

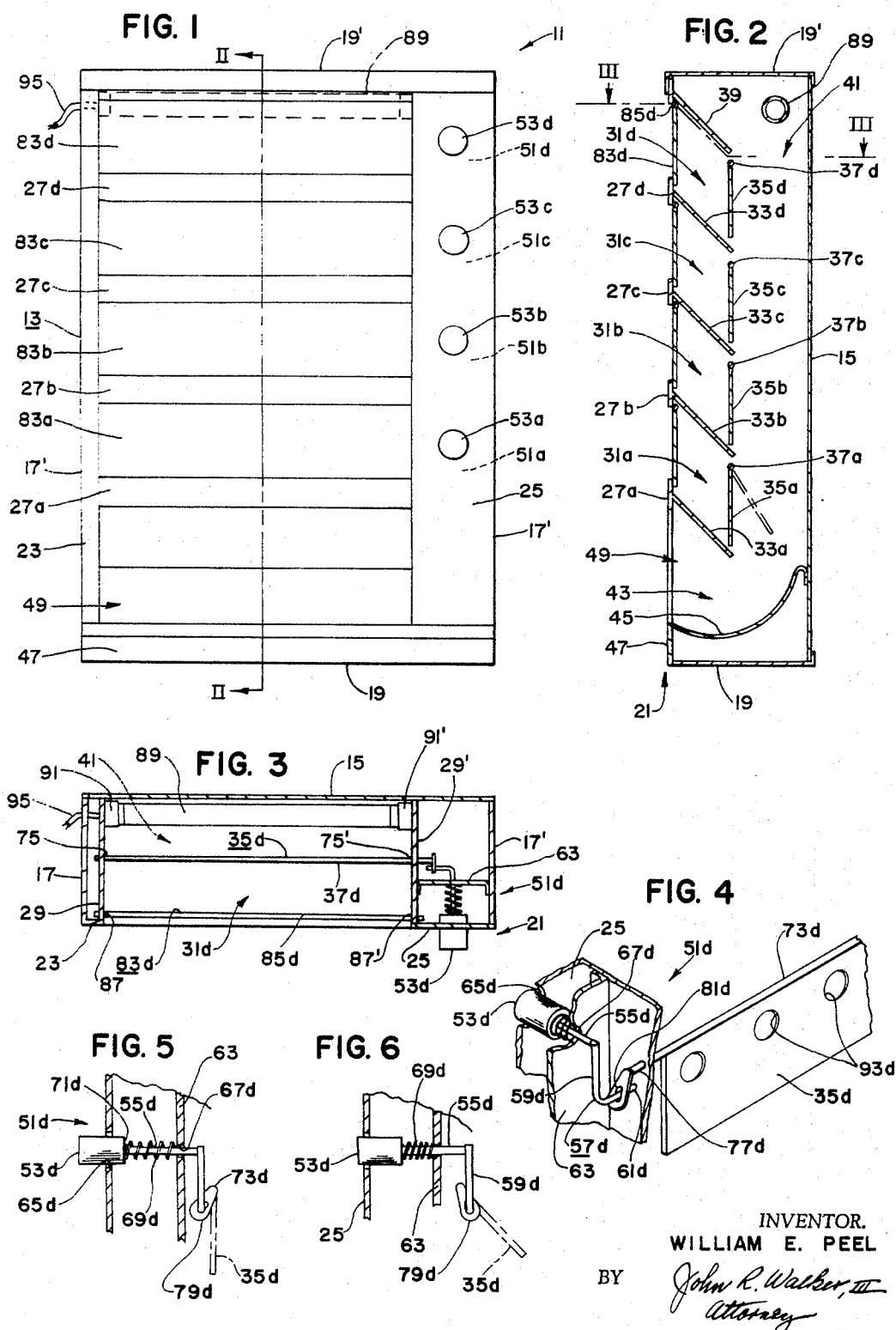
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TOOTHBRUSH DISPENSING CABINET

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TOOTHBRUSH DISPENSING CABINET

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5 Claims

ABSTRACT OF THE DISCLOSURE

A box-like cabinet structure having a number of vertically spaced trough-like pockets and with each pocket being adapted to hold a toothbrush until needed. Each pocket being defined by a downwardly slanted stationary floor panel and a substantially vertical movable gate panel. The gate panel is pendantly hinged and pushbutton actuated toward and away from the lower edge of the slanted stationary floor panel for holding or releasing a toothbrush held in the respective pocket. A released toothbrush from a respective pocket falls into a receptacle in the bottom of the cabinet from where it may be retrieved for use.

BACKGROUND OF THE INVENTION

Field of the invention

Relates to toothbrush holding devices.

Description of the prior art

A toothbrush holder bathroom fixture secured on a bathroom wall typically provides the means for supporting the toothbrushes of a family. A typical toothbrush holder has a series of vertical apertures with each aperture being adapted to receive the handle of a toothbrush and to pendantly support the toothbrush from its bristled head part.

An undesirable feature of the prior art toothbrush holding means is that the toothbrush head is supported in the open and is not protected from various foreign substances which may contact the toothbrush. When supported in the open, there is likelihood that wash water drops may contact the brush bristles from water being spilled on the toothbrush holder or splashed from the lavatory. Also, airborne dust and contaminants may settle on the brush bristles. Another undesirable feature of prior art toothbrush holding means is the considerable likelihood that cold or virus bearing bacteria or other harmful bacteria may be communicated from one to another member of a family by moisture-laden toothbrushes supported in a group on a typical brush holder. Also, a toothbrush holder with toothbrushes is rather unsightly in appearance and of such form which does not lend itself to aesthetically pleasing design in bathroom fixtures.

SUMMARY OF THE INVENTION

The toothbrush dispensing cabinet of the present invention, if desired, may be flush mounted in a bathroom wall for a pleasing design appearance. A toothbrush when it is stored and not being used is completely enclosed and out of sight. A user of the toothbrush dispenser cabinet by pushing a button releases a toothbrush which falls into a receptacle in the lower part of the cabinet and where it may be removed and used. The toothbrushes when stored are contained in individual pockets or compartments and there is no likelihood of cold or virus bacteria being transmitted from one toothbrush to another toothbrush. When stored, each toothbrush is enclosed in such a manner as to obviate the possibility of contaminants coming in contact with the brush bristles. Additionally, ultraviolet light ray lamp means is preferably fitted in the cabinet for further cleansing and steriliz-

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ing the toothbrushes as they are stored in the toothbrush dispensing cabinet.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a front face view of the toothbrush dispensing cabinet of the present invention.

FIG. 2 is a vertical plane cross sectional view of the cabinet taken as on the line II—II of FIG. 1.

FIG. 3 is a sectional view taken as on the line III—III of FIG. 2.

FIG. 4 is a fragmentarily shown perspective view of a toothbrush releasing mechanism.

FIG. 5 illustrates the toothbrush releasing mechanism in a normal disposition as when restraining a toothbrush.

FIG. 6 illustrates the mechanism in a released disposition.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The toothbrush dispenser cabinet is indicated by numeral 11 and includes a box-like body 13 preferably fabricated of sheet metal material and including a rectangular back wall 15; side walls 17, 17'; and bottom and top walls 19, 19'. The front face 21 of body 13 is defined in part by coplanar arranged vertically extending left and right face strips 23, 25 arranged respectively on opposite sides of cabinet body 13 and horizontally extending vertically spaced tier strips 27a, 27b, 27c, 27d. It will of course be understood that toothbrush dispensing cabinets having more or less than four pockets (31a, 31b, 31c, 31d) may be desirable in certain embodiments of the invention and the four pocket cabinet structure illustrated is by way of example only.

Each pocket 31a, 31b, 31c, 31d includes respectively a stationary floor panel 33a, 33b, 33c, 33d and respectively a movable gate panel 35a, 35b, 35c, 35d. Pockets 31a, 31b, 31c, 31d are arranged between partition strips 29, 29' and each floor panel is fixedly secured respectively at opposite end portions thereof to partition strips 29, 29'. Each gate panel 35a, 35b, 35c, 35d is pendantly hingedly supported on a horizontally extending axle 37a, 37b, 37c, 37d, each axle having opposite end portions thereof freely fitted in apertures in vertical partition strips 29, 29'.

Each gate panel is adapted for hinge-like movement between a closed and an open disposition respectively for selectively holding or releasing a toothbrush from a respective pocket. When a gate panel is in a closed disposition, the lower edge portion thereof is adapted to engage the lower margin of a respective floor panel and to retain a toothbrush in a respective pocket. When a gate panel is moved to an open disposition (see broken line showing in FIG. 2), a toothbrush contained in a respective pocket is released and falls into the lower portion of the cabinet body. A slanted panel 39, corresponding substantially to floor panels 33a, 33b, 33c, 33d is arranged over pocket 31d and provides substantially only cover means for pocket 31d.

A vertically extending channel 41 defined substantially by back wall 15, gate panels 35a, 35b, 35c, 35d; and left and right partition strips 29, 29' is defined in the rearward interior of cabinet body 13. Channel 41 is terminated on its lower end by a horizontally elongated receptacle 43 defined in part by a curved bottom panel 45 which curves downwardly and forwardly and fixedly intersects with base tier strip 47. Receptacle 43 curves downwardly and forwardly underneath lowermost floor panel 33a and opens forwardly in front face 21 in a generally rectangular access opening 49. A toothbrush released from a pocket slides from the floor panel of that pocket into channel 41 and falls into receptacle 43 from where it may be removed through access opening 49 for use.

Gate panel actuating mechanisms 51a, 51b, 51c, 51d

provide means for individually operating respectively each gate panel 35a, 35b, 35c, 35d. The plurality of gate actuating mechanisms each are provided respectively with a push operative button 53a, 53b, 53c, 53d. Pushing in on a respective button hingedly opens a gate panel controlled by that button and releases a toothbrush contained in a respective pocket 31a, 31b, 31c, 31d.

Each gate panel actuating mechanism is alike and the following description of mechanism 51d will suffice for the description of mechanisms 51a, 51b, 51c: Gate actuating mechanism 51d (see FIG. 4) includes a rod-like stud projection 55d centrally fixed on and projecting horizontally from the inward end portion of button 53d. A right angle shaped arm 57d is fixedly secured on one end thereof to the distal end of stud projection 55d and defines a vertical arm portion 59d and a horizontal cantilever portion 61d. A vertically extending partition strip 63 is parallel arranged behind face strip 25 and fixedly secured between right partition strip 29' and right side wall 17' of body 13. Horizontally coaxially arranged apertures 65d and 67d formed respectively in face strip 25 and partition strip 63 shiftably receive respectively button 53d and stud projection 55d and thereby provide bearing means for button, stud, arm assembly 53d, 55d, 57d. Assembly 53d, 55d, 57d is adapted to be moved between a manually pressed in position (see FIG. 6) and a projected normal released position (see FIG. 5).

A helical compression spring 69d is convolutely arranged around stud projection 55d and in a partially compressed configuration between inward end 71d of button 53d and partition strip 63. Spring 69d yieldably urges button 53d to a projected normal disposition (see FIG. 5). Gate panel 35d is supported on a horizontal axle 73d having opposite end portion received in apertures 75, 75' formed respectively in partition strips 29, 29' (see FIG. 3). Axle 73d is fixedly secured along the upper marginal portion of gate panel 35d and the righthand end portion 77d of axle 73d projects stud-like and rotatably through partition strip 29'. A flattened apertured lever 79d is fixedly secured vertically at its upper proximal end to the distal end portion of axle portion 77d. A vertically elongated aperture 81d formed in the distal end of lever 79d freely receives the distal end portion of cantilever portion 61d of arm 57d. Pressing or releasing button 53d, through the crank operative mechanism of arm 57d and lever 79d, changes and communicates movement to gate panel 35d for swinging movement of the gate panel to and from open and normally closed dispositions.

A plurality of doors 83a, 83b, 83c, 83d are arranged respectively substantially coplanar with front face 21 of body 13 and normally cover respectively toothbrush receiving pockets 31a, 31b, 31c, 31d. The plurality of doors are alike and the following description of door 83d will suffice also in description of doors 83a, 83b, and 83d: Door 83d is pendantly supported on an axle 85d secured along the upper edge of door 83d and freely fitted in opposingly arranged apertures 87, 87' formed respectively in partition strips 29, 29'. Door 83d is hingedly pendantly supported on axle 85d and normally urged to a closed vertical disposition under the influence of gravity. Door 83d is adapted to be lightly pushed inwardly when a toothbrush is placed in pocket 31d and is adapted to return to a closed disposition under the influence of gravity after the user removes his hand from the door.

The toothbrush dispensing cabinet preferably includes ultraviolet light ray means for sanitizing the toothbrushes as they are contained in pockets 31a, 31b, 31c, 31d. An ultraviolet ray tube-type lamp 89 preferably is fitted in the upper interior of body 13; opposingly arranged lamp sockets 91, 91' fitted respectively on partition strips 29, 29' support lamp 89 in the upper portion of channel 41. A series of apertures, as apertures 93d in gate panel 35d, is provided in gate panels 35a, 35b, 35c, 35d and provide passageway means for ready passage of sanitized air be-

tween channel 41 and the interior of pockets 31a, 31b, 31c, 31d.

For identifying the particular pockets, or for identifying the ownership of a toothbrush contained in a particular pocket, buttons 53a, 53b, 53c, 53d may be painted different colors or if desired, the initials of the names of the various members of the family may be marked on the individual buttons. The face surfaces respectively of doors 83a, 83b, 83c, 83d may also, if desired, be marked with various colors or indicia to identify the particular toothbrush holding pockets 31a, 31b, 31c, 31d.

In using toothbrush dispensing cabinet 11 the user has only to depress the desired button which permits a toothbrush to fall through channel 41 and to be received in receptacle 43. The user may then reach through access opening 49 and retrieve his toothbrush from the curved bottom of receptacle 43. After brushing his teeth, the user may readily return his toothbrush to a designated pocket by urging inward, with closed hand, the door covering the pocket, dropping the toothbrush in the pocket, removing his hand and allowing the door to swing to a closed disposition.

While I have shown and described the invention in a preferred embodiment, it will of course be understood that various modifications in structure may be made without departing from the scope of the invention.

I claim:

1. A toothbrush dispensing cabinet comprising a box-like body having structure defining a generally planar vertical front face and structure in the rearward part of said body defining a generally vertical channel terminated at its lower end by a horizontally elongated receptacle defined in part by a bottom having a forward margin terminating contiguous the front face of said body, structure arranged in the forward part of said body defining a plurality of individual horizontally extending trough-like pockets disposed in substantial vertical alignment, each pocket having an access opening opening into the front face of said body and adapted to storably receive a toothbrush; each trough-like pocket being defined substantially by a narrow longitudinally horizontal transversely slanted stationary floor panel having upper and lower margins substantially intersecting said front face and said channel of said cabinet body; and a movable gate panel pendantly hinged on a horizontal axis and adapted for movement to and from engagement with substantially the lower margin of said floor panel; and a plurality of individually operative, finger operative gate panel actuating mechanisms including a mechanism for individually hingedly actuating each gate panel between a closed and an open disposition respectively for selectively holding or releasing a toothbrush from a respective pocket; a toothbrush released from a pocket slides down the floor panel of the pocket into the vertical channel of the housing and falls into the receptacle from where it may be removed for use.

2. The toothbrush dispensing cabinet of claim 1 which additionally includes a plurality of doors with each door being arranged normally vertically generally coplanar with the front face of said body and normally substantially fully occluding the access opening of a respective pocket, each door being hingedly pendantly supported on a stationary horizontal axis and continuously urged to a normally closed vertical disposition under the influence of gravity, each door being adapted to be lightly urged inwardly thereby opening said pocket for storingly depositing a toothbrush, the door being adapted to return under the influence of gravity to a closed disposition with the toothbrush contained in the pocket.

3. The toothbrush dispensing cabinet of claim 1 wherein each gate panel actuated mechanism includes a finger operative button, means guidingly constraining said button in said cabinet adjacent the gate panel to be operated and for bidirectional horizontal movement perpendicularly relative to said cabinet body front face, and means

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for changing and communicating reciprocal translational movement of said button to rotatve swinging movement of said gate panel to open and close said gate panel.

4. The toothbrush dispensing cabinet of claim 3 where-
 in the means of the gate panel actuating mechanism of
 each brush receiving pocket includes a stud projection
 centrally fixed on and projecting horizontally from the
 inward end portion of the button of the gate panel actu-
 ating mechanism, a right angle shaped arm fixed on one
 end thereof to said stud projection and defining a hori-
 zontal cantilever portion extending in a vertical plane per-
 pendicular to the vertical plane of the horizontal stud
 of the button, and includes a vertical lever substantially
 fixedly secured on and projecting from an end edge of
 the gate panel, the arrangement being such that the
 stud projection of said arm in its translational bidirection-
 al movement engages the distal end portion of said lever
 for hingedly opening and closing the gate panel, and in-

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cluding spring means for yieldably urging the gate panel to a closed disposition.

5. The toothbrush dispensing cabinet of claim 1 which additionally includes ultraviolet ray means including an ultraviolet lamp arranged in the interior of said cabinet body.

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