Sept. 11, 1945. J. TURENCHALK ET AL 2,384,712

DENTAL FLOSS HOLDER

Filed Aug. 30, 1943

FIG. 1.

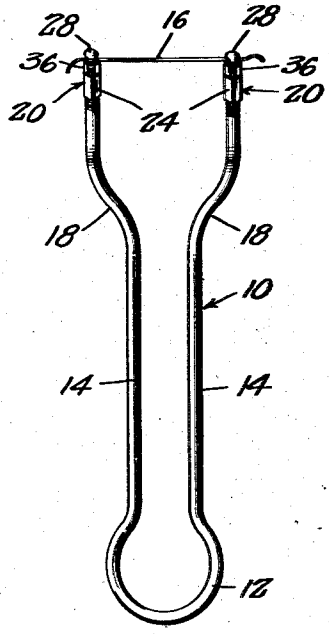


FIG. 2.

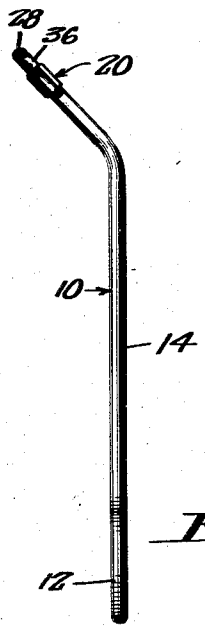


FIG. 3.

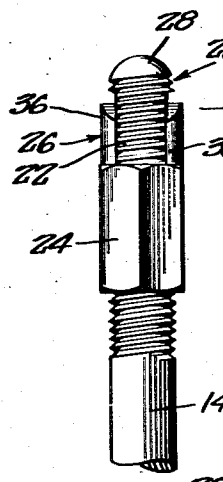


FIG. 5.

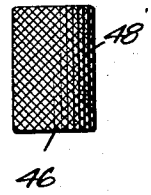


FIG. 4.

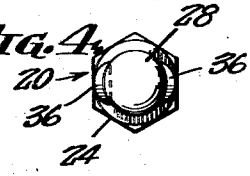


FIG. 6.

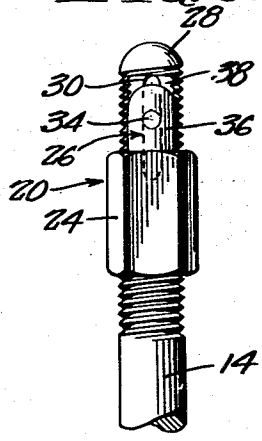


FIG. 7.

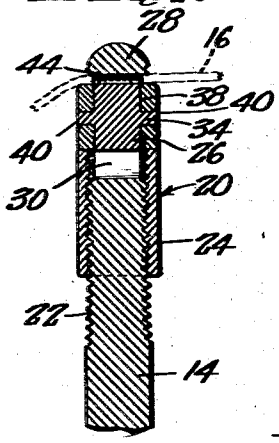
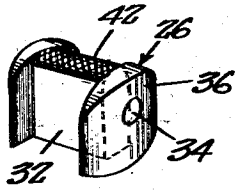


FIG. 8.



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Patented Sept. 11, 1945 2,384,712

UNITED STATES PATENT OFFICE

2,384,712

DENTAL FLOSS HOLDER

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Application August 30, 1943, Serial No. 500,566

5 Claims. (Cl. 132—91)

Our invention relates to dental floss devices, and has among its objects and advantages the provision of an improved dental floss holder, wherein novel means are incorporated for maintaining the dental floss in a taut condition, in addition to securely clamping the dental floss.

In the accompanying drawings:

Figure 1 is a view of the dental floss holder.

Figure 2 is a view rotated 90 degrees.

Figure 3 is an enlarged view of one of the clamps.

Figure 4 is an end view of the structure of Figure 3.

Figure 5 is a modified view of a clamping nut.

Figure 6 is a view of the structure of Figure 3 rotated 90 degrees.

Figure 7 is a sectional view of the structure of Figure 6.

Figure 8 is a perspective view of a clamp part of Figures 6 and 7.

In the embodiment of the invention selected for illustration, we make use of a holder **10** comprising a piece of spring wire bent back upon itself to provide a loop **12** and arms **14** which are held in parallel relationship by the dental floss **16**. The arms **14**, in the absence of the floss **16** diverge, so that the floss **16** is placed under the necessary tension when clamped in accordance with Figure 1. The arms **14** are of sufficient length to provide a handle. In spacing the arms **14** closer than the maximum diameter of the loop **12** we provide an arrangement wherein a good grip may be held on the handle structure. The upper ends of the arms **14** diverge at **18** and then continue in parallelism up to the floss **16**. When viewed according to Figure 2, the arms **14** are bent in the regions of their diverging zones to positions at an angle of about 45 degrees to the remainder of the holder. This arrangement permits the floss **16** to be manipulated in all accessible places.

Each leg **14** is provided with a floss clamp **20**. The two clamps are of identical construction. Referring to Figures 3, 6 and 7, the leg **14** is provided with external threads **22** for a sleeve nut **24** which abuts a clamp head **26** to secure the floss **16** between the clamp head and abutment **28** constituting an end portion of the leg. The leg **14** is provided with a longitudinally extending slot **30** terminating short of the end portion **28** for slidably receiving a web **32** of the clamp head **26**. The web **32** is provided with pins **34** which extend through openings in bodies **36** slidably engaging flattened sides **38** on the leg **14**.

The bodies **36** engage one end of the sleeve nut **24**, and the web **32** slides freely in the slot **30**. The pins **34** are riveted at **40** to fixedly connect the bodies **36** with the web. One edge of the web **32** is roughened at **42** to secure a good grip on the floss **16**, and one end face of the slot **30** is also roughened at **44** for engagement with the floss **16**. Thus the floss may be clamped securely between the web end **42** and the roughened surface **44** through rotation of the sleeve nut **24**.

The web **32** restrains the clamp body **26** from rotation when the sleeve nut **24** is rotated, in addition to holding the roughened end **42** in parallelism with the roughened surface **44**, the latter is curved to embrace a considerable margin of the dental floss **16**. The roughened end **42** is curved in conformity with the roughened surface **44**.

Figures 3, 4 and 6 illustrate the sleeve nut **24** as being of hexagonal contour, while Figure 5 illustrates a similar nut **46** of cylindrical contour and provided with a roughened surface **48** for good gripping purposes.

All the parts of the clamp structure, as well as the holder in general, are characterized by rounded corners and smooth surfaces. The floss **16** may be easily threaded through the clamps and made secure through tightening of the nut **24**. The tension of the holder maintains the floss under a necessary degree of tautness, and the floss is securely clamped against accidental slipping and eliminates the necessity of tying knots in the floss for coaction with hooks and other types of abutments. Thus the floss **16** need not be accurately knotted at predetermined intervals since the floss may be securely clamped in any position.

Without further elaboration, the foregoing will so fully explain our invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

We claim:

1. A dental floss holder comprising a bent wire handle having spaced legs, elongated slots in the legs adjacent the ends, the legs at the slots being threaded, a web slidably mounted in each slot, and provided with pins, bodies engaged by the pins, the end of the leg at each slot formed to provide a first clamping part, the web forming a second clamping part, and a sleeve nut on the threaded end for forcing the web into clamping engagement with floss between the first clamping part and the web.

2. The invention as described in claim 1, the opposing surfaces of the end and the web being slightly curved and roughened to facilitate holding the floss.

3. A dental floss holder comprising a handle means having two legs each of which is provided with elongated slots adjacent an end, the material of the leg between the slot and the end forming a first clamp part having portions thereof lying in said slots, the end of the leg at the slot being threaded, a second clamp part having webs slidably confined in said slots coacting with each first clamp part to secure dental floss therebetween, and means connected with the threaded part of the respective legs for moving the second clamp parts into floss clamping relationship with the first clamp parts.

4. A dental floss holder comprising a handle means having two legs each of which is provided with elongated slots adjacent an end, dental floss threaded through said slots, a first clamp part comprising unslotted end portions of said legs the end of the legs at the slot being threaded, a second clamp part having webs slidably confined in said slots coacting with each first clamp part to secure said dental floss therebetween, and means connected with the threaded part of the respective legs for moving the second clamp parts into floss clamping relationship with the first clamp parts.

5. A dental floss holder comprising a handle means having two legs, each of which is provided with a slot adjacent the end, the material of the leg between the slot and the end forming a first clamp part, the end of the leg at the slot being threaded, a second clamp part in the slot coacting with each first clamp part to secure dental floss therebetween, said legs being of spring metal and normally at an angle to each other and designed to be drawn together by the floss under tension to a substantially parallel relationship to constantly tension the floss, said legs being bent in the regions of their diverging zones to positions at an angle of about 45 degrees to the remainder of the holder, and means connected with the threaded part of the respective legs for moving the second clamp parts into floss clamping relationship with the first clamp parts.

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