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3,046,588

TOOTHBRUSH

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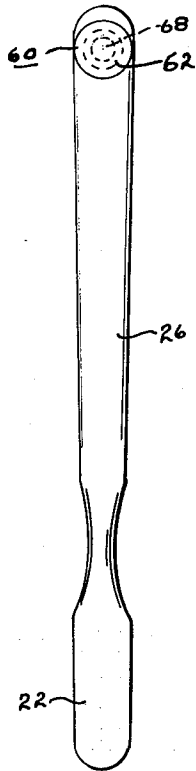


FIG. 2

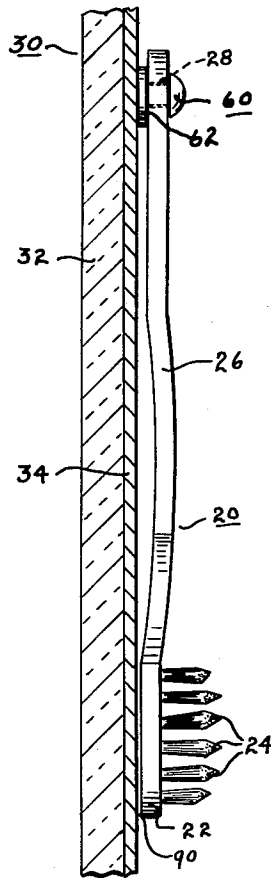


FIG. 1

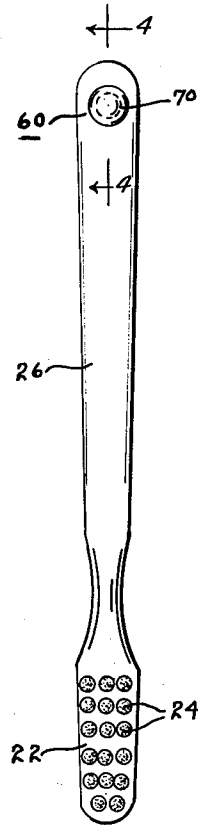


FIG. 3

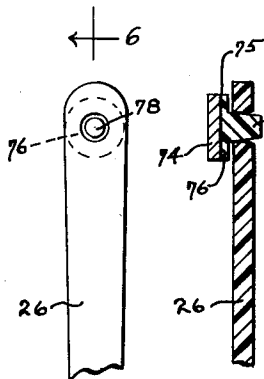


FIG. 5

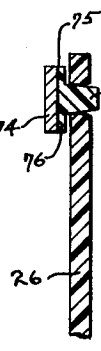


FIG. 6



FIG. 10

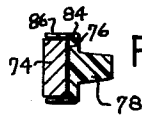


FIG. 8



FIG. 9

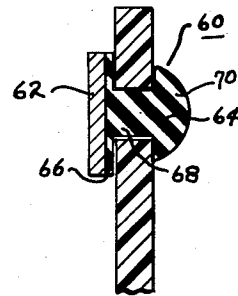


FIG. 4

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TOOTHBRUSH

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The present invention relates to brushes and more particularly to toothbrushes and a support therefor.

Most modern medicine cabinets for bath and wash room in the home are constructed entirely from steel, with the exception of the mirror and the shelves which are usually glass. The door on which the mirror is mounted is usually constructed with a steel frame around the mirror and a steel panel behind the mirror exposed to full view when the door is swung open. It is one of the principal objects of the present invention to utilize this steel construction of the medicine cabinet without alteration as a support means for toothbrushes and the like.

Another object of the invention is to provide a means in conjunction with a toothbrush for mounting the brush on a steel supporting surface without changing the construction or nature of the surface and without scratching or otherwise marring said surface.

Still another object of the invention is to provide a magnetic means which can be readily attached to conventional toothbrushes and the like for use in attaching the brush to a steel supporting member for the brush and which can easily be removed from one toothbrush when the latter is worn out and attached to a new brush.

A further object is to provide a magnetic means attached to the handle of a toothbrush, which adheres to the steel supporting objects in and around the lavatory in the home, such as medicine cabinet parts, towel racks or drinking glass holders and the like, or to a specially provided steel plate mounted on the wall.

Another object of the invention is to provide a support means for a toothbrush and the like which is simple in construction, easy to use and maintain in a sanitary condition, and which does not interfere in any way with the normal use of the brush.

Additional objects and advantages of the invention will become apparent from the following description and the accompanying drawings, wherein:

FIGURE 1 is a side elevational view of the preferred form of our brush shown mounted on a cabinet door shown in cross section;

FIGURE 2 is a rear elevational view of the brush shown in FIGURE 1;

FIGURE 3 is a front elevational view of the brush shown in FIGURE 1;

FIGURE 4 is an enlarged cross sectional view of part of the brush handle shown in FIGURE 1, taken on line 4—4 of FIGURE 3;

FIGURE 5 is a fragmentary front elevational view of a modified form of the brush support means;

FIGURE 6 is a cross sectional view taken on line 6—6 of FIGURE 5;

FIGURE 7 is a front elevational view of a further modified form of our support means;

FIGURE 8 is a cross sectional view of the support means of FIGURE 7 taken on line 8—8;

FIGURE 9 is a rear elevational view of the support means shown in FIGURE 7; and

FIGURE 10 is a cross sectional view of a further modified form showing the manner of mounting the device on a brush handle.

Referring more specifically to the drawings and to the embodiment of the invention shown in FIGURES 1 through 4, numeral 20 indicates a conventional toothbrush including back 22, bristles 24 mounted in said back and a handle 26 formed integrally with the back.

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For the purpose of the present description the brush portion just described may be referred to as conventional, usually constructed of rigid plastic material with natural or synthetic bristles, and having a hole 28 in the handle, and hence will not be described in detail herein. Also shown in FIGURE 1 is a portion of a door 30 of a conventional medicine cabinet, including a glass mirror 32 and a steel plate 34 forming the back of the door and part of the door frame. Door 30 is mounted on hinges for swinging between open and closed positions and when fully closed plate 34 is in the cabinet, not shown, is normally constructed of steel sheet material with plate glass shelves and is usually mounted in the wall with the front approximately flush with the wall surface. The rear of the door, internal sidewalls, back and frame are coated with a thin layer of lacquer or other decorative and protective film and often have relatively large unobstructed areas at least as long as a standard toothbrush.

The invention disclosed in FIGURES 1 through 4 is the preferred form of the reusable type support means 60 for conventional toothbrushes, and consists of a disc-shaped permanent magnet 62 permanently cemented to a rubber member 64 having a disc-shaped portion 66 formed integrally with a stem 68 and a button 70. Member 64 is sufficiently pliable to permit the button to be easily distorted sufficiently to pass through hole 28 from the left to right, as seen in FIGURE 4, and then to assume its original shape and lock member 64 firmly in place in the manner illustrated in the drawings. When the brush is to be discarded, the support means 60 can be readily removed from the brush handle by simply pulling button 70 through hole 28 from right to left. This type of support means can be mounted on the brush in the factory or sold as a separate unit and mounted by the user in the home, and thereafter changed from one brush to another as the brushes are worn out and replaced.

The form shown in FIGURES 5 and 6 is similar to the form illustrated in FIGURES 1 through 4 and includes a permanent magnet 74 secured by an adhesive material 75 to a plastic member 76 having a stem 78 adapted to seat firmly in hole 28 of the handle and be held therein by a press fit between the stem and the portion of the handle defining the hole. This modified form is a reusable type and can be removed from the brush by merely pressing firmly on the end of stem 78 projecting beyond the right hand surface of the brush handle, as seen in FIGURE 6.

The modified form illustrated in FIGURES 7 through 9 is the same as the form described in the preceding paragraph, with the exception that the magnet 74 is retained on or secured to member 76 by a cup-shaped portion 84 having side wall 86. In this arrangement the magnet is held more firmly and is less likely to be accidentally dislodged from member 76 as the brush is handled roughly. The magnet is preferably secured in the cup-shaped portion by an adhesive material.

The form of the invention shown in FIGURE 10 is similar to the form illustrated in the preceding figures, but in this form the magnetized metal 87 assumes a shape which permits it to be secured to a conventional tooth brush handle 88. The magnet 87 includes a stem 89 which seats in the hole in the handle and is secured therein by a wedge fit.

The particular advantage of the present invention is the brush support means described herein in combination with the steel surfaces on the medicine cabinet, particularly the panel behind the glass door of the cabinet. By this combination, the brush can be hung in a sanitary and invisible place and yet in a place where the brush is readily available when it is to be used. The bristles do not come in contact with any supporting member and the portion of the brush inserted in the mouth is held in spaced relation to the supporting surface, as seen at nu-

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meral 90 in FIGURE 1. The surface of the magnet contacting the supporting structure is preferably flat and at the required angle to hold the portion of the brush inserted in the mouth away from said structure. This permits the brush to dry effectively under sanitary conditions. Since no hooks or brackets are required to hold the brush, no installation operation is involved and no damage is done to the cabinet or other supporting surface.

While several embodiments of the present invention have been described in detail herein, various other modifications, changes and adaptations may be made without departing from the scope of the invention.

We claim:

1. A toothbrush, comprising a back, bristles secured to said back and projecting therefrom on one side, a handle attached at one end to said back and having a hole in the other end extending therethrough in the same direction as said bristles extend, a rubber member having a stem extending through said hole and gripping the portion of the handle defining said hole and said member including a disc-shaped member on the end of said stem on the side of the handle opposite said bristles, and a disc-shaped permanent magnet mounted on said disc-shaped member and projecting beyond the adjacent surface of said handle, the contact surface of said magnet being flat and at such an angle that the portion of said brush inserted in the mouth is held away from supporting surfaces.

2. A toothbrush, comprising a back, bristles secured to said back and projecting therefrom on one side, a handle attached at one end to said back and having a hole in the other end extending therethrough in the same direction as said bristles extend, a member having a stem extending through said hole and gripping the portion of the handle defining said hole and said member including a member of flexible resilient material on the end of said stem on the side of the handle opposite said bristles, and a permanent magnet mounted on said second mentioned member and projecting beyond the adjacent surface of said handle, the contact surface of said magnet being at

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such an angle that the portion of said brush inserted in the mouth is held away from supporting surfaces.

3. A toothbrush, comprising a back, bristles secured to said back and projecting therefrom on one side, a handle attached at one end to said back and having a hole in the other end extending therethrough in the same direction as said bristles extend, a member of resilient material having a stem extending through said hole and gripping the portion of the handle defining said hole and said member including a disc-shaped member on the end of said stem on the side of the handle opposite said bristles, a button on the other end of said stem, and a disc-shaped permanent magnet mounted on said disc-shaped member and projecting beyond the adjacent surface of said handle, the contact surface of said magnet being at such an angle that the portion of said brush inserted in the mouth is held away from supporting surfaces.

4. A toothbrush, comprising a back, bristles secured to said back and projecting therefrom on one side, a handle attached at one end to said back and having a hole in the other end extending therethrough in the same direction as said bristles extend, a member of pliable material having a stem extending through said hole and gripping the portion of the handle defining said hole and said member including a member on the end of said stem on the side of the handle opposite said bristles and a button on the other end of said stem, and a permanent magnet mounted on said second mentioned member and projecting beyond the adjacent surface of said handle.

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