O. O. MARTIN.

DENTAL FLOSS HOLDER.

APPLICATION FILED MAY 22, 1920.

1,389,064. Patented Aug. 30, 1921.

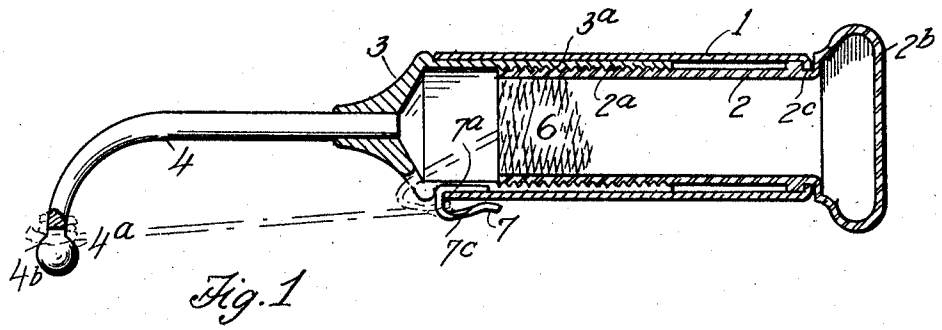


Fig. 1

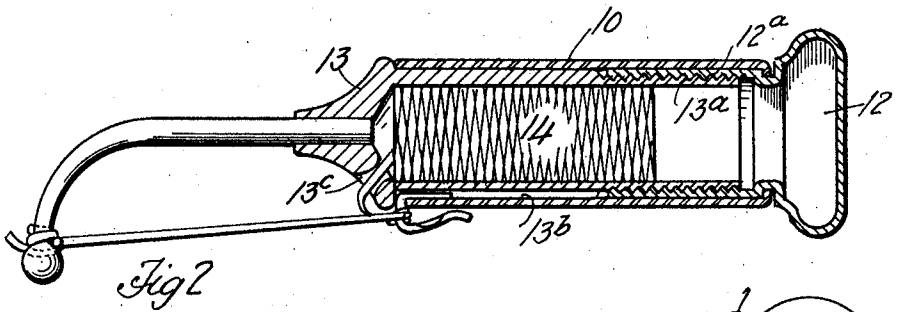


Fig 2

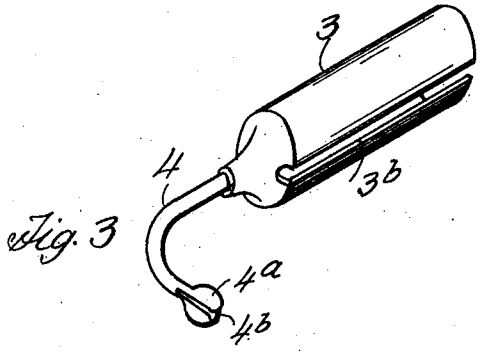


Fig. 3

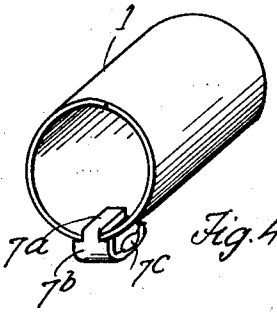


Fig. 4

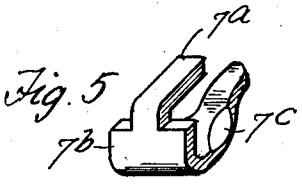


Fig. 5

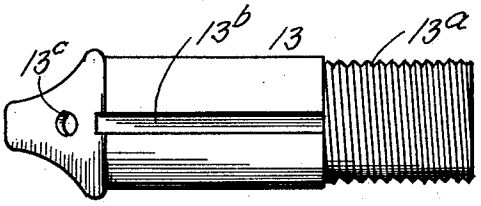


Fig 6.

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DENTAL-FLOSS HOLDER.

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Application filed May 22, 1920. Serial No. 383,490.

To all whom it may concern:

Be it known that I, OLIVER O. MARTIN, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Dental-Floss Holders, of which the following is a specification.

This invention has relation to a device for holding dental floss for the purpose of cleaning the spaces between the teeth. The object of the invention is the provision of an apparatus within which a bobbin of dental floss may be stored, and which is provided with elements for holding the free end of the said floss suspended in a convenient and effective manner. A further object is to effect relative adjustment of the parts holding the floss suspended in order to maintain the floss under tension during the tooth cleaning operation. The additional objects of the invention and its advantageous and important features are hereinafter fully described and illustrated in the appended drawing, of which:

Figure 1 is a cross sectional side elevation of a device embodying the invention,

Fig. 2 is a similar view of a slightly modified structure,

Fig. 3 illustrates the adjustable floss holding element,

Fig. 4 shows the outer tubing of the apparatus and its means for guiding the said adjustable element,

Fig. 5 is a detail view of the fixed floss holding element, and

Fig. 6 shows the adjustable floss holding element of Fig. 2.

The structure of Fig. 1 comprises an outer tubing 1 carrying a floss supporting element 7, an inner thimble 2 in which a bobbin 6 of dental floss is stored, and an intermediate sleeve 3. The thimble 2 is made with external screw threads 2^a, in addition to which it carries an enlarged rim 2^b, forming a convenient handle or knob for turning the thimble. The sleeve 3 is provided with internal screw threads 3^a engaging the threads of the thimble, and the front end of the sleeve is sufficiently reduced to support a slender bow 4. The latter is rigidly fixed in the sleeve by soldering, riveting or in any other suitable manner, it points downward, and it terminates in a spherical head 4^a, which is slotted lengthwise for the purpose of receiving the end of the floss.

The sleeve 3, see Fig. 3, is made with a longitudinal slit 3^b, which serves a double function. In the first instance the bobbin 6 is pushed into the thimble 2, whereupon the loose end of the floss is drawn from within the bobbin and placed in the said slit. The next operation is to insert the sleeve between the tube and thimble, and this can only be accomplished when the parts are turned into correct alinement, in which position the slit 3^b rides over the base 7^a of the floss hook 7. It is thus seen that one function of the said slit is to facilitate threading of the free floss end through the apparatus, and that the second function is to prevent relative rotation of the sleeve in the tube.

In the thimble, in front of the knob 2^b, is a contraction 2^c, into which the rear end of the outer tube 1 is drown or spun for the purpose of retaining the tube and thimble longitudinally immovable. The hook 7 has the aforenamed base 7^a positioned on the inner surface of the tube for guiding the sleeve. The body of the said hook is made with a relative broad portion 7^b. The first hooks made were well rounded, and the floss would slip and slip no matter how tightly wound or how many turns were given around the hook, but by making it broad relative to its thickness, it holds the floss firmly in place. On each side of the hook are ground sharp edges 7^c, on which to cut off the end of the floss after it has been used.

The structure of Fig. 2 is similar in principle to the one above described, and it varies in form only in minor details. The outer tube 10 may be identical with the tube 1. The thimble 12 is in this case made with internal screw threads 12^a, and the sleeve 13 carries external screw threads 13^a for engagement with the former. Thus the sleeve 13 becomes the innermost tube of the apparatus, and therefore also the receptacle for the floss bobbin 14. The sleeve 13 may be slit after the manner of the sleeve 3, and for the same purpose, or it may be made with a groove 13^b, as indicated in Figs. 2 and 6, in which case the end of the floss is threaded through a perforation 13^a before mounting the bobbin in the said sleeve.

From the foregoing description it is seen that the principal parts of the invention are two tubular telescoping members, one holding a bobbin of floss and having one element for supporting the loose end of the said floss, and the other provided with a second element for the end of the floss. Furthermore that I provide means for adjusting the two members longitudinally, and at the same time devices are introduced for the prevention of relative rotation of the said members. I may introduce other adjusting means without thereby departing from the spirit of the invention.

I claim:

1. In a dental floss holder three tubular members telescoping within each other and capable of holding a bobbin of dental floss, the outer member having a fixed floss fastening clip, one of the inner members made with a fixed bow projecting in one direction, the second inner member capable of moving the first inner member longitudinally and provided with an operating knob projecting in the opposite direction.

2. In a dental floss holder, a cover tube, a sleeve seated to revolve within said tube and having a projecting knob, a thimble within the cover tube and carrying a projecting bow, said sleeve capable of moving said thimble longitudinally, said cover maintaining said thimble unturnable, said cover made with a fixed fastening element.

3. An outer tube having a fixed fastening and cutting element, a thimble slidable within said tube and carrying a floss fastening bow, means within said tube for moving said thimble longitudinally, said means having an operating knob projecting beyond the said tube.

4. Three telescoping members comprising: an outer tube having a floss fastening and cutting element, a thimble carrying a floss fastening bow slidable within said tube and held against turning, a third tube seated to rotate in the outer tube for the purpose of sliding the said thimble, said third tube having a projecting operating knob.

5. In a dental floss holder, three tubes telescoping within each other, the outer tube having a fixed floss fastening clip, one inner tube having a projecting bow shaped at the end for fastening floss, the other inner tube having an operating knob projecting beyond the outer tube in the opposite direction for the purpose of rotating said second inner tube and thereby advancing the first inner tube and retracting it.

OLIVER O. MARTIN.