A compact, portable toothbrush carrier and toothpaste dispenser by which a toothbrush and a tube of toothpaste are held in close proximity to one another. The head and bristles of the toothbrush are received within a toothbrush retaining cavity such that the handle of the toothbrush extends outwardly from the cavity. A door is rotated across the cavity to prevent a removal of the toothbrush head and bristles. The tube of toothpaste is detachably connected to a first screw-threaded fitting which projects from a toothpaste dispensing station. A second fitting which also projects from the toothpaste dispensing station lies in fluid communication with the first fitting via a toothpaste dispensing passage therebetween. Toothpaste is dispensed from the second fitting at the toothpaste dispensing station to be applied to the toothbrush when the tube of toothpaste connected to the first fitting is squeezed to force some of the toothpaste outwardly therefrom and into the toothpaste dispensing passage.
PORTABLE TOOTHBRUSH CARRIER AND TOOTHPASTE DISPENSER

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates to a compact, portable toothbrush carrier and toothpaste dispenser for carrying a toothbrush and a tube of toothpaste from place-to-place in close proximity to one another and having a toothpaste dispensing station at which toothpaste can be applied from the tube to the toothbrush.

[0003] 2. Background Art

[0004] Whether it be at home or while traveling, one should regularly brush his teeth to maintain proper oral hygiene. It is not uncommon for a toothbrush to become separated from a tube of toothpaste so as to be misplaced or even lost. For example, while at home, the user’s toothbrush may inadvertently find its way into a drawer or be hidden among articles on a sinktop. While traveling, the user’s toothbrush may become lost within his carrying bags or left behind in a hotel room. In this same regard, the user may simply forget to take a tube of toothpaste to be used with his toothbrush.

[0005] As a consequence of the foregoing, the user may not have ready access to a toothbrush (or a tube of toothpaste) at a time when it is desirable to brush his teeth. Should it be late at night or should the user be away from home, it may not be easy or convenient to replace a missing or forgotten toothbrush in order to maintain one’s oral well being. Accordingly, it would be desirable to have a compact, portable device that is easy to transport so that a toothbrush and a tube of toothpaste can be held in close proximity to one another whether the user is at home or traveling.

[0006] Examples of a combination toothbrush holder and toothpaste dispenser are available by referring to the following U.S. Pat. Nos.:

<table>
<thead>
<tr>
<th>Patent No.</th>
<th>Date</th>
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<tr>
<td>2,997,210</td>
<td>Nov. 19, 1959</td>
</tr>
<tr>
<td>4,421,252</td>
<td>Dec. 20, 1983</td>
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<tr>
<td>5,860,522</td>
<td>Jan. 19, 1999</td>
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<td>5,868,282</td>
<td>Feb. 9, 1999</td>
</tr>
<tr>
<td>6,253,931</td>
<td>Jul. 3, 2001</td>
</tr>
<tr>
<td>6,719,169</td>
<td>Apr. 13, 2004</td>
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SUMMARY OF THE INVENTION

[0007] In general terms, a compact, portable toothbrush carrier and toothpaste dispenser is disclosed by which a toothbrush and a tube of toothpaste can be carried from place-to-place in close proximity to one another so as to prevent the toothbrush and the toothpaste tube from being separated and misplaced or lost. The carrier/dispenser includes a body having a toothbrush receiving cavity formed at a first side thereof. The toothbrush retaining cavity is sized and shaped to receive therewithin the head of a conventional toothbrush. The cavity includes a shelf on which the bristles of the toothbrush are seated when the head of the toothbrush is located inside the cavity. A slot is formed in the first side of the body to communicate with the toothbrush receiving cavity. The handle of the toothbrush extends downwardly through the slot when the toothbrush bristles are seated on the shelf in the toothbrush receiving cavity, whereby the toothbrush is suspended from the body of the carrier/dispenser with the toothbrush head being retained within the cavity. A door that is hingedly connected to the first side of the body is rotatable between an open position, at which the toothbrush can be removed from or returned to the toothbrush retaining cavity, and a closed position, at which the head of the toothbrush is retained within the cavity so as to avoid collecting dust when not in use and prevent the toothbrush from becoming separated from the tube of toothpaste.

[0008] Located at the opposite side of the body of the toothbrush carrier and toothpaste dispenser is a toothpaste dispensing station. A lower screw-threaded fitting projects downwardly from the toothpaste dispensing station, and an upper screw-threaded fitting projects upwardly therefrom. The screw-threaded neck of a conventional tube of toothpaste is rotated into detachable connection with the lower screw-threaded fitting such that the toothpaste tube hangs downwardly from the lower screw-threaded fitting of the toothpaste dispensing station. A screw-threaded end cap having a flow channel extending therethrough is detachably connected to the upper screw-threaded fitting. The end cap has a cover that is adapted to be rotated between an open position off the end cap and a shut position on top of the end cap at which the flow channel is sealed. In the assembled configuration, and with the cover rotated to the open position relative to the end cap, a continuous toothpaste dispensing passage is established between the tube of toothpaste and the end cap by way of the upper and lower screw-threaded fittings. Accordingly, the user can squeeze the toothpaste tube to force a supply of toothpaste through the toothpaste dispensing passage and onto his toothbrush from the flow channel of the end cap.

DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a perspective view of the toothpaste carrier and toothpaste dispenser according to a preferred embodiment of this invention with a toothbrush and a tube of toothpaste carried by the carrier/dispenser and suspended therefrom;

[0010] FIG. 2 is a partially broken away exploded view of the toothbrush carrier and toothpaste dispenser of FIG. 1;

[0011] FIG. 3 is a partially broken-away front view of the toothbrush carrier and toothpaste dispenser illustrating a toothpaste dispensing passage through which toothpaste from the tube of toothpaste can be squeezed onto the toothbrush; and

[0012] FIG. 4 is a side view of the toothbrush carrier and toothpaste dispenser illustrating a toothbrush retaining cavity formed therein in which to receive and enclose the head of the toothbrush.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0013] A compact, portable toothbrush carrier and toothbrush dispenser according to a preferred embodiment of the present invention is described while referring concurrently to FIGS. 1-4 of the drawings. The carrier/dispenser includes a body 3 that is preferably manufactured from a
lightweight durable material, such as plastic, or the like, to facilitate transport within a purse, travel bag or suitcase of a user. Located at one side of the body 3 of carrier/dispenser 1 is a door 5. The door 5 is hingedly connected to the body 3 so as to be rotated between a closed position as shown in FIGS. 1 and 3 and an open position as shown in FIGS. 2 and 4. By way of example only, the door 5 may be molded to the body 3 during manufacture of the carrier/dispenser 1 so that an integral living hinge 7 is created (best shown in FIGS. 2 and 4) around which the door can rotate.

A door frame runs across the side of the body 3 to which the door 5 is hingedly connected. The door frame includes an upper pair of outwardly-extending projections 8 that are disposed at opposite sides of a toothbrush retaining cavity 10 that is recessed inwardly of the body 3 of carrier/dispenser 1. The door frame includes a lower pair of outwardly-extending projections 12 that are also disposed at opposite sides of the toothbrush retaining cavity 10. The upper and lower pairs of outwardly-extending projections 8 and 12 are arranged in spaced parallel alignment one above the other.

When the door 5 is rotated in a first direction to the closed position as shown in FIGS. 1 and 3, the door will be received between the upper and lower pairs of projections 8 and 10 of the door frame. The door 5 is sized so as to be moved into frictional engagement with the pairs of projections 8 and 10 by which the door will be held in the closed position. When it is desirable to rotate the door 5 in an opposite direction to the open position as shown in FIGS. 2 and 4, the user locates one of his fingers within a finger recess 14 that is formed in the front of the carrier/dispenser 1 adjacent the side of the body 3 thereof having the toothbrush retaining cavity 10. A sufficient pulling force is then exerted by the user’s finger in recess 14 against the door 5 to cause the door to move out of its frictional engagement with the upper and lower pairs of projections 8 and 12 of the door frame.

With the door 5 rotated to the aforementioned open position, access is now available to the interior of the toothbrush retaining cavity 10. The toothbrush retaining cavity 10 is sized and shaped so as to be able to accommodate therewithin the head 16 and bristles 17 (of FIG. 2) of a standard, commercially-available toothbrush 18. A narrow slot 22 runs between the lower pair of projections 12 at opposite sides of the toothbrush retaining cavity 10. The slot 22 communicates with the cavity 10 to enable the toothbrush 18 to be removed from or returned to the cavity.

More particularly, as the toothbrush 18 is pushed towards the toothbrush retaining cavity 10, the handle 20 which extends below the head 16 of the toothbrush will move into the slot 22 between the lower pair of projections 12. The head 16 of the toothbrush 18 will then enter and move through the toothbrush retaining cavity 10 until the toothbrush bristles 17 are seated upon a shelf 24 that is located inwardly of and around the cavity (best shown in FIG. 2). With the bristles 17 seated upon the shelf 24 and the handle 20 extending from head 16 through the slot 22 between projections 12, the toothbrush 18 will be suspended downwardly from the body 3 of the toothbrush carrier and toothpaste dispenser 1.

When the bristles 17 of the toothbrush 18 are seated upon the shelf 24 within the toothbrush retaining cavity 10, the door 5 is rotated at its hinge 7 to the closed position of FIGS. 1 and 3. The toothbrush head 16 is now retained and protected within the cavity 10 so as to avoid collecting dust as might otherwise occur had the toothbrush head not been enclosed within cavity 10. Moreover, the toothbrush 18 can now be transported by the carrier/dispenser 1 so as to reduce the risk of being lost or misplaced. At the same time, and as will now be described, the toothbrush 18 is held adjacent and in close proximity to the tube of toothpaste so as to avoid becoming separated from the tube.

Referring in this regard specifically to FIGS. 2 and 3, the body 3 of the toothbrush carrier and toothpaste dispenser 1 is shown having a toothpaste dispensing station 28 located opposite the toothbrush retaining cavity 10. Projecting downwardly from the toothpaste dispensing station 28 is a lower screw-threaded fitting 30. The screw-threaded neck 42 of a conventional tube 40 of toothpaste can be rotated into detachable connection with the lower screw-threaded fitting 30. With the neck 42 of the toothpaste tube 40 mated to the lower screw-threaded fitting 30, the tube 40 will be suspended from body 3 and hang downwardly from the toothpaste dispensing station 28 of carrier/dispenser 1. Thus, it can be appreciated that the toothpaste tube 40 and the toothbrush 18 are held adjacent one another and in spaced parallel alignment at opposite sides of the body 3 so as to be readily available when a user wishes to brush his teeth (after the door 5 is first rotated to the open position and the toothbrush 18 is removed from the toothbrush retaining cavity 10 shown in FIG. 2).

Projecting upwardly from the toothpaste dispenser station 28 is an upper screw-threaded fitting 32. The upper screw-threaded fitting 32 lies in axial fluid communication with the lower screw-threaded fitting 30 through the toothpaste dispensing station 28. A screw-threaded end cap 34 can be rotated into detachable connection with the upper screw-threaded fitting 32. The screw-threaded end cap 34 has a flow channel 35 running therethrough and may be identical to the end cap that is commonly connected directly to the screw-threaded neck of a tube of toothpaste. Therefore, a cover 36 is hingedly connected to the end cap 34 to be rotated between an open position (as shown in FIG. 2) off the end cap 34 and a shut position (as shown in FIG. 3) on top of the end cap 34 by which the flow channel 35 through the end cap will be sealed.

With the end cap 34 connected to the upper screw-threaded fitting 32 and the toothpaste tube 40 connected to the lower screw-threaded fitting 30, a continuous toothpaste dispensing passage 50 (of FIG. 3) is established between the neck 42 of tube 40 and the flow channel 35 of end cap 34 by way of the lower and upper screw-threaded fittings 30 and 32 of the toothpaste dispensing station 28 of the toothbrush carrier and toothpaste dispenser 1. Accordingly, the user may squeeze a supply of toothpaste from toothpaste tube 40 onto his toothbrush 18 once the toothbrush is removed from the toothbrush retaining cavity 10 and the cover 36 atop end cap 34 is moved to the open position of FIG. 2. By virtue of the foregoing, the toothpaste tube 40 is conveniently positioned so as to be squeezed from the bottom up whereby toothpaste with which the tube is filled can be consumed in an efficient manner. What is more, the user does not have to first remove the tube 40 from the carrier/dispenser 1 in order to cover his toothbrush with toothpaste.
When it is desirable to remove the toothpaste tube 40 from the toothpaste dispenser station 28 of the toothbrush carrier and toothpaste dispenser 1, the tube is simply rotated out of its mating engagement with the body 3 of carrier/dispenser 1 such that the threaded neck 42 of tube 40 is detached from the lower screw-threaded fitting 30. The toothpaste tube 40 may now be replaced or disposed of in any manner that is suitable to the user.

Although it is contemplated that the toothbrush carrier and toothpaste dispenser 1 of this invention will be portable so as to allow a toothbrush 18 and a tube of toothpaste 40 to be carried from place-to-place in close (side-by-side) proximity to one another so as to be readily available to a user, the carrier/dispenser 1 may also be used at a stationary location. To this end, an optional mounting tab 38 extends from the body 3 of carrier/dispenser 1. A hole 39 is formed through mounting tab 38 for receipt of a suitable fastener (not shown) by which the carrier/dispenser 1 and the mounting tab 38 depending therefrom can be affixed to a wall or any other suitable mounting surface.

I claim:
1. A carrier by which a toothbrush and a tube of toothpaste are held in close proximity to one another, said carrier comprising:

   a body;
   a first hollow fitting projecting from said body and adapted to be detachably connected to the tube of toothpaste;
   a second hollow fitting projecting from the body, said first and second hollow fittings lying in fluid communication with one another such that toothpaste is dispensed from said second hollow fitting when the tube of toothpaste connected to said first hollow fitting is compressed to squeeze toothpaste outwardly therefrom; and
   a compartment formed in said body at which to receive and releasably retain the toothbrush.

2. The carrier recited in claim 1, wherein each of said first and second hollow fittings projecting from said body is screw threaded.

3. The carrier recited in claim 1, wherein said first and second hollow fittings are axially aligned with one another and project from said body in opposite directions.

4. The carrier recited in claim 1, wherein said compartment is a cavity extending inwardly of said body.

5. The carrier recited in claim 4, wherein said cavity is sized to receive therewithin the head and bristles of the toothbrush such that the handle of the toothbrush extends outwardly from said cavity.

6. The carrier recited in claim 5, wherein said cavity includes a seat for receipt thereon of the head and bristles of the toothbrush, such that the handle of the toothbrush is suspended from said seat so as to extend outwardly from said cavity.

7. The carrier recited in claim 5, further comprising a retainer attached to said body to prevent the removal of the head and bristles of the toothbrush from said cavity.

8. The carrier recited in claim 7, wherein said retainer is a door attached to said body and movable from a closed position across said cavity at which to block the removal of the head and bristles of the toothbrush from said cavity to an open position at which to permit the removal of the head and bristles of the toothbrush from said cavity.

9. The carrier recited in claim 8, wherein said door is hingedly connected to said body and rotatable between said closed and said open positions relative to said cavity.

10. A carrier by which a toothbrush and a tube of toothpaste are held in close proximity to one another, said carrier comprising:

   a body;
   a first hollow fitting projecting in a first direction from said body and adapted to be detachably connected to the tube of toothpaste so that the tube depends from said body in said first direction;
   a second hollow fitting projecting from said body in a second direction, said first and second hollow fittings lying in fluid communication with one another such that toothpaste is dispensed from said second hollow fitting when the tube of toothpaste connected to said first hollow fitting is compressed to squeeze toothpaste outwardly therefrom;
   a cavity formed in said body and sized to receive and releasably retain therewithin the head and bristles of the toothbrush such that the handle of the toothbrush extends outwardly from said cavity and in said first direction, whereby the handle of the toothbrush and the tube of toothpaste are held in spaced parallel alignment with one another; and
   a door attached to said body and being movable across said cavity to thereby prevent the removal of the head and bristles of the toothbrush from said cavity.

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