United States Patent

Haagedoorn

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[54] DENTAL BRIDGE CLEANER DISPENSER

[72] Inventor: **Anton F. Haagedoorn,** Gina Lane, Box 245, RFD #2, Bedford, N.Y. 10506

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[51] **Int. Cl.** **A61c 15/00,** B65d 83/08, B65d 85/62

[58] **Field of Search** ..... 132/89, 90, 91; 206/56 AC, 206/46, 56 A, 56

[56] **References Cited**

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Primary Examiner—Louis G. Mancene
Assistant Examiner—Gregory E. McNeill
Attorney—Curtis, Morris & Safford

[57] **ABSTRACT**

A dental bridge cleaner dispenser comprising a channel-shaped member in which a plurality of vertically arranged cleaner members are mounted on and slidably arranged in respect to a supporting rod having a resilient loop at one end. The walls of the channel have guide openings aligned with said resilient loop whereby a length of dental floss can be passed therethrough. Upon removal of a cleaner member it is automatically threaded with the floss. The cleaner member is provided with a notch for securing the floss against movement in respect to the cleaner member.

7 Claims, 4 Drawing Figures

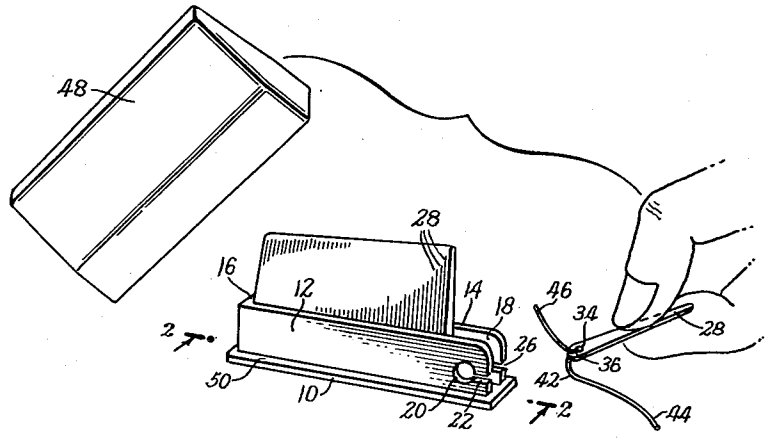


Fig 1

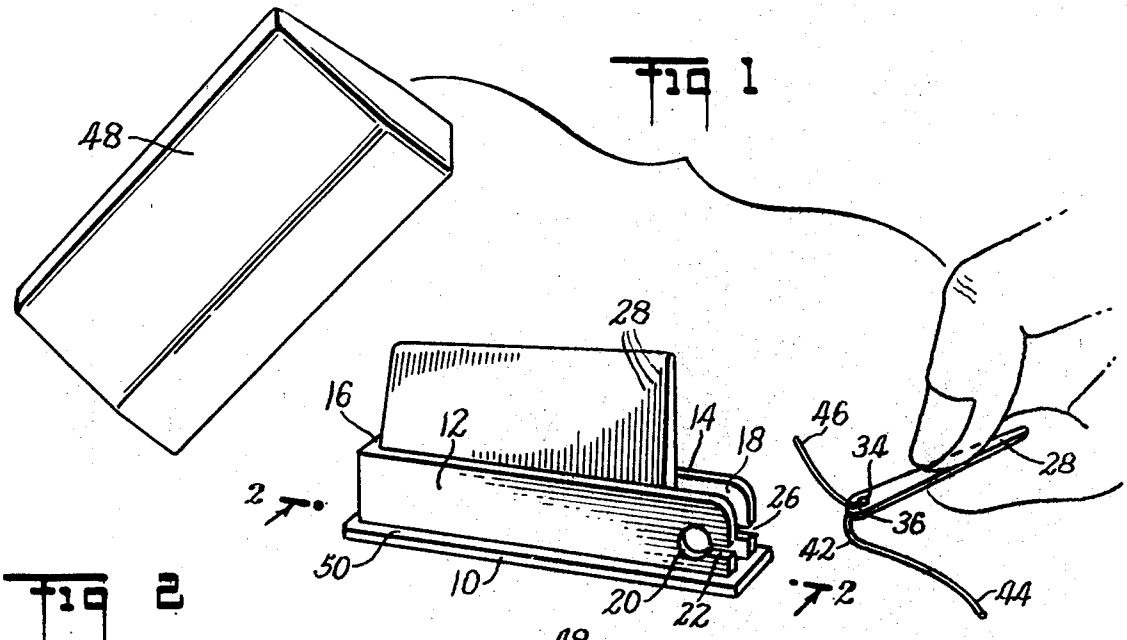


Fig 2

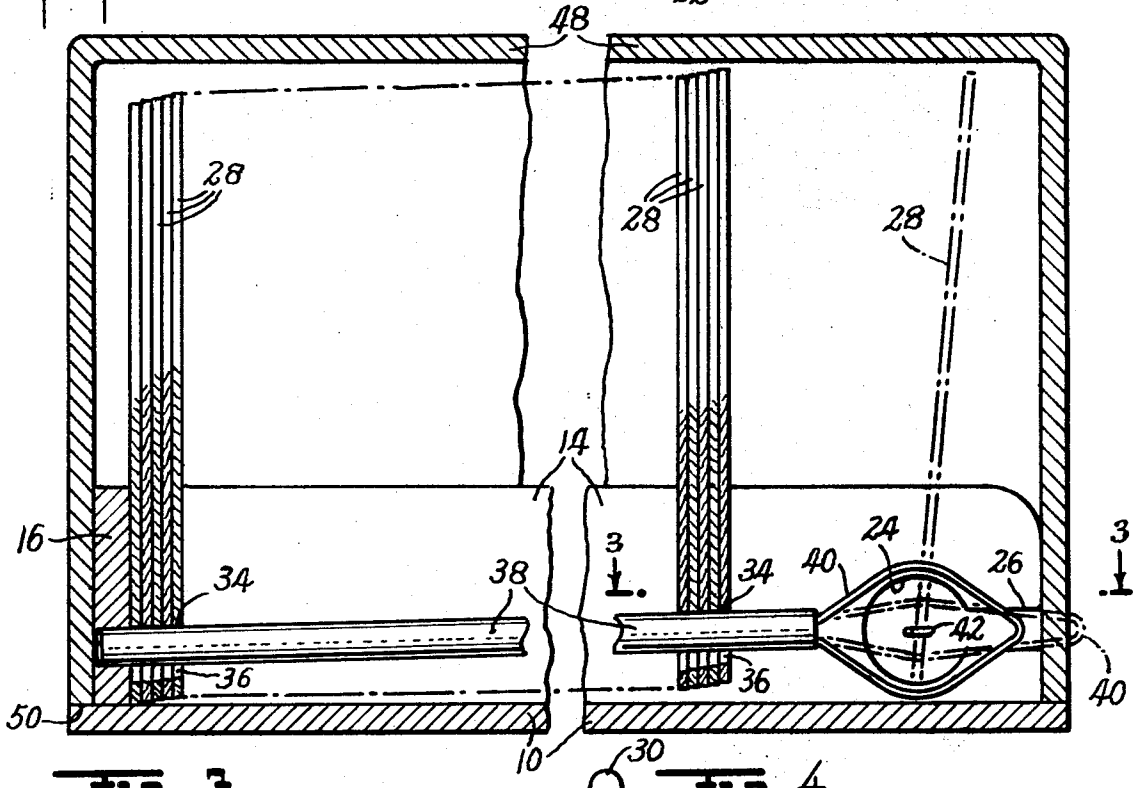


Fig 3

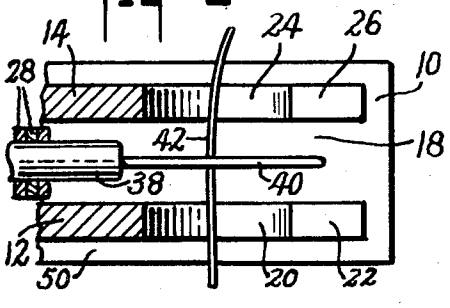
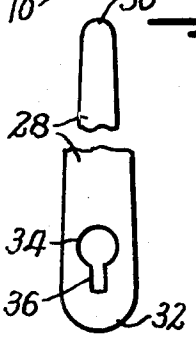


Fig 4



INVENTOR.
Anton F. Haagedoorn
BY
Curtis Morris & Safford
ATTORNEYS

DENTAL BRIDGE CLEANER DISPENSER

This invention relates to the cleaning of teeth and more particularly to a novel dispenser for dispensing dental bridge cleaners.

While the cleaning of removable dental bridges can be effected relatively easily, the cleaning of permanent dental bridges presents a somewhat more difficult problem because of the fact that food particles and other debris which tend to collect between the gum and the bridge are relatively inaccessible to the ordinary tooth brush. To remove such debris it is customary to use a dental bridge cleaner which commonly comprises an elongated flat cleaner member made of a flexible material such as a plastic and having rounded ends and means for attaching a length of dental floss or ribbon thereto. The leading end of the cleaner member is inserted between the gum and dental bridge and drawn therethrough to cause the dental floss that is attached to the cleaner member to clean the area between the gum and bridge. The dental floss may be attached to the cleaner member by, for example, passing a length of the floss through a hole formed in the trailing end of the cleaner member.

The cleaner members are customarily quite small and when packaged in the usual manner are somewhat awkward to handle. Also it is desirable that the dental floss be attached to the cleaner member just prior to use, and the operation of threading the floss into the cleaner member is time-consuming.

It is accordingly an object of the present invention to provide a device for storing a supply of dental bridge cleaner members in such manner that each member can be conveniently withdrawn as required. It is another object of the invention to provide a dental bridge cleaner dispenser which facilitates threading a dental floss or ribbon into the cleaner member. It is still another object of the invention to provide such a dispenser wherein the operation of withdrawing a cleaner member from the dispenser simultaneously threads the floss into the cleaner member. It is a still further object of the invention to provide a cleaner member having means for firmly securing the dental floss thereto. Other objects of the invention will be in part obvious and in part pointed out hereafter.

The objects and advantages of the present invention may best be understood and appreciated by reference to the accompanying drawing which illustrates a preferred embodiment of the invention and wherein:

FIG. 1 is a perspective view of the dispenser with the cover removed and showing the general arrangement of the cleaner members in the dispenser;

FIG. 2 is a greatly enlarged vertical section taken on the line 2—2 of FIG. 1 and showing the method of mounting the cleaner members within the dispenser and the resilient loop over which the clean members pass as they are removed from the dispenser;

FIG. 3 is a horizontal section taken on the line 3—3 of FIG. 2 and showing the manner in which a piece of dental floss is passed through the guide openings in the side walls of the dispenser and through the resilient loop; and,

FIG. 4 is a front view of a cleaner member showing the key-hole opening in the trailing end thereof for receiving the dental floss.

Referring to the drawing and particularly to FIG. 1, the dispenser there shown comprises a base 10, side walls 12 and 14 and end wall 16 that cooperate to define an open-ended channel 18. The base, side walls and end wall may be made of any suitable material, but can conveniently be made of molded plastic.

Near the open end of channel 18, the side wall 12 is provided with a guide opening 20 which is connected by a slot 22 with the free end of wall 12. In like manner the wall 14 is provided with an aligned guide opening 24 (shown in FIGS. 2 and 3) and slot 26. Within the channel 18 a supply of cleaner members 28 are vertically arranged in a manner now to be described.

Referring to FIG. 4, each cleaner member 28 is of elongated, tapered configuration having a rounded leading end 30 and rounded trailing end 32. Near the trailing end of member 28 there is a key-hole shaped opening comprising a circular hole 34 and rectangular slot 36 connected thereto. As described more fully below, the slot 36 serves to hold a piece of dental floss in fixed relation to the cleaner member 28.

Referring next to FIG. 2, the cleaner members are mounted in channel 18 on a rod 38 that passes loosely through the hole 34 of each cleaner member so that the members may be readily slid along the rod to their point of removal from the dispenser. The rod 38 is secured at its left end to the end wall 16 of the dispenser and slopes slightly upward to the right as shown in FIG. 2. The upward slope of rod 38 produces a corresponding upward slope of the leading ends, i.e. the upper ends, of the cleaner members, thereby facilitating manual separation of each member form its adjacent member.

At its right hand end rod 38 is provided with a resilient loop 40 which is aligned with the guide openings 20 and 24 formed in the walls 12 and 14 respectively. The loop 40 is of such size that its height is substantially greater than the diameter of the holes 34 in the cleaner members. However, it is sufficiently resilient so that it can be readily deformed to pass through the holes 34 of the cleaner members.

Referring to FIG. 3, when it is desired to insert a piece of floss 42 into a cleaner member, the floss is passed successively through the guide opening 20 in wall 12, the resilient loop 40 in channel 18 and the guide opening 24 in wall 14. The cleaner member 28 nearest the free end of channel 15 is then manually pulled from the dispenser. As shown in dotted lines in FIG. 2, the resilient loop 40 is deformed to permit the hole 34 of the cleaner member to pass thereover.

Referring to FIG. 1, as the cleaner member 28 is withdrawn from the dispenser the ends 44 and 46 of the floss pass through the slots 22 and 26 respectively. These ends are then grasped with the left hand and pulled to force the floss into the notch 36, thereby securing the floss firmly to the cleaner member.

Still referring to FIG. 1, a cover 48 is provided for the dispenser when not in use. The base 10 extends beyond the side walls 12 and 14 and end wall 16 to form a circumferential rim 10 against which the bottom of the cover abuts. The cover is shown in place in FIG. 2 of the drawings. It is held in place by a press fit with the side walls 12 and 14.

From the foregoing description it should be apparent that the present invention provides a dental bridge cleaner dispenser capable of achieving the objects set forth at the beginning of the present specification. A dental floss or ribbon can be readily inserted in the cleaner member by a simple manual operation and firmly secured therein. Thus the present invention provides an efficient and rapid method of dispensing dental bridge cleaners with a length of dental floss or ribbon secured thereto.

It is, of course, to be understood that the foregoing description is illustrative only and that numerous changes can be made without departing from the scope of the invention as defined in the appended claims. For example, the cover 48 can be hinged to the base 10. As shown in FIG. 3, the walls 12 and 14 are spaced somewhat from the cleaner member to permit a small amount of lateral movement. If this lateral movement is considered undesirable, the upper edges of walls 12 and 14 can be provided with inwardly extending horizontal retainers to eliminate lateral movement of the bank of cleaner members. Other modifications within the scope of the invention will be apparent to those skilled in the art.

I claim:

1. A dental bridge cleaner dispenser comprising in combination, a base, a pair of up-standing guide members secured to said base and having aligned openings therein, a plurality of elongated cleaner members each having a hole near one end thereof, a rod effectively secured to said base and extending through said holes in said cleaner members, said rod having affixed to one end thereof a resilient loop aligned with the openings in said guide members, said resilient loop having a normal diameter greater than that of the holes in said cleaner members and being deformable to pass through a cleaner

member hole as said member is withdrawn from said dispenser.

2. A dental bridge cleaner dispenser comprising in combination, a base having side walls and an end wall secured thereto to form an open-ended channel, said side walls having aligned openings near the open end of said channel, a plurality of elongated cleaner members each of which has a hole near one end thereof, a rod secured at one end to said end wall and extending through the holes of said cleaner members, said rod having affixed to its other end a resilient loop aligned with the openings in said side walls, said resilient loop having a normal diameter greater than that of the holes in said cleaner members and being deformable to pass through a cleaner member hole as said member is withdrawn from said dispenser.

3. A dispenser according to claim 2 wherein said rod is positioned within said channel, and said side walls support said cleaner members in a position substantially perpendicular to said base.

4. A dispenser according to claim 2 wherein said side walls have slots formed therein substantially parallel to said base and extending from the openings in said side walls to the open end of said channel.

5. A dispenser according to claim 2 wherein said base extends outwardly from said side and end walls to form a rim and said dispenser is provided with a cover that abuts against said rim.

6. A dispenser according to claim 2 wherein the holes in said cleaner members have communicating slots adapted to receive a length of dental floss and secure it to said cleaner member.

7. A dispenser according to claim 1 wherein said rod slopes upwardly from said base toward said resilient loop to cause the upper ends of said cleaner members to slope upwardly to facilitate separation of said members.

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