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1,605,320

T. F. BATES

DENTAL CURETTE

Original Filed July 9, 1923

Fig. 1.

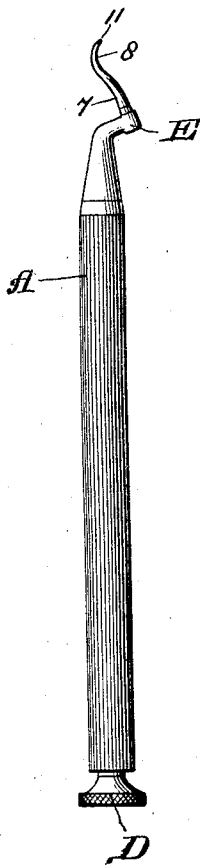


Fig. 2.

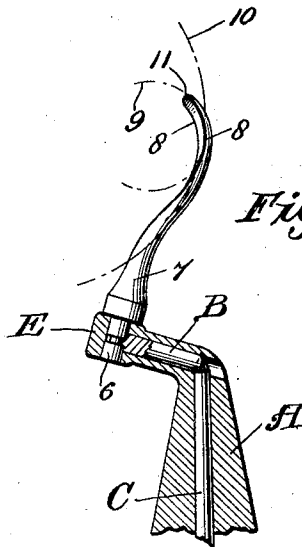


Fig. 3.

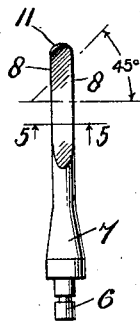


Fig. 4.

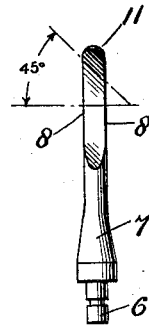


Fig. 5.



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DENTAL CURETTE.

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This invention relates to dental cures, and has for one of its objects to provide a curette or scraper which is particularly adapted for cleaning the roots and other portions of the teeth in the treatment of pyorrhea and similar diseases.

In my prior U. S. Patent No. 1,220,933, dated March 27, 1917, I have disclosed a dental scraper having a blade curved to conform substantially to the surface of the tooth root. In this said patent, however, the blade is ground at substantially right angles to its axis, providing cutting edges which may be employed to remove the calcareous deposits from the tooth roots.

On the other hand I have found that the operation of such instruments is greatly facilitated and improved if instead of grinding the blade at an angle in substantially 90 degrees to the axis thereof it be ground to a more acute angle, such for example as 45 degrees. A blade approximating a portion of a spiral results, which in use is more efficient for removing deposits from the tooth roots without lacerating or injuring the surrounding soft tissues.

Inasmuch as the extreme point of the blade is preferably rounded, the operation of removing these deposits in the treatment of pyorrhea may be performed with considerably less pain and with less difficulty than has heretofore been the case.

It is therefore an important object of the present invention to provide a curette or scraper of the class described which is substantially in the form of a portion of a spiral, the diameter of which may either be substantially that of the average tooth root or in some instances the radius of the curve may be increased to produce a blade having a radius of curvature substantially equal to the radius of curvature of the tooth relative to its long axis.

With the above and other objects in view, which will appear as the description proceeds, the invention consists in the novel curette more fully hereinafter described and particularly specified in the appended claims.

Referring to the accompanying drawings forming a part of this specification in which like reference characters designate like parts in all the views:

Figure 1 is a side elevational view of one form of dental tool holder with a blade

made in accordance with the present invention in place therein;

Fig. 2 is an enlarged sectional elevational view of a portion of the holder shown in Fig. 1, showing more in detail the structure of the blade;

Figs. 3 and 4 are front elevational views of blades made in accordance with the present invention illustrating how they are made in rights and lefts, and;

Fig. 5 is a cross-sectional view through the blade, taken approximately on the plane indicated by the line 5-5 in Fig. 3.

In the said drawings the character A indicates any suitable dental tool holder or handle which may be provided with a suitable chuck member B adapted to be controlled by means of the axially extending rod C, which is provided on its lower end with a knurled thumb nut D for adjusting purposes.

The blade itself comprises a reduced shank portion 6 adapted to be received in the socket E of the holder A and to be engaged by the chuck member B in the usual and well known manner. It may also be made integral with the handles in one piece. The body portion 7 of the blade is somewhat enlarged relative to the shank portion 6, and is preferably bent substantially as shown in Figs. 1 and 2, so as to bring the cutting edges 8 of the blade in substantially the prolongation of the axis of the holder or handle A so that any tendency of the tool to turn in the hand of the operator when force is applied is eliminated.

The blade shown in Figs. 1 and 2 is provided with a curvature approximating the curvature of the average transverse curvature of a tooth root, as indicated by the dotted line 9.

However, as above stated, the blades may be formed to approximate the average longitudinal curvature of the tooth roots, if so desired, as indicated by the broken arc 10.

It will be noted from Figs. 2, 3 and 4 that the curved portions of the blades are ground at an angle of approximately 45 degrees from the axis of the blade, thereby causing the said blades to be in the form of arcs or portions of a spiral or helix, the diameter of which will be either that approximating the average transverse tooth root diameter, or the average longitudinal curvature of the

tooth roots. It will also be noted that the extreme point 11 of the blades is rounded so that they may be employed in removing the deposits from the roots in cleaning out grooves or concave depressions, and bifurcations of the roots, the round point of the blade enters as a convex blade into the depressions and bifurcations, with the least amount of pain or laceration to the surrounding soft tissues.

It will be noted particularly from Figs. 3 and 4 when viewed from the front that the cutting edges 8 present practically straight surfaces which may be employed for cleaning the flat surfaces of the teeth. However, by inclining the tool slightly, it will be clear from Figs. 1 and 2 that the said cutting edges 8 may also be employed for cleaning the curved convex surfaces of the teeth, whether these be of a radius substantially that of the transverse cross-section of the tooth root or of the longitudinal radius of the tooth root. In other words, this tool may be employed for cleaning all of the various surfaces which are usually met with in dental practice. The cutting edges of the blade being without angles leave the surfaces of the teeth and roots smooth and free from irritating angular scratches.

The spiral blades have been found to facilitate to a great extent the cleaning of these surfaces, being used with a draw cut which enables them to remove all of the deposits without forcing infected deposits deeper into the uninfected areas.

As was the case in my previous patent above referred to, the blades may be readily sharpened by the use of an ordinary whetstone, the flat cutting edges 8 being sharpened by a flat stone, or by drawing through a grooved sharpening stone having a semi-circular groove of proper diameter, while the inner curved surface may be sharpened by means of a cylindrical stone of suitable diameter. The rounded point 11 may also be sharpened by drawing it through a

grooved stone. The instruments become more delicate as they are worn down uniformly by sharpening and can be used until quite worn out.

These blades can be made in both rights and lefts, as indicated in Figs. 3 and 4, and a complete set may comprise of a series with shanks bent differently for different positions in which they are to be used, each of varied curvatures designed to approximate all of the various curvatures which are usually met with in ordinary practice.

While one form of the invention has been illustrated and described, it is obvious that those skilled in the art may vary the details of construction as well as the arrangement of parts without departing from the spirit of the invention, and therefore it is not wished to be limited to the above disclosure except as may be required by the accompanying claims.

What is claimed is:

1. A dental curette for scraping tooth roots having a rigid blade ground at an acute angle to its axis, the cutting edges thereof being straight when viewed from the front.

2. A dental curette for scraping tooth roots having a blade, having a curved portion, the inside of which is ground at an angle to the axis of the blade, said curvature approximating the curvature of the tooth root portions.

3. A dental curette having a rigid blade provided with a curved portion, the inside of which is ground at an acute angle to the axis of the blade, the radius of said curvature approximating the short radius of curvature of a tooth root.

4. A dental curette having a rigid blade provided with a curved extremity, the inside of which is ground at an acute angle to the axis of the blade, the radius of said curvature approximating the long radius of curvature of a tooth root.

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