May 28, 1946. W. E. DUNLEAVY 2,401,058

WALL CABINET FOR STORING TOOTHBRUSHES

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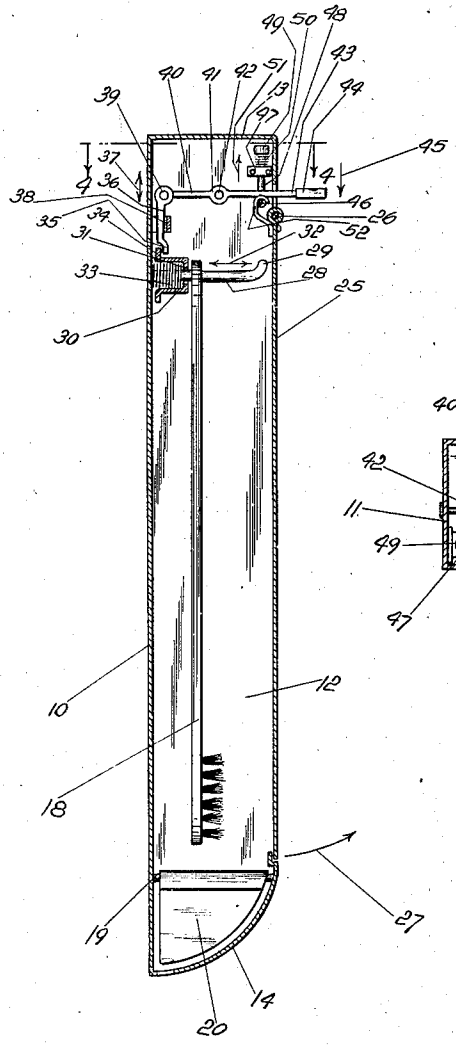


Fig. 1.

Fig. 2.

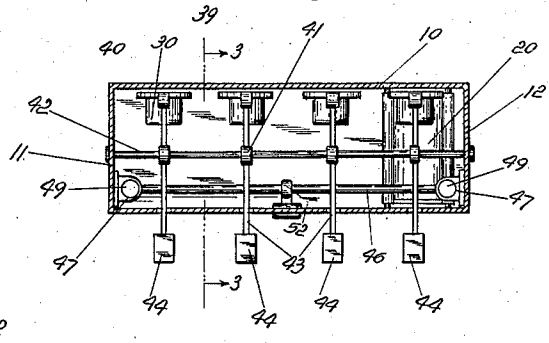
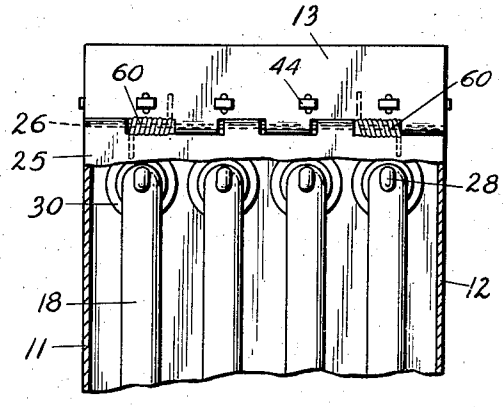


Fig. 3.



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WALL CABINET FOR STORING TOOTH-BRUSHES

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6 Claims. (Cl. 206—15.1)

My present invention relates to wall cabinets and more particularly to wall cabinets for storing tooth brushes.

Still another object of my present invention consists in a cabinet which enables individual removal of tooth brushes in a particularly simple way.

With the above objects in view, my present invention mainly consists in a cabinet for tooth brushes composed of a rectangular rear wall, side walls, a top and a bottom wall, a preferably spring-operated front door, and a series of hooks or similar suspending means arranged inside the casing secured to the rear wall parallel to the top wall at a slight distance from the latter.

My new cabinet is preferably provided with a container arranged inside the casing near the bottom wall thereof for holding an antiseptic volatile substance automatically disinfecting the tooth brushes during storage.

Furthermore, it is advisable to provide in the bottom wall of the casing or at the bottom of the side walls small holes for escape of fluid dripping from the suspended tooth brushes.

It is also of advantage to provide the front door with spring means automatically opening the door when the closure means are released. This door may be either attached to the front edge of one of the side walls or to the top wall. In the latter case, the door moves forward and upward, turning about hinges arranged at the front edge of the top wall.

In accordance with a preferred embodiment of my present invention, I combine each of the suspending means in the casing with a separate moving mechanism adapted to move the tooth brush suspended on the corresponding suspending means in direction away from the rear wall of the casing; in this case, it is also advisable to provide a series of separate hand-operated operating members each combined with one of the above mentioned moving mechanisms for operating each of these moving mechanisms separately from the others, whenever desired.

It is also advantageous to combine with such separate operating members a common operating mechanism adapted to operate the closure means of the front door. This common operating mechanism for the closure means has to be combined with all the separate operating members so as to be adapted to be operated by each of them and to operate the closure means and open the front door each time one of the separate operating members is manually operated; thus, operation of one of these operating members results in opening of the front door and operation of that moving mechanism which is combined with the respective operating member without any influence on and operation of the other operating members and the moving mechanisms connected with the same.

The novel features which I consider as characteristic for my invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawing, in which:

Figure 1 is a longitudinal section through a preferred modified embodiment of my new tooth brush cabinet, along line 1—1 of Figure 2;

Figure 2 is a horizontal section through the cabinet shown in Figure 1, along line 2—2 of that figure; and

Figure 3 is a fragmentary front view of the cabinet shown in Figs. 1 and 2.

The cabinet consists of rear wall 10, two side walls 11 and 12, a top wall 13, and a front wall 14.

In order to disinfect the brushes 18 during storage, I provide near the bottom of my cabinet inside the same two thin rods 19 serving for suspending a small container 20 holding an antiseptic volatile fluid or solid substance.

I provide means for selecting the single tooth brushes 18 and simultaneously opening the front door 25 of the cabinet. This front door 25 is attached to the top wall 13 by means of transverse hinges 26 combined with torsional springs 60, tending to turn and thereby open the front door in direction of arrow 27.

The suspending means for the tooth brushes 18, i. e. hooks 28 are bent at their front ends 29 upward in order to avoid unintentional sliding of the cup-shaped members 30 from the hooks 28. These cup-shaped members 30 are provided with central holes 31 by means of which they are freely slidably carried by the hooks 28. Thus, these cup-shaped members 30 are freely movable back and forth in direction of arrow 32 along the hooks 28. Compression springs 33 arranged within these cup-shaped members 30 are tending to move the same away from the rear wall 10 of the cabinet, so as to push forward the tooth brushes suspended on the hooks 28.

In order to avoid such unintentional forward movement of the tooth brushes by the cup-shaped members 30, each of these members is provided with an extension 34 co-operating with the bent

tip 35 of the vertically movable operating member 36 which is attached to the rear wall 10 of the cabinet slidably in direction of arrow 37 by means of sleeve 38. The upper end of this operating member 38 is hingeably connected at 39 with one end of lever arm 40 of the double-armed lever 41; this double-armed lever 41 is turnably supported by the pivoting rod 42, as shown in Figure 4. At the front end of lever arm 43 of this double-armed lever 41 I provide a key 44 for turning this double-armed lever 41 about pivoting rod 42 in direction of arrow 45.

It is evident that movement of this key 44 in direction of arrow 45 will result in turning of the double-armed lever 41 about the pivoting rod 42 and movement of the operating member 36 upward, out of engagement with projection 34 of the cup-shaped member 30. Thus, this member will be freed and move forward by action of spring 33, away from the rear wall 10 of the cabinet. Since each of the hooks 28 is combined with a separate operating member 36, a separate double-armed lever 41 and a separate key 44, it is possible to move each of the cups 30 separately, as desired; thus each tooth brush might be pushed forward separately, independently from the other brushes in the cabinet.

However, it is important that pressing of each of the keys 44 should also result in opening of the front door 25 without, however, having any effect on the other operating members 36 and the cup-shaped member 30 connected with them. For this purpose, I provide a U-shaped rod 46 extending in transversal direction as shown in Figure 2 and slidably secured to the two side walls 11 and 12 by means of sleeves 47, as shown in Figure 1. The upward bent portions 48 of rod 46 pass through these sleeves 47 and are provided with small flanges 49 at their ends. Compression springs 50 are provided between these flanges 49 and the sleeves 47 forcing rod 46 upward in direction of arrow 51.

Thus, this rod will permanently push against the lever arms 43 of the double-armed levers 41 and hold the operating members 36 in operative engagement with the projections 34 of the cup-shaped members 30.

This rod 46 has, however, also a very important other function, namely to hold the door 25 in closed position and to open it whenever desired. For this purpose, this rod engages the closure hook 52 secured to front door 25 when the door is in closed position, as clearly shown in Figures 1 and 2. Since the hinges 26 are combined with torsional springs tending to open the door in direction of arrow 27 in the way described above, it is evident that if rod 46 is pushed downward, and hook 52 becomes disengaged, the door 25 will open. As such downward movement of rod 46 can be obtained by operation of each of the keys 44, i. e. by pushing one of the keys downward in direction of arrow 45, it is clear that operation of one of the keys will not only result in release of the corresponding cup-shaped member and forward movement of the corresponding tooth brush, but will also simultaneously effect opening of the door 25. Thus by an arrangement of this type it is possible to prevent any influence of one of the keys on other keys and operating members not directly connected with this key, since the door operating mechanism is adapted to be operated by each of the keys, but its operation has no influence at all on any of these keys and the operating mechanisms connected with the same.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of cabinets differing from the types described above.

While I have illustrated and described the invention as embodied in cabinets for tooth brushes, I do not intend to be limited to the details shown, various modifications and structural changes may be made without departing in any way from the spirit of my invention.

Without further analysis, the foregoing will so fully reveal the gist of my invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What I claim as new and desire to secure by Letters Patent is:

1. A cabinet for toothbrushes comprising a casing having a rear wall and other walls defining a front opening in said casing; a series of suspending means for toothbrushes arranged inside said casing secured to said rear wall; a series of moving mechanisms each cooperating with one of said suspending means for moving the toothbrush suspended on the corresponding suspending means in a direction away from said rear wall of said casing; and a seires of manually actuatable operating members mounted on said cabinet and each constructed and connected with one of said moving mechanisms in such a manner that upon operation of said operating member the corresponding moving mechanism moves the tooth brush suspended on the corresponding suspending means in a direction away from the rear wall of said casing.

2. A cabinet for toothbrushes comprising a casing having a rear wall and other walls defining a front opening in said casing; a door hingedly secured to an edge of said casing along said front opening so as to be adapted to close the same; latching means for holding said door in closed position whenever desired; a series of suspending means for toothbrushes arranged inside said casing; a series of moving mechanisms each cooperating with one of said suspending means for moving the toothbrush suspended on the corresponding suspending means in a direction away from said rear wall of said casing; and a series of manually actuatable operating members each cooperating with said latching means for releasing said latching means whenever one of said operating memers is manually actuated and each constructed and connected with one of said moving mechanisms in such a manner that upon operation of said operating member the corresponding moving mechanism moves the tooth brush suspended on the corresponding suspending means in a direction away from the rear wall of said casing.

3. A cabinet for toothbrushes comprising a casing having a rear wall and other walls defining a front opening in said casing; a door hingedly secured to an edge of said casing along said front opening so as to be adapted to close the same; latching means for holding said door in closed position whenever desired; a series of suspending means for toothbrushes arranged inside said casing; a series of moving mechanisms each cooperating with one of said suspending means for moving the toothbrush suspended on the corresponding suspending means in a direc-

tion away from said rear wall of said casing; a releasing mechanism adapted to release said latching means of said door; and a series of manually actuatable operating members each cooperating with said releasing mechanism for releasing said latching means whenever one of said operating members is manually actuated and constructed and connected with one of said moving mechanisms in such a manner that upon operation of said operating member the corresponding moving mechanism moves the tooth brush suspended on the corresponding suspending means in a direction away from the rear wall of said casing whenever required, thus manual actuation of one of said operating members resulting in release of said latching means of said door and operation of that moving mechanism which is combined with the respective operating member without any influence on and operation of the other operating members and the moving mechanisms connected with the same.

4. A cabinet for toothbrushes comprising a casing having a rear wall and other walls defining a front opening in said casing; a door hingedly secured to an edge of said casing along said front opening so as to be adapted to close the same; latching means for holding said door in closed position, whenever desired; spring means for opening said door whenever said latching means are released; a series of suspending means for toothbrushes arranged inside said casing; a series of moving mechanisms each cooperating with one of said suspending means for moving the toothbrush suspended on the corresponding suspending means in a direction away from said rear wall of said casing; and a series of manually actuatable operating members each cooperating with said latching means for releasing said latching means whenever one of said operating members is manually actuated and each constructed and connected with one of said moving mechanisms in such a manner that upon operation of said operating member the corresponding moving mechanism moves the tooth brush suspended on the corresponding suspending means in a direction away from the rear wall of said casing.

5. A cabinet for toothbrushes comprising a casing having a rear wall and other walls defining a front opening in said casing; a door hingedly secured to an edge of said casing along said front opening so as to be adapted to close the same; latching means for holding said door in closed position, whenever desired; spring means for opening said door whenever said latching means are released; a series of suspending means for toothbrushes arranged inside said casing; a series of moving mechanisms each cooperating with one of said suspending means for moving the toothbrush suspended on the corresponding suspending means in a direction away from said rear wall of said casing; a common releasing mechanism adapted to release said latching means of said door; and a series of manually actuatable operating members each cooperating with said common releasing mechanism for releasing said latching means whenever one of said operating members is manually actuated and each constructed and connected with one of said moving mechanisms in such a manner that upon operation of said operating member the corresponding moving mechanism moves the tooth brush suspended on the corresponding suspending means in a direction away from the rear wall of said casing whenever required, thus manual actuation of one of said operating members resulting in release of said latching means of said door and opening of the same by said spring means and operation of that moving mechanism which is combined with the respective operating member without any influence on and operation of the other operating members and the moving mechanisms connected with the same.

6. In a cabinet for tooth brushes equipped with a casing having a rear wall, a suspending means for a tooth brush arranged inside said casing secured to said rear wall; a moving mechanism mounted on said cabinet for moving a tooth brush suspended on said suspending means in a direction away from said rear wall of said casing; and a manually actuated operating member mounted on said cabinet; said operating member and said moving mechanism being so constructed and connected that upon operation of said operating member said moving mechanism moves the tooth brush suspended on said suspending means in a direction away from said rear wall.

WILLIAM E. DUNLEAVY.