Dec. 5, 1939. W. A. MAY 2,182,525

DEVICE FOR HOLDING DENTAL FLOSS

Filed Dec. 17, 1938

Fig. 1

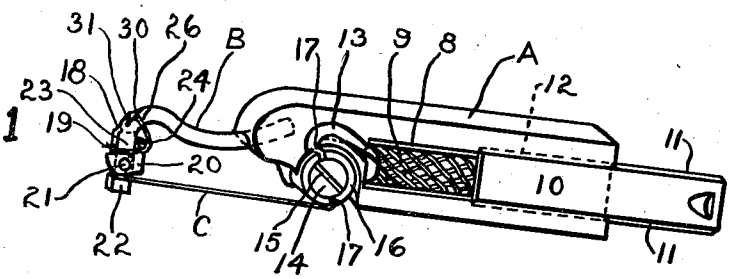


Fig. 2

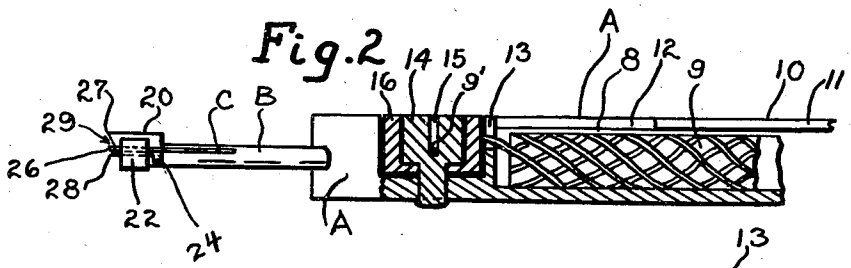


Fig. 3

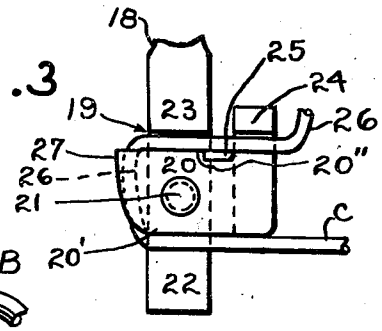


Fig. 5

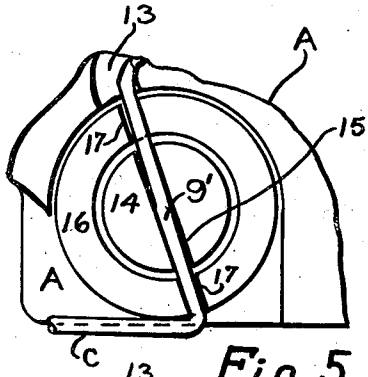


Fig. 7

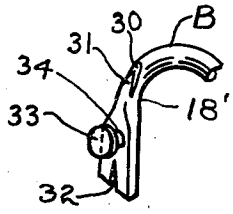


Fig. 4

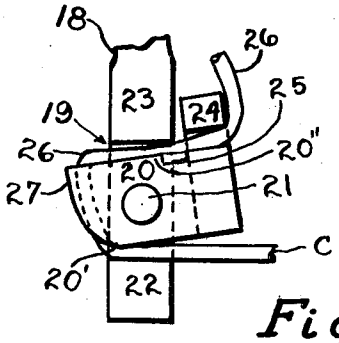
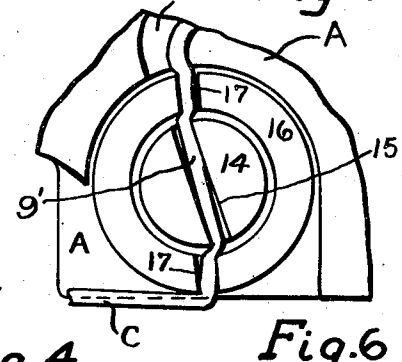


Fig. 6



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2,182,525

DEVICE FOR HOLDING DENTAL FLOSS

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3 Claims. (Cl. 132—92)

This invention relates to dental floss holders, and particularly to devices for holding a supply of the floss, and for sustaining a section of such floss in an extended and taut condition for operation between the teeth for cleaning the same.

It is common to use dental floss or thread like fibers for removing particles from between the teeth, but difficulty has been found in maintaining a section of such floss in suitable taut condition for such purposes, and for extending the same into the mouth between the upper and lower teeth. Frequently the fingers have been used for extending and holding the floss, but the insertion of the fingers is objectionable, both for its inconvenience and the unsanitary practice, and for its lack of efficiency involved.

It is therefore among the objects of this invention to provide a device easily and cheaply constructed, and of suitable construction for both holding a supply of the floss, and for holding a section thereof in a taut or tightened condition for insertion between the upper and lower jaws, for efficiently operating the section of floss between any two teeth.

A particular object is to provide a chambered handle, with a rigid bar projected forwardly therefrom, and means carried on the front end of the bar for binding the front end of a section of floss, and to provide adjacent the rear end of the bar a post and collar rotatable thereon both slotted for receiving and binding the rear end of such section of floss.

With these and other objects to be hereinafter shown, I have illustratively exemplified my invention by the accompanying drawing, of which:

Figure 1 shows a perspective view of the device, taken at point above and in front thereof;

Figure 2 is a bottom plan view of the device, with parts in section.

Figure 3 shows an enlarged fragmentary view of an oscillating binding block and front jaws for binding the front end of a section of floss, in open position for receiving the same, taken from the side;

Figure 4 shows similar parts as Fig. 3, but with the block tilted in position for binding such section of floss in taut position;

Figure 5 shows an enlarged fragmentary view of the post and collar thereon, with slots across each in aligned position for receiving the rear portion of such section of floss, taken from the side;

Figure 6 shows similar parts as Fig. 5, but with the collar slightly turned on the post, for binding the rear end of such section of floss for tightening.

Figure 7 is a perspective view, of another form or embodiment of the invention, for binding the front end of a section of floss, in simplified construction.

Like characters on the different figures represent like parts. A, indicates an operating handle, and B, represents a bar projected forwardly therefrom for easy entrance into the mouth and for holding the front end of a section of floss C, in suitable tightened condition for use.

Said handle is provided with a chamber 8, of suitable dimensions for carrying a supply or roll of floss, of the ordinary form 9. A cover 10 is provided over the chamber, slidably mounted on tongues 11, within grooves 12 for renewing the roll 9. A channel 13 is extended through the front portion of the handle and preferably in a curved form for withdrawing a section of floss from the roll and for conducting the same to a binding post 14. A slot 15, is extended across the outer end of the post, and a collar 16 is rotatably mounted on the post, and carries slot 17 across the outer face thereof and normally in alignment with the slot in said post, and with one end thereof normally adjacent the forward end of said passageway for easy positioning of the said floss within both of said slots, while so aligned. The front end of the bar B, is turned down to provide an arm 18, for holding the front end of such section of floss, forwardly from said rear post. Near the lower end of said arm, a mortise or slot 19 is extended across the face thereof at right angles, and on each side of said slot or groove 19 are jaws for locking or limiting the movements of a block 20, on a pivot pin 21.

The lower jaw 22, is spaced beneath the block sufficiently to permit the extension of the floss therethrough, and the upper jaw 23 is spaced above the block sufficiently to permit the extension of the floss therethrough, both while said block is horizontally positioned within such groove. A lug or lever 24 is extended from the rear of said block for rocking the same on its pivot when said thread or section of floss has been positioned through such spaces beneath and above said block, whereby the lower front corner 20′ of said block, and the upper rear corner 20″ of said block are compressed against said jaws respectively and caused to impinge upon the portion of floss between the same, and thereby bind such floss in position and prevent the same from slipping backward, and so maintains such section of floss in taut condition between said rear bind-

ing post and said front block. Adjacent said upper corner of said block a shallow groove or notch **25** is preferably provided, in such position that when said block is rocked, that such notch spans freely a corner of said upper jaw **23**, and further tends to prevent such floss from slipping backward.

To facilitate the rapid threading of such floss around the front end of said block, flanges **27** and **28** are preferably provided along the front edges of said block to form a groove **29** between the same wherein said floss is quickly and easily positioned, when it is to be carried back beneath said upper jaw **23**. In order to sever any unnecessary loose end or portion of the floss **26**, which may extend above said block after the binding of said floss, a V notch **30** is provided upon said arm, with an outer blade or tongue **31**, against which said free portion of said floss is drawn, for separation.

For use the operator withdraws a suitable portion of the floss from the roll **9**, for extension between the binding post and the front binding block to provide the taut section C. The portion of the floss **9'** adjacent the slots **15** and **17** across the post and collar is then embedded within the slots, as indicated in Fig. 5. Next the operator slightly turns the collar, whereby the slot thereon is carried out of alignment and the floss at such points of contact is flattened and pinched as indicated in Fig. 6, and so effectually prevented from slipping forward. (In practice the space between the post and collar, is merely sufficient for sliding movement and to permit slight thickness of the compressed floss.)

The operator then draws the extended portion of floss tightly around the forward block, and rocks the same, and securely binds the forward portion of the floss, as before described, to sustain the section C, in desired taut condition for insertion and movement between the teeth to be cleaned.

In Figure 7, I show a simplified form for supporting the front end of the floss, where severe tension is not required on the section C of the floss. In this form the bar B, carries a flattened arm **18'**, provided with notch **32** in lower end thereof for supporting the front end of the floss. Above the notch is a post or screw **33**, with a narrowed neck **34** in sloping form and being smallest adjacent the arm, whereon the outer end of the floss may be twisted, for sustaining the section C, extended for use.

While I have described specific construction for sustaining the floss in desired positions, I do not limit my construction thereto, and desire to protect my invention, as within the scope of my claims.

Having described my invention, I claim as new:

1. A device for holding dental floss, comprising a handle provided with a chamber for carrying a supply of said floss, a channel extended from said chamber for removing a portion of said floss, means for retaining the rear end of such described portion, comprising a fixed pivot post provided with a slot across the outer end thereof, a collar rotatably mounted on said post and provided with a slot across the same normally in alignment with the slot in said post for receiving and binding the adjacent portion of said floss, a bar extended forward from said handle, an arm depended at right angles from the front end of said bar for sustaining the front end of said floss, jaws spaced apart near the lower end of said arm, an angular block pivotally connected between said jaws in spaced relation therefrom and adapted to rock and bind a body of said floss near the outer end of such floss between corners of said block and jaws, to maintain a section of such floss taut between said binding post and block for use in cleaning teeth, and a cutting blade extended from said arm, adapted for severing surplus part of said floss beyond said block.

2. A device for holding dental floss, comprising a hollow handle a supply of floss within said handle, a binding post adjacent the front end of said handle, a collar on said post adapted to bind a rear end of a section of floss upon said post, a bar extended forward from said handle, an arm carried by said bar angularly thereto, a pair of jaws spaced apart across the lower end of said arm, an angular block pivotally connected to said arm between said jaws and spaced apart therefrom and adapted to rock and bind the front end of said section of floss between corners of said block and faces of said jaws, for sustaining such section of floss in taut condition between said post and block, for operation between the teeth.

3. A device for holding dental floss in a straight line for cleaning between teeth, comprising a handle, a binding post adjacent the front end of said handle, means for compressing the rear end of a section of dental floss against said post for retaining such end, an arm projected forwardly from said handle at right angles thereto for sustaining the front end of such floss, jaws across the end of said arm, an angular block pivotally mounted between said jaws and adapted for maintaining the front end of said floss looped thereover, and adapted to rock and bind the ends of said loop against said jaws, for sustaining such section of floss in taut condition between said post and arm.

WILLIAM A. MAY.