Oct. 25, 1932. S. MYERSON 1,884,128

DENTAL ANCHORAGE

Filed May 5, 1928

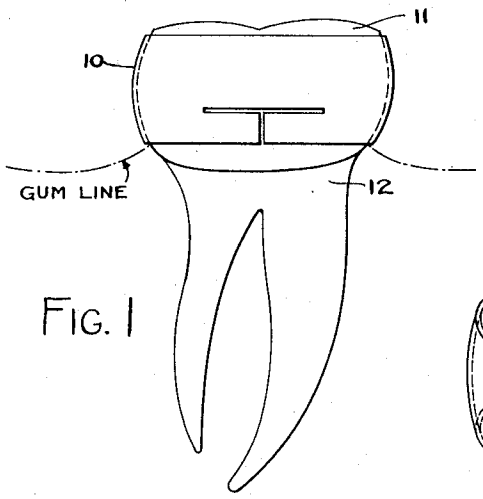


FIG. 1

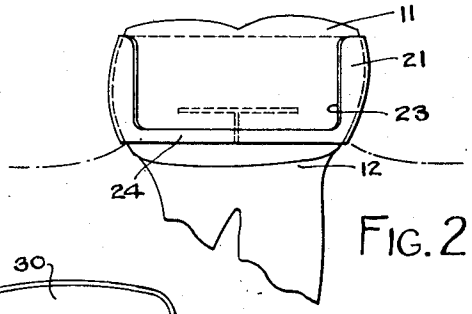


FIG. 2

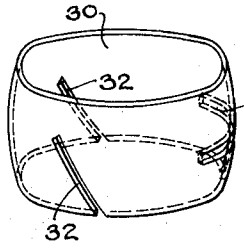


FIG. 10

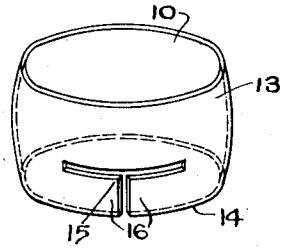


FIG. 3

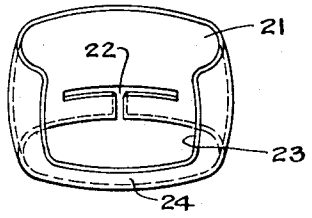


FIG. 4

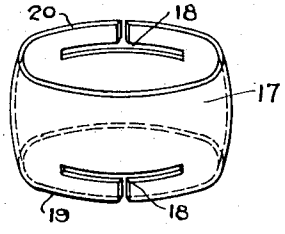


FIG. 5

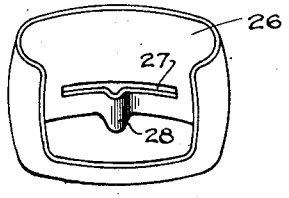


FIG. 7

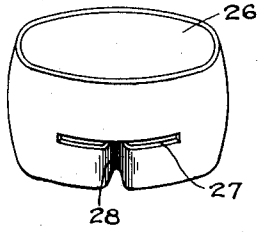


FIG. 6

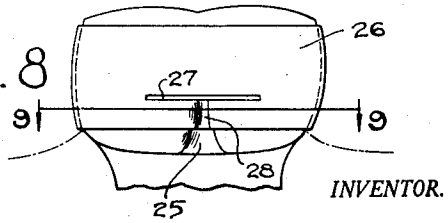


FIG. 8

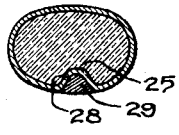


FIG. 9

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Patented Oct. 25, 1932 1,884,128

UNITED STATES PATENT OFFICE

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DENTAL ANCHORAGE

Application filed May 5, 1928. Serial No. 275,354.

This invention relates to improvements in the art of dentistry and more particularly to dental clasps or anchorages designed to be secured upon the crown of a natural tooth for the purpose of affording an anchorage for adjacent artificial teeth, bridge work and the like.

Heretofore and prior to this invention, considerable difficulty has been encountered in the attachment of suitable anchorages to natural teeth for the purpose of anchoring artificial teeth in position, the anchorages ordinarily constructed for this purpose being incapable of secure attachment without grinding the natural tooth or otherwise injuring or destroying natural tooth tissue. Due to the peculiar contour of the walls of the tooth crown, it is among the objects of this invention to overcome the aforesaid objections by providing an anchorage of such construction that it may be slipped over the belly or swell of the tooth crown and become securely fixed upon said crown to closely fit the same at the neck thereof.

A further object of the invention is the provision of an anchorage, the normal shape of which corresponds to the general external contour of a natural tooth crown, the anchorage being in the form of an annular member which is expansible to fit over and upon the tooth crown, the construction of the anchorage being such as to eliminate the necessity for any special forms of fittings at the same time that it effects a considerable saving in the time necessary to fit the anchorage upon the tooth.

Other objects and objects relating to details of construction and use, as well as to economies of manufacture will appear more fully hereinafter.

The invention consists substantially in the construction, location, arrangement and relative location of parts, all as will appear more fully hereinafter, as shown in the accompanying drawing, illustrating preferred embodiments thereof, and as finally pointed out in the appended claims.

In the drawing:—

Figure 1 is a view showing a tooth to which has been attached one form of anchorage embodying the principles of this invention;

Figure 2 is a view similar to Figure 1, showing a modified form of anchorage;

Figures 3, 4 and 5 are perspective views of modified forms of anchorages embodying the principles of this invention, these modifications to be described more fully hereinafter;

Figures 6 and 7 are perspective views of still further modifications of the present invention;

Figure 8 is a fragmentary view of a tooth to which has been attached the anchorage of the type shown in Figure 6;

Figure 9 is a cross sectional view taken on the line 9—9 of Figure 8; and

Figure 10 is a perspective view of still another modified form of anchorage embodying the principle of this invention.

Referring now to the drawing and more particularly to Figures 1 and 3, it will be seen that the invention broadly contemplates the provision of an anchorage 10 intended for attachment to the crown 11 of a tooth 12. It is, of course, well known that the crowns of natural teeth such as that shown in Figure 1 are in almost all cases formed with outwardly bulging side walls with the result that it has been a difficult problem to rigidly secure an anchorage thereon so that it closely fits the tooth irrespective of differences in the diameter thereof without grinding the bulge or swell of the crown of the natural tooth.

To meet this problem the present anchorage 10 is constructed in the form of an annular member or band, the wall 13 of which is formed to correspond generally to the similar form of the toothed crown 11. Inasmuch as the diameter across the bottom edge 14 of the band 10 is less than the maximum diameter of the crown 11, it would be impossible to slip the band over the crown into the position shown in Figure 1 and accordingly the band 10 is provided with a T-shaped cut 15 in the bottom edge thereof to render the same expansible, it being understood that the band is constructed of normally resilient or springy metal. As the band 10 is slipped over the belly of the crown 11 the free portions 16 thereof are sprung outwardly and then, hav-

ing passed over this tooth region of greatest girth, these portions contract, by reason of their inherent resiliency, into closely fitting engagement with the crown of the tooth. Usually, it would be the practice to cement this band upon the natural tooth upon completion of the bridge.

In certain instances it is desirable to so form the band that both edges thereof are constractible into closely fitting engagement with those regions of the tooth crown 11 which lie to either side of the region of greatest girth and where this is the case it is preferable to employ the band 17 shown in Figure 5, this latter band being provided with two diametrically opposed T-shaped slots 18, one of which is formed in the lower edge 19 of the band while the other is formed in the upper edge 20 thereof. In both of the modified forms of band shown in Figures 3 and 5, the free portions thereof tend constantly to bear inwardly and into closely fitting engagement with the side walls of the tooth claim 11.

Figures 2 and 4 illustrate still another modification of the present invention, the band 21 in this instance being provided not only with a T-shaped cut 22 in one edge thereof, but also with an enlarged opening or slot 23 in that portion of the band which is opposite the cut 22. When a band of the type shown in Figures 2 and 4 is employed there is presented only a minimum of visible metallic surface, the only metal visible to the observer being the strip 24 adjoining the gum line, it being understood, of course, that the open portion of the band overlies the front surface of the tooth. The band 21 is positioned upon the tooth in closely fitting relation with respect thereto in the same manner as were the bands shown in Figures 3 and 5.

In certain instances the crown of the tooth is formed in the side wall thereof with a natural groove, such as 25 (see Figure 9), which may be taken advantage of to effect a secure attachment of the anchoring band upon the tooth. In such case a band 26 such as is shown in Figures 6 and 7 may be employed, it being observed that this band is slit as at 27 and then indented as at 28, this indentation 28 being seated in the groove 25 of the tooth when the band is placed in position. Where the natural groove is too small it may be advantageously enlarged by the operator. A filler 29 of gold (see Fig. 9) may then be attached to one side of the band so that as the latter is slipped over the crown of the tooth the groove in the latter is entirely filled by the indentation 28 supplemented by the filler 29. As a variation from this last described expedient, the indentation 28 may be made retentive and then filled flush with amalgam or other such filler.

Figure 10 illustrates an anchorage embodying the principles of this invention wherein the band 30 is provided, in addition to the T-shaped slit 31, with a pair of slits 32 extending from and inclined with respect to one of the edges of the band. These slits 32, which are arranged to either side of the T-shaped slit, afford greater expansible and contractible properties to the edge of the band in which they are formed. It will be understood of course that if desired the other forms of bands herein disclosed may be provided with these slits 32 in one or both edges thereof.

It will be apparent from the foregoing description of the invention herein described that there has been provided an abutment or anchorage for the purpose specified, which is capable of closely encompassing a natural tooth without necessitating the destruction of natural tooth tissue by grinding or drilling, yet the anchorage may be immovably secured in position upon the crown of the tooth. It will be understood of course that various changes may be made from time to time without however departing from the general principles or spirit of the invention, and it is accordingly intended to claim the same broadly as well as specifically as indicated in the appended claims.

What is claimed as new and useful is:—

1. A dental anchorage in the form of a closed annulus arranged to encompass the crown of a tooth and provided with inherently resilient means adapted to be contracted about the external surface of the tooth crown.

2. A dental anchorage arranged to encompass the crown of a tooth, said anchorage being in the form of a closed annulus the wall of which is contoured generally to the external curvature of the tooth crown, and inherently resilient means provided adjacent one edge of said anchorage and contractible into close embrace with said crown when said anchorage has been positioned thereon.

3. A dental anchorage arranged to encompass the crown of a natural tooth comprising a continuous band, the circumference of one or more edges of said band being less than the maximum circumference of the crown, and means in said band to permit one of the edges thereof to be expanded sufficiently to pass over and beyond that region of the crown of said maximum circumference, said means being inherently contractible into closely fitting engagement with a region of the tooth crown which is of less circumference than said maximum circumference.

4. A dental anchorage arranged to encompass the crown of a natural tooth comprising a continuous annular band, inherently resilient means provided in one portion thereof being adapted to permit said portion of said band to be initially expanded over and beyond that region of the crown which is of maximum circumference and subsequently contracted into closely fitting engagement

with a region of the crown which is of less circumference than said maximum circumference.

5. A dental anchorage arranged to encompass the crown of a tooth comprising a continuous band of spring metal contoured to correspond to the external curvature of the crown, said band being formed with a substantially T-shaped slit in the wall of the band adjacent one edge thereof whereby to provide a pair of tongues capable of being flexed outwardly as said edge is forced over said crown.

6. A dental anchorage arranged to encompass the crown of a tooth comprising a continuous band of resilient material contoured to correspond to the external curvature of the crown, said band being provided with a vertical slit extending from at least one edge thereof whereby to permit said edge to be expanded against inherent resiliency of the band as the latter is slipped over and upon said crown.

In testimony whereof, I have hereunto affixed my signature.

SIMON MYERSON.