United States Patent

Saunders

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[54] TOOTHBRUSH HOLDER

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[52] **U.S. Cl.** .....**211/60 R,** 211/13
[51] **Int. Cl.** **A47f 7/00**
[58] **Field of Search** ..211/60, 65, 69, 13, 60 A, 60 M

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[57] **ABSTRACT**

A device for holding articles such as toothbrushes in easily accessible position under sanitary conditions. An initially flat, flexible plate formed with pairs of openings is provided with a removable sanitary film layer covering the openings. The plate is bowed outwardly and inserted in a mounting bracket enabling a user to strip off the film and insert a toothbrush handle in yieldable engagement through a pair of aligned openings.

9 Claims, 4 Drawing Figures

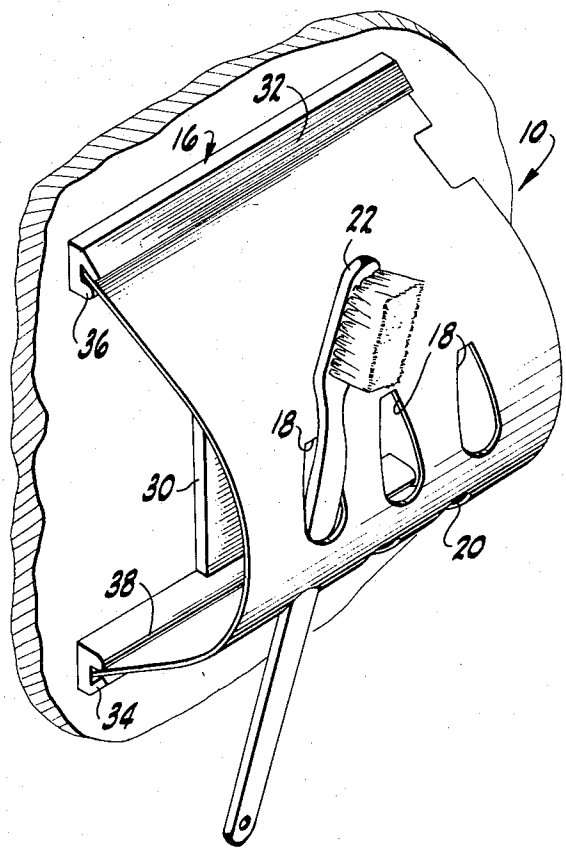


FIG. 1

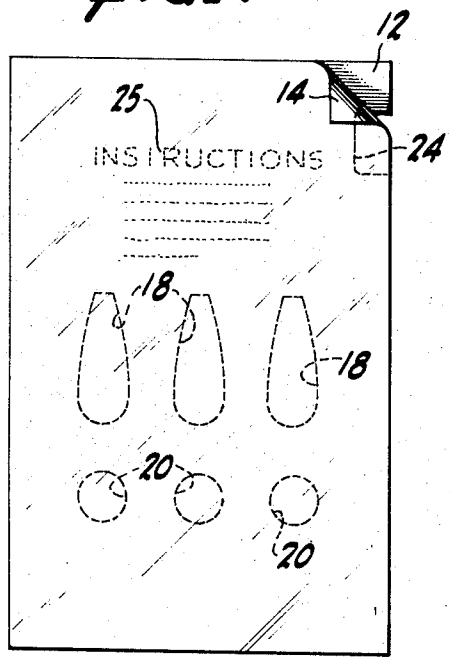


FIG. 2

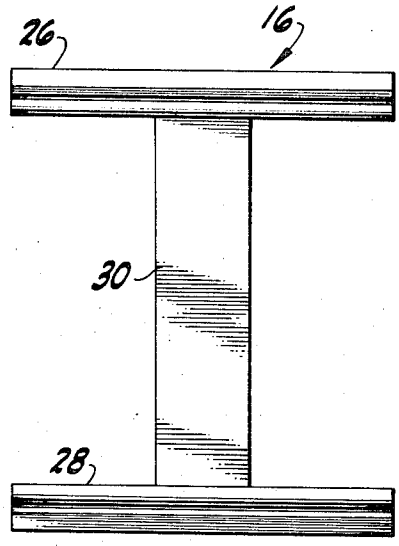
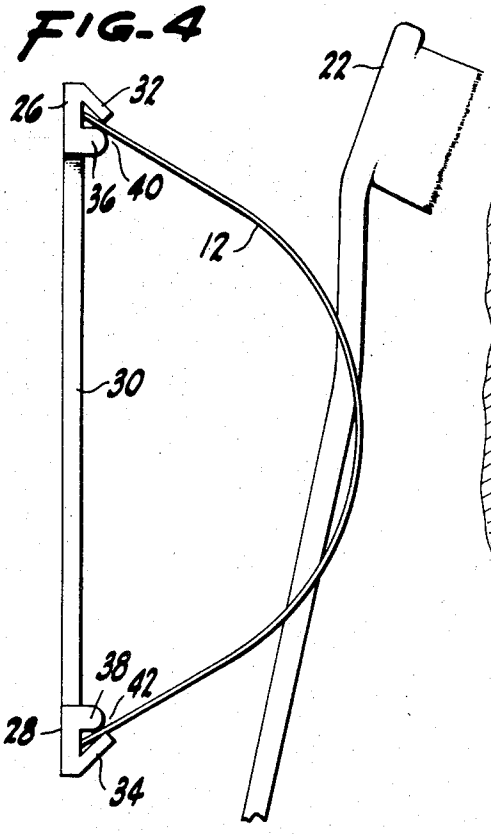


FIG. 4



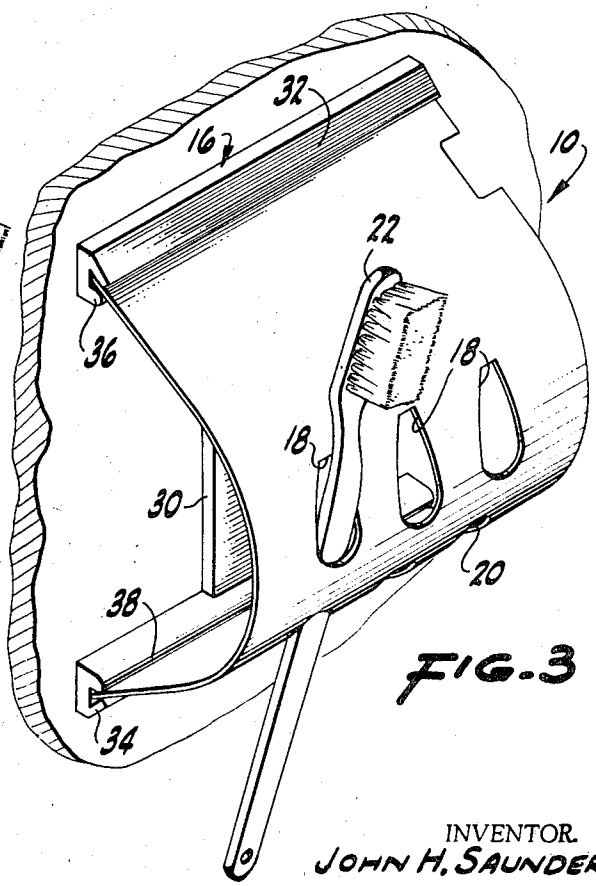


FIG. 3

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TOOTHBRUSH HOLDER

BACKGROUND OF THE INVENTION

This invention relates in general to holders for articles such as toothbrushes and more particularly relates to sanitized toothbrush holders incorporating inexpensive disposable elements which are easily inserted and removed from a mounting bracket.

A number of arrangements have been suggested in the prior art for providing sanitized holders for toothbrushes to overcome the objectional features of conventional toothbrush holders such as slotted plates in which the bristles contact the support surfaces. Among these arrangements are the provisions of folded cardboard racks for holding the toothbrushes. Racks of this nature are relatively expensive to manufacture, difficult to quickly install and remove, are relatively stiff so that the openings therein accommodate only a small range of toothbrush sizes, do not lend themselves to convenient and inexpensive sanitizing, do not hold the toothbrush in a manner so that the bristles are free of the support surfaces while drying, and do not lend themselves readily to the application of advertising or instructional indicia. Accordingly, the need has been recognized for an improved toothbrush holder obviating the objectionable features of prior art holders.

SUMMARY OF THE INVENTION

It is an object of the invention to provide an improved toothbrush holder which has a minimum of inexpensive elements, is readily installed for use, provides a sanitized, disposable surface for holding the toothbrush, firmly grips toothbrushes of varying size and configuration with the bristles out of contact from the support surface, and which affords adequate space for advertising and instructional indicia.

The foregoing and other objects and features of the invention are provided by means of a flexible plastic plate formed with at least one pair of openings and with a sanitized film layer bonded by electrostatic forces to the outer surface of the plate to cover the openings. The plate is manually bowed into an outwardly convex configuration and its ends inserted into a mounting bracket so that the openings are in registry. The user strips away the film to expose the openings for insertion of the toothbrush handle. The handle is releasably gripped between the edges of the openings so that the toothbrush bristles are supported out of contact with the plate. After use, the plate is easily removed and discarded so that a new plate with its sanitized layer is inserted in the bracket for the next user.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of the plate and attached sanitized film layer for the invention;

FIG. 2 is a plan view of a mounting bracket for the invention;

FIG. 3 is a perspective view of the plate of FIG. 1 inserted into its mounting bracket with the sanitized layer removed and an exemplary toothbrush inserted in position;

FIG. 4 is a side view of the combined elements of FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawings a preferred embodiment for the toothbrush holder device of the invention is illustrated generally at **10**. This device comprises an initially flat, flexible plate **12**, a sanitized film layer **14** overlying the outer surface of plate **12**, and a mounting bracket **16** for holding the plate in an outwardly convex configuration as illustrated in FIGS. **3** and **4**.

Plate **12** is fabricated from a flat, flexible sheet of plastic material such as a suitable synthetic polymer, e.g. polyethylene or polyvinylchloride. The preferred configuration is rectangular in plan view, although other shapes could be employed such as square or oval, depending upon the type of mounting bracket employed. The flexibility of the plate is determined by its thickness and type of material employed and is of sufficient flexibility to facilitate manual bending for insertion and removal into a holder, and at the same time has enough stiffness for retention in the mounting bracket to prevent unintended withdrawal of the plate.

Plate **12** is formed with a plurality of openings **18,20** arranged in a number of opening pairs, shown as three pairs, each adapted to grip a handle of an exemplary toothbrush **22**. The openings are aligned lengthwise of the plate so that, with the plate bowed to the outwardly convex configuration, the upper and lower openings for each pair will be in registry. Preferably, lower opening **20** is offset rearwardly from its corresponding upper opening so that a toothbrush inserted through these openings has a forward tilt, best illustrated in FIG. **4**, for ease and convenience of insertion and removal of the toothbrush. Lower opening **20** of each pair is preferably of circular configuration while upper opening **18** is elongate with its side edges converging upwardly to accommodate varying widths, thicknesses and shapes of different toothbrush handles. The alignment of the openings for each pair is such that the insertion of a toothbrush handle causes a slight yieldable flexing of the plate as the handle bridges between the openings. This produces a reaction force from the plastic material of the plate to grip the handle and hold it securely in place, but yet permits the user to easily pull the toothbrush from the openings.

As an example, the illustrated embodiment employs a flat plastic plate 4 inches in width, 6 inches in vertical length and one thirty-second inch in thickness. Each opening **18** is spaced approximately 2½ inches from the top edge of the plate and has a tear-drop shape which is 1 inch long and approximately one-half inch wide at its widest dimension.

The sanitized film layer **14** is preferably of a suitable thin film transparent plastic such as the vinyl copolymer sold under the trade mark Saran. The film is held in place preferably by means of electrostatic forces from a static electrical charge applied to either the film or plate before the film is applied. The electrostatic forces securely hold the film in place without the requirement of cement or adhesive, which otherwise would leave an objectionable residue after the film is removed. Prior to application of the film the plate surface is sanitized by conventional means, and this sanitized condition is maintained up to the time of use by the protective covering of the film. A side edge of

the plate is formed with a cut-away portion **24** exposing an overlying portion of film so that the user can readily grasp the film and quickly strip it from the plate.

The invention provides a convenient medium for conveying any desired promotional or instructional information to the user. Thus, indicia **25** is imprinted either on the film or underlying plate instructing the user as to the steps required in the use of the toothbrush holder. Also, promotional material advertising the motel or hotel's name or services, for example, could be imprinted on the outer surface of plate **12** for observation both through the transparent film and after the film is stripped away.

Mounting bracket **16** comprises an upper mounting flange **26** and a lower mounting flange **28** secured together in vertically spaced-apart relationship by means of central rib **30**. The fixed dimension between the two flanges is selected so that with the plate **12** inserted in position it will assume the desired outwardly bowed configuration. Thus, a dimension of approximately 4 inches between flanges is preferred where the long dimension of the plate is approximately 6 inches.

Flanges **26,28** for the mounting bracket are identical in shape and include inclined lips **32,34** and beads **36,38** cooperating to define narrow, laterally extending slots **40,42**. The gap dimension defined by the slots is substantially equal to the combined thickness of the plate and film so that the upper and lower plate edges can be pushed through the respective slots and retained therein until removed for disposal. Flanges **26,28** preferably are formed from a suitable synthetic polymer by means such as extrusion to provide a low per-unit-cost element. Also, other forms for the mounting bracket could be employed, such as by providing plastic buttons formed with horizontal slots which would receive the edges of a diamond-shaped flexible plate. Suitable hooks could be provided as the mounting means for engagement with corresponding holes formed on the ends of the flexible plate. Another mounting arrangement would be to provide spring-loaded jaws on the mounting bracket for gripping the top and bottom edges of the flexible plate.

Mounting bracket **16** is secured to the desired supporting surface, e.g. the bathroom wall or mirror, by suitable adhesive, cement or fastener means. As an example the back surfaces of either support **30** or flanges **26,28** can be provided with a layer of adhesive, not shown, covered by a peel-off strip facilitating quick attachment to the wall surface.

The use and operation of the invention is as follows. Mounting bracket **16** is secured to the desired wall surface as a permanent fixture, for example in the bathroom of a motel or hotel having a requirement for repeated use of a sanitary toothbrush holder. The toothbrush holder is readied for the first guest by the room maid who would have a supply of flat plates **12**. The maid would bend a plate with the film-layered surface convex outwardly and insert the upper and lower plate ends into the flange slots **40,42** by a more or less straight pushing action. The yieldable resiliency of the plate together with the engagement of the flange lips and beads act to retain the plate in position. When a room guest desires to use the toothbrush holder, he strips the sanitized film **14** from the plate by gripping the film at the cut-away portion **24**. The guest is instructed to do this through the indicia **25** imprinted on either the film or underlying plate. Removal of the film exposes the sanitized plate surface permitting the guest to insert one or more toothbrushes into openings **18,20**. The toothbrush handles are held between the openings so that the toothbrush tilts forward at an angle with the bristles uppermost and out of contact with the plate. The toothbrush is easily removed and reinserted any number of times, and this is accomplished without removal of plate **12** from its supporting flanges. After the guest leaves and in preparation for the next guest, the room maid pulls the used plate **12** from the mounting bracket, disposes of it, and then inserts a fresh plate in the foregoing manner.

Plate **12** can be inserted in a position end-for-end from that illustrated with the round openings **20** uppermost to independently hold brushes of the type used for electric toothbrushes. Appropriate instructions to the guest can be applied through suitable indicia on the film or plate regarding this special use of the invention.

The invention has use as a holder for other items such as jewelers' tools or artists' brushes and the like. Where it is required to hold heavier tools the thickness of plate **12** would be increased. Also, where sanitation is not a requirement plate **12** can be permanently affixed to its holder.

While the foregoing embodiment is at present considered to be preferred it will be understood that numerous variations and modifications may be made therein by those skilled in the art and it is intended to cover in the appended claims all such variations and modifications as fall within the spirit and scope of the invention.

I claim:

1. A device for holding one or more articles such as toothbrushes, each article having a handle, comprising the combination of a flexible plate formed with at least one pair of upper and lower openings, the plate being adapted to be bowed from an initially flat configuration to an outwardly convex configuration with the openings in substantially vertical registry, the bowed plate yieldably gripping said handle with the latter inserted through the openings, a sanitary layer of film removably bonded to the outer convex surface of the plate and initially covering the openings whereby removal of the film by a user exposes the openings for insertion of said handle, and bracket means to releasably hold the plate in upstanding position and in said outward convex configuration.

2. The invention of claim **1** wherein the layer of film comprises a synthetic polymer material, and said bonding comprises electrostatic forces holding the film to the plate whereby removal of the film exposes the plate outer surface in a sanitized condition free of objectionable bonding residue.

3. The invention of claim **1** wherein the upper opening defines a vertically elongate configuration having upwardly converging sides spaced apart to engage opposed sides of said handle to accommodate varying widths, thicknesses or shapes of selected article handles.

4. The invention of claim **1** wherein the mounting bracket comprises upper and lower vertically spaced flanges, each flange formed with a laterally extending slot adapted to receive a respective edge of the plate.

5. The invention of claim 4 wherein each flange comprises a laterally extending lip and a laterally extending bead spaced from its respective lip to define a gap of a width substantially equal to the thickness of said plate to hold the plate ends therebetween and preclude unintended withdrawal of the plate from the flanges.

6. The invention of claim 1 wherein at least one of the openings of each pair is circular and the remaining opening is elongate in the vertical direction whereby said plate can be selectively inserted in the bracket means with either of the elongate or circular openings uppermost to retain and hold articles of varying configurations.

7. The invention of claim 1 wherein a side edge of said plate is formed with a cut-out portion with a segment of the film stretching across the cut-out portion to accommodate manual gripping of the film.

8. The invention of claim 1 wherein indicia means is provided on the film layer to convey instructional or promotional information to a user.

9. The invention of claim 1 wherein the film is transparent, and indicia means is provided on the outwardly convex surface of the plate to convey instructional or promotional information to a user.

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