that is, grind the face of the assembled magnet slug 18 and the end face of the body side-walls 34. Afterward, the magnet slug 18 is magnetized.

An important feature of our invention is the smallness and lightness of the device. The whole assembly of body 16 and magnet 18 weighs only about one tenth of an ounce, and the body 16 is only about one-fourth inch high and less than one-half inch in diameter. Thus the holding device is scarcely noticed by the user, and is not bothersome.

The holding-device according to our invention is of lasting effectiveness, and will outlast the associated toothbrush. The user may then disassemble his holding device from the worn-out toothbrush and install it on his new one.

The concepts of our invention thus provide a supporting device having many advantages of convenience, utility, handiness, effectiveness, and operating characteristics. It is light in weight and small in bulk.

It provides an orderly, vertical, close-to-the-wall disposition of a toothbrush regardless of the orientation of the brush as the user places it against the supporting surface. Yet it permits an outward swinging of the toothbrush to provide more convenient attaching and detaching of the toothbrush from the supporting surface, with the user holding the brush with his fingers conveniently around the handle, even though the device will support the brush in an orderly, close-to-the-wall, vertical position.

The low cost, attractiveness, and handiness of the device provide that it may be advantageously used with every toothbrush of a household. Several toothbrushes could be hung in an orderly and sanitary manner, say on the inside surface of the medicine closet door. No hooks, no installation, no special adaptation is required. Its handiness encourages the toothbrush user to hang his toothbrush in its place.

These advantages provide that the device could be widely distributed for low cost, even to be used as an advertising premium.

It will thus be seen from the foregoing description of our invention according to an illustrative embodiment,

considered with the accompanying drawings, that the present invention provides a new and useful supporting means and method in the form of a magnetic device having desired advantages and characteristics, and accomplishing its intended objects, including those hereinbefore pointed out and others which are inherent in the invention.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

We claim as our invention:

A supporting device for supporting an associated toothbrush having a hole in the handle thereof, comprising, a body member having side-walls providing a recess, a magnet carried in the recess between the body side-walls for holding the device to an associated surface, and a leg integrally extending from said body, said leg having a shank adapted to extend through the handle-hole of the associated toothbrush and of a diameter smaller than said hole to permit free relative rotation of the toothbrush on the leg,

said leg-shank being of a length greater than the thickness of the toothbrush handle to permit the toothbrush to be swung outwardly with respect to the body of the device, the leg having an enlarged head adapted to retain the toothbrush on the leg-shank but inwardly deformable to permit the head to be pushed through the toothbrush hole in assembling the device and toothbrush.

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