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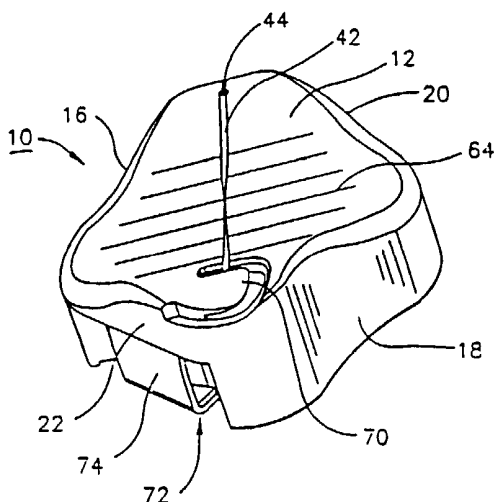
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(54) Title: DENTAL FLOSS DISPENSER



(57) Abstract: A dispenser (10, 80, 110) for dental floss comprises a closed container having a reel of dental floss (24) disposed therein, and having a generally planar back face (14), a front face (12), a pair of opposed side faces (16, 18), a top face (20), a bottom face (22) opposed to the top face, and a corner at each intersection of the top and bottom faces with the pair of opposed side faces. A hub (40) is centrally located in the interior of the closed container and extends between the interior surfaces of the front and back faces. The reel of dental floss is mounted for rotation about the hub. There is an opening (44, 130) in either the front face or the top face at a first corner of the container, through which a strand of dental floss (42) extends so as to be unwound from the reel; and a friction and cutting member (50) is at a second corner of the front face or top face. The friction and cutting member comprises a tongue portion (52) which is angled away from a base portion (54). The front or top face is concave on an axis (25) extending perpendicular to the first and second corners of the container, the concavity being defined by ridges formed in the face at the first and second corners. A channel (70, 132) is formed at the second corner, and is positioned such that the dental floss extends from the opening at the first corner through the channel located at the second corner.

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DENTAL FLOSS DISPENSER

FIELD OF THE INVENTION:

[0001] The present invention relates to a dispenser for dental floss. In particular, the present invention provides a dispenser which may conveniently be, but not necessarily, mounted to a mounting surface. The mounting surface is preferably, 5 but not necessarily, vertical. Especially when mounted to a mounting surface, dental floss may be removed from the dental floss dispenser using but a single hand.

BACKGROUND OF THE INVENTION:

[0002] The use of dental floss is highly recommended by the dental profession 10 as a necessary adjunct to oral hygiene. Indeed, the dental profession recommends that teeth should be flossed using an appropriate dental floss, at least once daily; for example and particularly, as part of the evening ablutions prior to retiring for the night.

[0003] Typically, dental floss is sold in a container which serves as the dispenser for the dental floss. Typically, when it is not actually being used to dispense 15 dental floss, the container/dispenser is hidden away from view such as in a drawer, a medicine cabinet, or the like. This generally results in less than diligent flossing practice.

[0004] Indeed, recent studies reveal that only about 20 percent of the population of North America flosses regularly, although it is assumed that between 70 20 percent and up to 90 percent of all households have at least one dental floss container in their possession.

[0005] Moreover, it has been noted that there seems to be less of a tendency to want to use a dental floss dispenser which requires it to be held in one hand while dental floss is removed from the dispenser with the other hand, especially in those 25 circumstances where the cutter for the dental floss is exposed and represents a risk to the fingers of the user. Still further it has been noted that most commercially available

dental floss dispensers are awkward to use in that the spacing between the opening in the dispenser where the dental floss exits from the interior thereof to the cutter is generally quite small, so that grasping the dental floss in that region so as to remove a length of dental floss from the container is difficult.

5 [0006] For all of these reasons, the present invention provides a dental floss dispenser from which dental floss may be much more easily grasped so as to be removed from the dispenser. In certain embodiments of the present invention, there is provided a dental floss dispenser in which the cutter for the dental floss is hidden from view and is therefore not dangerous to the fingers of a person removing dental
10 floss therefrom.

[0007] Still further, in certain embodiments of the dental floss dispenser of the present invention, the dental floss container or dispenser may be mounted on a mounting surface such as a bathroom mirror, inside a medicine cabinet door, on a wall in the bathroom or washroom, or other convenient and visible location. It has been
15 noted that when a dental floss container is conveniently located in such a place and in such a manner that dental floss may be easily removed therefrom, it is more likely to be used, and therefore the practice of flossing one's teeth is much more diligent.

DESCRIPTION OF THE PRIOR ART:

20 [0008] Blank *et al* United States Patent 4,881,560, issued November 21, 1989, provides a flat dental floss dispenser which has the approximate size and shape of a credit card. A flat coil of floss is located within the dispenser. However, the cutting blade is quite prominent, thus representing a danger to the fingers of the user. Moreover, to disengage the dental floss from the surface of the cover of the container
25 in the region between the opening through which the dental floss is dispensed and the cutter from which it is removed from the dispenser, requires that the dental floss be effectively pried away from the surface of the container using the fingernails.

[0009] Fortman, United States Patent 5,054,674, issued October 8, 1991, teaches a dispenser system including a dental floss dispenser which may be retained
30 on or attached to a surface. The dispenser comprises a cassette of dental floss, and a supporting member. The supporting member may be attached to a surface such as a

bathroom wall, and may serve other purposes as well such as functioning as a toothbrush holder. However, in this case, notwithstanding that the holder or support member is mounted to a wall, the dental floss dispenser is a separate cassette installed into the holder, and removal of dental floss from the container requires the use of two hands.

[0010] Russack, United States Patent 5,076,423, issued December 31, 1991, provides a relatively flat, wallet-sized dental floss dispenser. Here, once again, the cutter for the dental floss is prominently mounted over the surface of the container, representing a threat to the fingers of the user. Moreover, once again, the disengaging of dental floss so as to remove a length thereof from the dispenser is awkward, requiring reasonable dexterity with the fingers of the hand of the user.

[0011] United States Patent 5,156,311, issued October 20, 1992 to Spencer Jr., *et al*, teaches a dispenser which has a cover and a back section, together with a front section, all of them being molded and hinged together so as to permit the dental floss which is contained therein to be replaced. A shoulder saddle is provided, across which the dental floss is disposed. However, the cutter for the dental floss is prominently located as well on the saddle. Moreover, the configuration of the dispenser, having a hinged cover, requires the use of two hands to remove dental floss from the dispenser, and precludes the possibility that the dispenser can be mounted to such as a vertical, or any, surface.

[0012] Oliver *et al*, United States Patent 5,382,563, issued February 1, 1994, teaches a dental floss dispenser having a body which has a spool holder for holding a spool of dental floss at one end, and an exposed cutting member and friction element at the other end of the body. Dental floss is suspended between the spool holder and the cutter, the purpose being so that a user can grasp an exposed portion of floss without contacting any part of the floss dispenser and thereby contaminating the floss dispenser. Particularly, therefore, the floss dispenser described in this patent is one which is intended for use by dentists and dental hygienists, and is not proposed for use by private individuals in their own bathrooms. Various embodiments are illustrated, whereby the dispenser may be mounted on surfaces such as the underside of a table; but in each instance, the purpose is to provide a dental floss dispenser for use by a

dentist, a dental assistant, or dental hygienist, in such a manner that the base of the dispenser is not contacted by the fingers of the professional dental caregiver.

[0013] Saunders, United States Patent 5,649,659 issued July 22, 1997 provides a dental floss dispenser which, again, has essentially the size and shape of a credit card.

5 A spool of floss is wound in the interior of the dispenser, and is dispensed through an opening formed in the dispenser. In one embodiment a recess is formed in the major flat face of the dispenser, having the hole through which the dental floss exits from the interior of the dispenser at one end of the recess, and a cutter/holder disposed at the other end of the recess. In that manner, the cutter, the aperture, and the lead-out
10 portion of dental floss between the opening and the cutter, are all disposed below the major face. In another embodiment, a fan-folded spool of floss is located inside the container, and exits through a hole at one end of the container. A dished top end of the container is provided, across which the lead-out portion of the dental floss extends to an exposed metal cutter assembly.

15

SUMMARY OF THE INVENTION:

[0014] The present invention provides a dispenser for dental floss, which comprises a closed container having a reel of dental floss disposed therein. The container has a generally planar back face, a front face, a pair of opposing corners, side
20 faces, a top face, a bottom face opposed to the top face, and a corner at each intersection of the top and bottom faces with the pair of opposed side faces. There is a hub which is centrally located in the interior of the closed container, and which extends between the interior surfaces of the front and back faces thereof, in the region of occupied by the hub. A reel of dental floss is mounted for rotation about the hub,
25 when dental floss is unwound and removed from the reel.

[0015] There is an opening formed in one of the front face or the top face of the container, at a first corner thereof, through which opening a strand of dental floss extends so as to be unwound from the reel. A friction and cutting member is found at a second corner of the front face or the top of the face; and the friction and cutting
30 member comprises a tongue portion which is angled away from the base portion. The friction and cutting member is secured in place at that second corner.

[0016] There is a channel which is also formed at the second corner, and it is positioned such that the dental floss extends from the opening of the first corner of the front or top face, through the channel located at the second corner of the front or top face.

5 [0017] The respective one of the front face and the top face of the container is concave on an axis which extends perpendicularly to the first and second corners of the container, the concavity thereof being formed by ridges which are formed in the front or top face at the first corner and second corner, thereof.

10 [0018] In some embodiments of the present invention, the second corner is diagonally opposed to the first corner.

[0019] In one embodiment of the present invention, there is a C-shaped chute formed at the second corner, and it is positioned such that dental floss extends from the opening of the first corner through the C-shaped chute located at the second corner. In other embodiments of the present invention, however, the second corner is adjacent the first corner.

[0020] In either embodiment when the front face is concave, the friction and cutting member may be secured in place in the interior of the container, at the second corner thereof, and at the interior surface of the front face. Indeed, the friction and cutting member may be located in the bight of the C.

[0021] Especially, where the concavity of the front faces is defined by the ridges formed in the front face at the first and second corners, those corners being diagonally opposed one to the other, then the C-shaped chute is formed in the ridge at the second corner and the friction and cutting member is located in the bight of the C.

[0022] When the top face is concave, the opening is formed a first corner of the container in the top face, and the first and second corners of the container are adjacent one another.

[0023] In that case, the opening is a slot which is formed in the ridge formed at the first corner of the container, in the top face.

[0024] The dental floss dispenser, wherein said top face is sloped forwardly and downwardly in the region of the concavity formed therein.

[0025] The dental floss dispenser, wherein said back face extends above said top face in the region of the concavity formed in said top face.

[0026] The dental floss dispenser, wherein said channel is sloped upwardly and rearwardly within a second ridge of said second corner of said top face.

[0027] Especially, where the concavity of the front faces is defined by the ridges formed in the front face at the first and second corners, those corners being diagonally opposed one to the other, then the C-shaped chute is formed in the ridge at the second corner and the friction and cutting member is located in the bight of the C.

[0028] In general, the container of the dental floss dispenser of the present invention may be molded from a plastics material, and the friction and cutting member is formed from metal.

[0029] In keeping with a further provision of the present invention, adhesive means may be placed on the substantially planar back face of the container for the dental floss dispenser, so that the dental floss dispenser may be adhesively mounted to a mounting surface.

[0030] Generally, the adhesive means comprises a flexible plastic tape which has an adhesive coating on at least a portion of each of the two sides thereof. Typically, the plastic tape is stretchable, and the second portion on each of the two sides of the plastic tape has no adhesive coating thereon, so that the uncoated portion of the flexible plastic tape forms a graspable tab to facilitate the removal of the dental floss dispenser from a mounting surface when it is adhered thereto.

[0031] As suggested above, typically the mounting surface is a vertical surface, such as a bathroom mirror, the inside surface of a medicine cabinet door, and so on.

[0032] In particular embodiments of the present invention, there may be a further plurality of ridges which are formed on the front face of the container, each of which plurality of ridges is formed in a direction parallel to the axis which extends between a pair of diagonally opposed corners of the container – neither of which corners is the first corner.

[0033] So as to assist the dispensing of dental floss, a guide wall therefor is located in the interior of the container. Thus, a dental floss dispenser in keeping with the present invention may have a guide wall which extends inwardly from the interior

surface of the front face in the vicinity of the opening at the first corner. The guide wall is positioned inwardly from the opening, towards the hub.

[0034] An object of the present invention is to provide a dispenser for dental floss which permits dispensing of dental floss easily, where the dental floss is guided through a chute, and wherein a certain amount of concavity may exist between the opening where the dental floss exits from the interior of the dental floss dispenser and the chute through which it is guided.

[0035] A further object of the present invention is to provide such a dispenser for dental floss as described above, which may be easily and inexpensively brought to the market.

[0036] Yet a further object of the present invention is to provide such a dental floss dispenser as described above, where the dental floss dispenser may be secured to a mounting surface, and where removal of the dental floss from the dispenser may be easily effected using only a single hand. Typically, the mounting surface to which a dental floss dispenser in keeping with the present invention may be mounted, is a vertical surface.

BRIEF DESCRIPTION OF DRAWINGS:

[0037] The novel features which are believed to be characteristic of the present invention, as to its structure, organization, use and method of operation, together with further objectives and advantages thereof, will be better understood from the following drawings in which a presently preferred embodiment of the invention will now be illustrated by way of example. It is expressly understood, however, that the drawings are for the purpose of illustration and description only and are not intended as a definition of the limits of the invention. Embodiments of this invention will now be described by way of example in association with the accompanying drawings in which:

[0038] **Figure 1** is a perspective view of a first, embodiment of the present invention;

[0039] **Figure 2** is a side view of the embodiment of Figure 1;

[0040] **Figure 3** is a plan view of the embodiment of Figure 1, looking at the front face thereof;

- [0041] **Figure 4** is a sectional view, looking in the direction of arrows 4-4 in Figure 3;
- [0042] **Figure 5** is a plan view, looking at the back face of a dental floss dispenser in keeping with the present invention;
- [0043] **Figure 6** is a plan sectional view, looking in the direction of arrows 6-6 in Figure 7;
- [0044] **Figure 7** is a sectional view, looking in the direction of arrows 7-7 in figure 6;
- [0045] **Figure 8** is a view similar to Figure 1, but showing an alternative embodiment of the present invention;
- [0046] **Figure 9** is a front view of a third embodiment of a dental floss dispenser in keeping with the present invention;
- [0047] **Figure 10** is a top view of the dental floss dispenser of Figure 9;
- [0048] **Figure 11** is a side of the dental floss dispenser of Figure 9;
- [0049] **Figure 12** is a back view of the dental floss dispenser of Figure 9;
- [0050] **Figure 13** is a sectional view taken on the line 13 – 13 in Figure 14; and
- [0051] **Figure 14** is an elevation sectional view taken on the line 14 – 14 in Figure 13.

DESCRIPTION OF THE PREFERRED EMBODIMENTS:

- [0052] It will be noted that there are several embodiments and features of the present invention, in respect of which the following discussion is made. Several features, as described hereafter, may or may not be found in any one embodiment of a dental floss dispenser in keeping with the present invention, so the discussion of any one feature with respect to any one embodiment is not mutually exclusive to any other feature which may or may not appear in the same embodiment or another embodiment.
- [0053] In that regard, therefore, the following brief discussion is directed to several principal features of dental floss dispensers in keeping with the present invention.
- [0054] The first principal feature is that the front face or the top face of any dental floss dispenser in keeping with the present invention has a concavity which

extends between a pair of corners, and is defined by ridges formed at the respective corners. Still further, a first corner of the container is one of the corners at which one of the opposed ridges is formed; and it is also the corner at which there is an opening through which a strand of dental floss will extend so as to be unwound from a reel internally located within the dental floss dispenser.

[0055] The strand of dental floss will extend from the opening at the first corner to a second corner, and to a friction and cutting member located at the second corner. However, the second corner may be diagonally opposed to the first corner, as is particularly shown in Figures 1 to 4, and 6; or the second corner may be adjacent the first corner, as is particularly shown in Figure 8; or it is adjacent the first corner but with a concave top face formed there between, as described hereafter with respect to figures 9 to 14.

[0056] Moreover, the friction and cutting member which is located at the second corner, whether that corner which is diagonally opposed to or adjacent the first corner, is generally but not necessarily located in the interior of the container at the interior surface of the front face. For example, the friction and cutting member might be located on a side or bottom face of the dispenser container, as suggested in Figure 8, or it might be located on the front face of the dental floss container – in a location which is not specifically indicated in any of the Figures, but which will be evident to those skilled in the art. In some embodiments of the present invention, there is at least a C-shaped chute formed at the second corner, no matter which location the second corner has, through which the dental floss extends from the opening at the first corner. This provides for a guide for the dental floss.

[0057] Typically, but not necessarily, the cutter and friction member is concealed beneath the C-shaped chute, so that the friction and cutting member located in the bight of the C.

[0058] In other embodiments of the present invention, where the top face is concave, a channel is formed in a ridge formed in the top face at the first corner of the container, so that the dental floss may extend there through. Turning now to Figures 1 to 4, and Figures 6 and 7, several features of a first general embodiment of dental floss dispenser in keeping with the present invention are shown. The particular

features are that, in this embodiment, the first and second corners – that is the corners at which the opening in the front face through which a strand of dental floss extends so as to be unwound, and the corner at which the friction and cutting member is located – are diagonally opposed one to the other. A dispenser 10 is illustrated, having a front face 12, a back face 14, a pair of opposed side faces 16, 18, a top face 20, and a bottom face 22. The container is a closed container. There is disposed within the closed container, however, a reel 24 of dental floss. The closed container of the dental floss dispenser 10 may comprise 2 half shells indicated at 30 and 32 in Figure 4, which are sealed together in any convenient manner at the seam 34 which is formed around the container in the side faces 16, 18 and the top and bottom faces 20, 22, respectively.

[0059] The reel of dental floss 24 is located on a hub 40, which is centrally located in the interior of the closed container, and which extends between the interior surfaces of the front face 12 and the back face 14, in the region occupied by the hub 40. Clearly, as can be seen in Figures 4 and 7, for example, the reel of dental floss 24 is mounted for rotation about the hub 40 when the dental floss is unwound and removed from the reel.

[0060] As seen in Figures 1 to 4, a strand of dental floss 42 is unreeled from the reel of dental floss 24. The strand of dental floss 42 extends through an opening 44. The opening 44 is formed in a first corner of the front face 12; so that the first corner can be said to be defined by the opening 44 in that it is the corner at which the opening is located.

[0061] There is a friction and cutting member located at a second corner of the front face. As described above, the second corner may be diagonally opposed to the first corner or it may be adjacent the first corner. In any event, the friction and cutting member 50 comprises a tongue portion 52 which is angled away from a base portion 54 – see Figures 4 and 6, in particular.

[0062] The front face is concave on an axis 25 (see Figure 3) which extends between a pair of diagonally opposed corners of the container. The concavity is particularly illustrated in Figures 2 and 4. The concavity is defined by ridges which are formed in the front face at the first corner and at the corner which is diagonally

opposed to the first corner. Those ridges are identified in Figures 2 and 4, in particular, at 60 and 62.

[0063] There is also a C-shaped chute 70 which is formed at the second corner, and it is positioned such that the dental floss extends from the opening 44 to the C-shaped chute 70, particularly as shown in Figures 1 and 2.

[0064] In most embodiments of the present invention as described particularly with respect to Figures 1 to 8, the friction and cutting member 50 is secured in place in the interior of the container, as shown particularly in Figures 3, 4, and 6. In such instance, the friction and cutting member 50 is secured in place at the second corner, and at the interior surface of the front face 12. Particularly in the embodiment of Figures 1 to 4, 6, and 7, the friction and cutting member is located in the ridge 62 at the second corner, so that it is located in the bight of the C formed by the C-shaped chute 70.

[0065] Another feature of the embodiments of Figure 1 to 8 is that there may be, indeed, a plurality of ridges 64 which are formed in the front face 12 of the container. The ridges 64 are formed in a direction parallel to the axis 25, and assist in guiding the finger of the user across the concave front face as dental floss is withdrawn from the interior of the dental floss dispenser.

[0066] To assist further in guiding dental floss through the opening 44 at it is unreeled from the reel 24, a guide wall 66 may be formed in the interior of the dispenser, extending inwardly from the interior surface of the front face 12 in the vicinity of the opening 44 at the first corner. The guide wall 66 is positioned inwardly from the opening 44, towards the hub 40.

[0067] Turning now to Figure 8, a particular embodiment 80 of dental floss dispenser in keeping with the present invention is shown. In this case, however, the first and second corners are adjacent one another rather than being diagonally opposed to one another. Accordingly, in this embodiment, as the finger sweeps across the entire front surface 12, along the ridges 64 if they are present, there may be a larger loop of dental floss 42 which is formed at the end of the finger before the dental floss is grasped between the fingers so as to be withdrawn from the interior of the container.

Thus, somewhat less manual dexterity may be necessary, such as for individuals who suffer from arthritis.

[0068] In the embodiments of the dental floss dispenser described above, once a loop of dental floss 42 has been formed by essentially dragging the finger across the front surface 12 of the container, and grasping the dental floss between the finger and thumb for example, it is easy to cut off a required length of dental floss simply by placing the portion of dental floss closest to the opening 44 through the C-shaped chute 70. Then, whether the friction and cutting member 50 is interiorly located, as would be the usual case, or is exteriorly located as might be the case, the cutting of the dental floss in the usual manner may be easily accomplished. Of course, the end of the dental floss 42 which remains in the friction and cutting member 50 remains held in place as a consequence of the structure of the friction and cutting member, with the tongue portion 52 being angled away from the base portion 54 in the well known manner.

[0069] Referring now to Figures 9 through 14, a dental floss dispenser 110 in keeping with the present invention is shown. The dental floss dispenser comprises a closed container which has a reel of dental floss 24 disposed therein. The container has a generally planar back face 14, a generally planar front face 12, a pair of opposed side faces 16, 18, a bottom face 22, and a top face 20 which is opposed to the bottom face 22.

[0070] As before, there is a hub 40 which is centrally located in the interior of the closed container, and which extends between the interior surfaces of the front and back faces 12, 14. Typically, the hub 40 may comprise a spool 142, mounted on a spindle 44.

[0071] Clearly, the reel of dental floss 24 is mounted for rotation about the hub 40, when the dental floss 42 is unwound and removed from the reel 24.

[0072] A slot 130 is formed in the top face 20 near a first corner 160 of the dispenser 110, which is in the region of the intersection of the side face 16 and the top face 20. The dental floss 42 extends through the slot 130, so as to be unwound from the reel 24.

[0073] There is a channel 132 which is formed at a second corner 162, in the region of the intersection between the top face 20 and the second side face 18. The channel 132 extends between the top face 20 and the second side face 18.

[0074] A friction and cutting member 50, which comprises a tongue portion 52 that is angled away from a base portion 54, is secured within the channel 132.

[0075] There is a slot or opening 38 on the front face of the container so that the amount of dental floss remaining on the reel 24 can be determined.

[0076] The top face 20 of the dental floss dispenser 110 is concave on a centrally located axis 25 which extends between the back face 14 and the front face 12, the concavity being defined by ridges 64 and 66 which are located in the general region of the first corner 160 and the second corner 162, respectively.

[0077] Thus, the slot 130 is located in the first ridge 64, and the channel 132 extends through the second ridge 66.

[0078] Typically, as shown in Figure 10, the concave portion of the top face 20 is broader at the front of the dispenser than at the rear of the dispenser. Also, as shown in Figure 14, the top face 20 is sloped forwardly and downwardly in the region of the concavity which is formed therein.

[0079] Moreover, as can be clearly seen in Figures 9, 13, and 14, the back face 14 typically extends above the top face 20, in the region of the concavity which is formed at the top face 20.

[0080] Still further, as can be clearly seen in Figure 11, the channel 132 is sloped upwardly and rearwardly within the second ridge 66.

[0081] Typically, any dental floss dispenser in keeping with the present invention is comprised of a container which is molded from a suitable plastics material, as will be evident to persons skilled in the art; and the friction and cutting member is formed from metal, usually by stamping.

[0082] Finally, a further aspect of the present invention is discussed. That is, any dental floss dispenser in keeping with the present invention may further comprise adhesive means 72 disposed on the substantially planar back face 14. The adhesive means 72 provides means whereby the dental floss dispenser of the present invention may be adhesively mounted to a mounting surface. Such mounting surface may be any

convenient, substantially planar surface, such as a counter top, the side wall of a drawer, etc.; however, most usually, the mounting surface is a vertical surface such as a bathroom mirror, the inside surface of the door of a medicine cabinet, and so on.

[0083] Typically, the adhesive means 72 is a flexible flat plastic tape, which has an adhesive coating on at least a portion of each of the two sides thereof. The coating on the surface of the flexible plastic tape which is adjacent the back face 14 of the container thereby adheres the adhesive means 72 to the dental floss dispenser. The adhesive on the other side of the flexible tape is generally provided with a release cover (not shown) whereby the dental floss dispenser may be adhered to a mounting surface when desired, but not until. This is clear, for example, from an examination of Figures 4, 5, and 7.

[0084] Also, typically, the flexible plastic tape which comprises the adhesive means 72 is formed so as to have a second portion on each of the two sides thereof which has no adhesive coating thereon. This uncoated portion of the flexible plastic tape thereby forms a graspable tab 74 which may be grasped by the fingers so as to facilitate the removal of the dispenser from a mounting surface when it is adhered thereto. Such removal would occur, for example, when the reel of dental floss 24 in the interior of the dental floss dispenser has been exhausted so that it is necessary to replace the dental floss dispenser with a new one – or in some instances, to replace the reel of dental floss inside the dental floss container.

[0085] A particular flexible plastic tape having the characteristics as described above is one which is brought to the market by 3-M Company in association with its trade mark COMMAND™.

[0086] There has been described dental floss dispensers which may be inexpensively provided to the market, and particularly which may be mounted on a surface in the user's bathroom so as promote diligent daily flossing practices.

[0087] Throughout this specification and the claims which follow, unless the context requires otherwise, the word "comprise", and variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not to the exclusion of any other integer or step or group of integers or steps.

[0088] For example substantially planar means exhibiting the characteristics of planarity or flatness, or of being on the same plane, without necessarily being restricted to that preciseness of meaning.

WHAT IS CLAIMED IS:

1. A dispenser (10, 30, 11) for dental floss comprising:
 - a closed container having a reel of dental floss (24) disposed therein, said container having a generally planar back face (14), a front face (12), a pair of opposed side faces (16, 18), a top face (20), a bottom face (22) opposed to said top face, and a corner at each intersection of said top and bottom faces with said pair of opposed side faces.
 - a hub (40) centrally located in the interior of the closed container and extending between the interior surfaces of said front and back faces, in the region occupied by said hub, and a reel of dental floss (24) being mounted for rotation about said hub when said dental floss is unwound and removed from said reel;
 - an opening (44, 130) formed in one of said front face at a first corner thereof or said top face near said first corner, through which opening a strand of dental floss (42) extends so as to be unwound from said reel;
 - a channel (70, 132) formed at a second corner, and being positioned such that said dental floss extends from said opening at said first corner through said channel located at said second corner; and
 - a friction and cutting member (50) at said second corner of said front face, adjacent said channel;
 - wherein said friction and cutting member comprises a tongue portion (52) which is angled away from a base portion (54) thereof, and is secured in place at said second corner thereof; and
 - wherein the respective one of said front face and said top face where said opening is formed is concave on an axis (25) which extends perpendicular to said first and second corners of said container, the concavity thereof being defined by ridges formed at said first and second corners.
2. The dental floss dispenser of claim 1, wherein said opening (44) is formed in a first corner of said front face, and said channel is a C-shaped chute (70) formed at a second corner of said front face; and

wherein said first and second corners are diagonally opposite each other.

3. The dental floss dispenser of claim 1, wherein said second corner is adjacent said first corner.

4. The dental floss dispenser of claim 2, wherein said friction and cutting member is secured in place in the interior of said container at said second corner thereof at the interior surface of said front face.

5. The dental floss dispenser of claim 3, wherein said friction and cutting member is secured in place in the interior of said container at said second corner thereof at the interior surface of said front face.

6. The dental floss dispenser of claim 4, wherein said friction and cutting member is located in the bight of the C.

7. The dental floss dispenser of claim 1, wherein said opening (130) is formed in a first corner of said top face, and said channel (132) is formed at a second corner of said top face; and

wherein said first and second corners are adjacent one another.

8. The dental floss dispenser of claim 7, wherein said opening is a slot (130) which is formed in the ridge at said first corner of said container in said top face.

9. The dental floss dispenser of claim 7, wherein said top face is sloped forwardly and downwardly in the region of the concavity formed therein.

10. The dental floss dispenser of claim 9, wherein said back face extends above said top face in the region of the concavity formed in said top face.

11. The dental floss dispenser of claim 7, wherein said channel is sloped upwardly and rearwardly within a second ridge of said second corner of said top face.

12. The dental floss dispenser of claim 1, wherein said container is molded from a plastics material, and said friction and cutting member is formed from metal.

13. The dental floss dispenser of claim 1, further comprising adhesive means on the substantially planar back face, whereby said dental floss dispenser may be adhesively mounted to a mounting surface.

14. The dental floss dispenser of claim 7, further comprising adhesive means on the substantially planar back face, whereby said dental floss dispenser may be adhesively mounted to a mounting surface.

15. The dental floss dispenser of claim 13, wherein said adhesive means comprises a flexible plastic tape having an adhesive coating on at least a portion of each of the two sides thereof.

16. The dental floss dispenser of claim 15, wherein said flexible plastic tape is stretchable, and wherein a second portion on each of the two sides thereof has no adhesive coating thereon; and

wherein the uncoated portion of the flexible plastic tape forms a graspable tab (74) to facilitate removal of said dispenser from a mounting surface when adhered thereto.

17. The dental floss dispenser of claim 14, wherein said adhesive means comprises a flexible plastic tape having an adhesive coating on at least a portion of each of the two sides thereof.

18. The dental floss dispenser of claim 17, wherein said flexible plastic tape is stretchable, and wherein a second portion on each of the two sides thereof has no adhesive coating thereon; and

wherein the uncoated portion of the flexible plastic tape forms a graspable tab (74) to facilitate removal of said dispenser from a mounting surface when adhered thereto.

19. The dental floss dispenser of claim 2, wherein the front face of said container has a plurality of ridges (64) formed therein in a direction parallel to said axis.

20. The dental floss dispenser of claim 3, wherein the front face of said container has a plurality of ridges (64) formed therein in a direction parallel to said axis.

21. The dental floss dispenser of claim 2, further comprising a guide wall (66) extending inwardly from the interior surface of said front face in the vicinity of said opening at said first corner, and being positioned inwardly from said opening towards said hub.

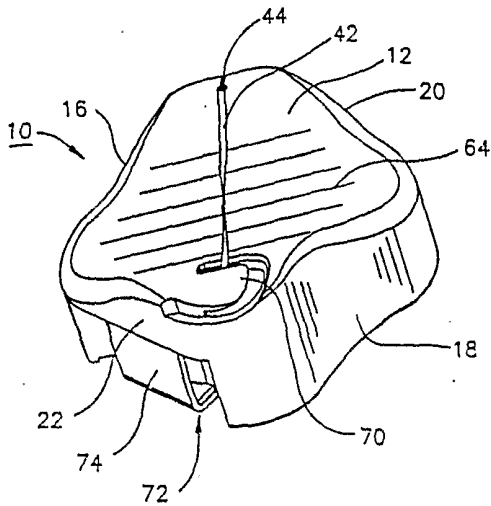


FIG. 1

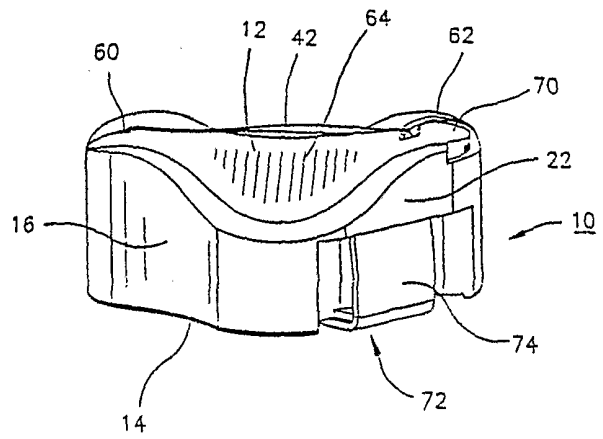


FIG. 2

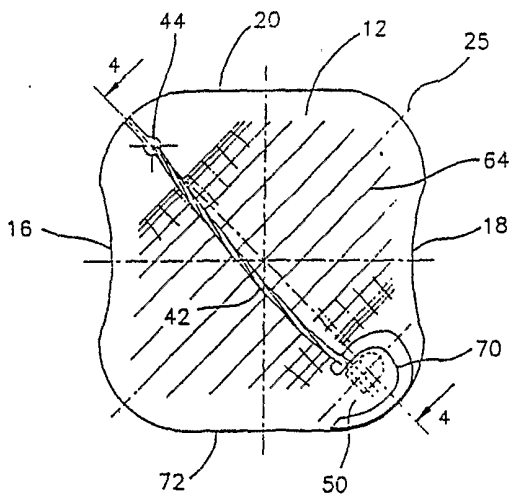


FIG. 3

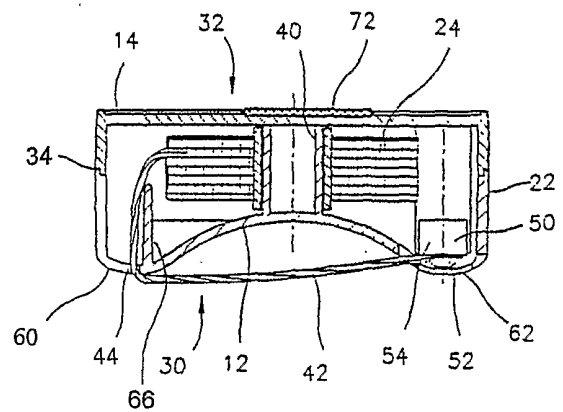
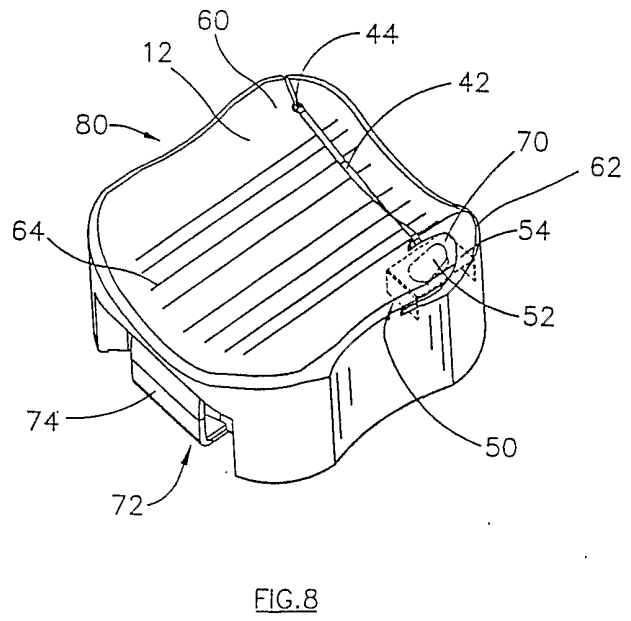
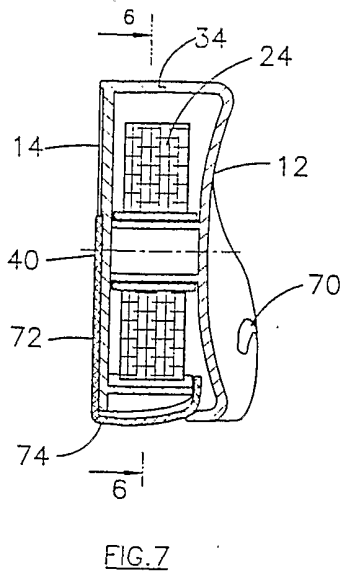
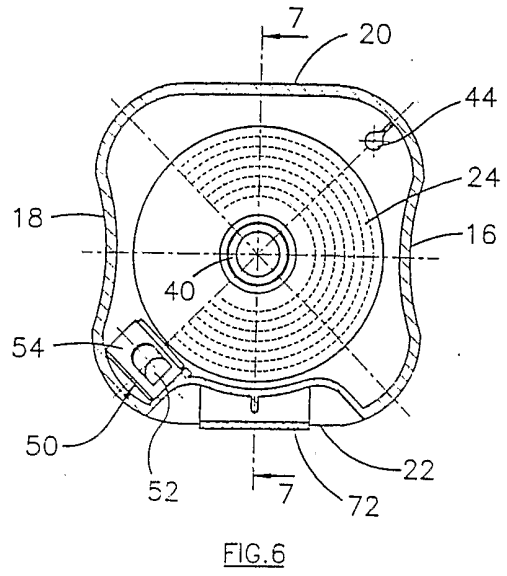
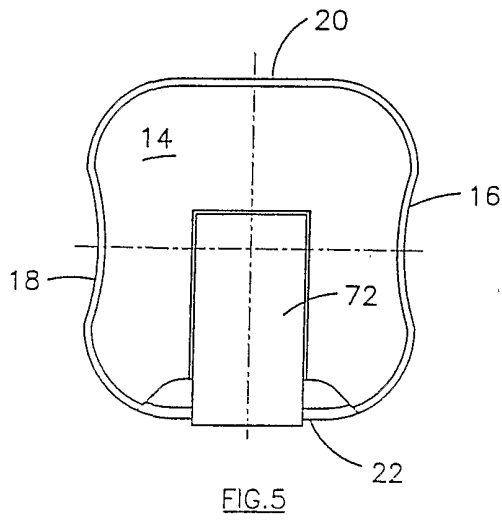
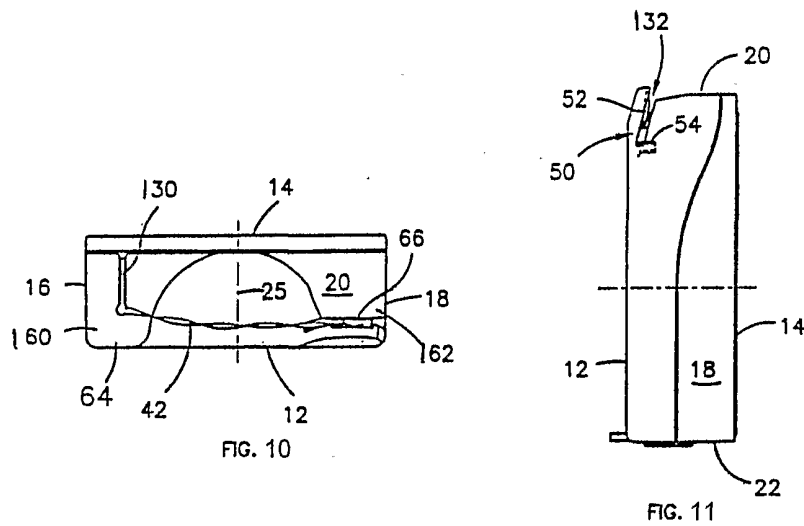
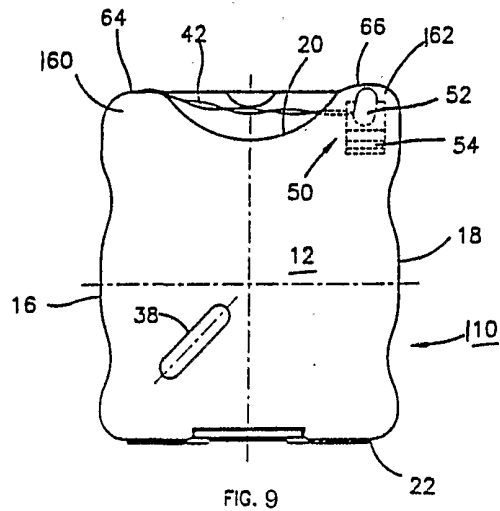


FIG. 4





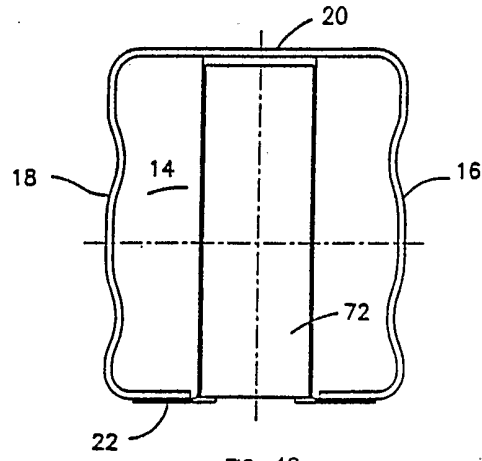


FIG. 12

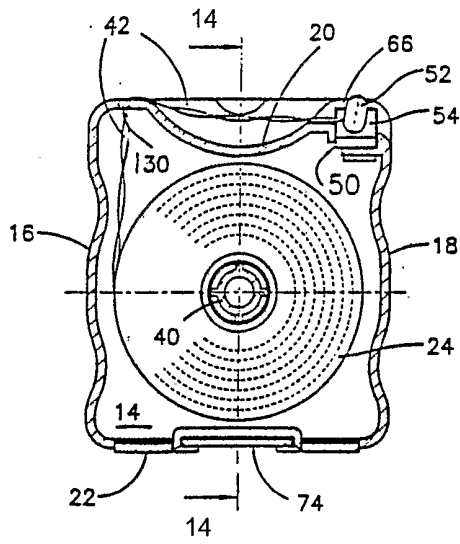


FIG. 13

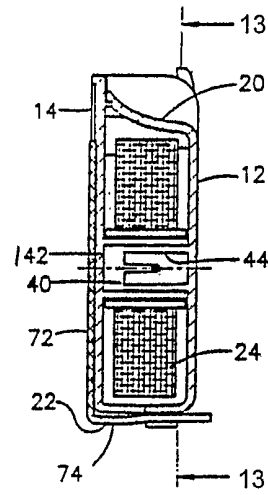


FIG 14

INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 01/01065

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61C15/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 160 077 A (STICKLIN) 3 November 1992 (1992-11-03) the whole document -----	1, 12
A	US 3 480 190 A (FREEDMAN) 25 November 1969 (1969-11-25) the whole document -----	1-3, 7, 8

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

14 December 2001

Date of mailing of the international search report

21/12/2001

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 01/01065

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
US 5160077	A	03-11-1992	NONE	
US 3480190	A	25-11-1969	NONE	