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W. E. KEMPF

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ARTIFICIAL DENTURE

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Fig. 1.

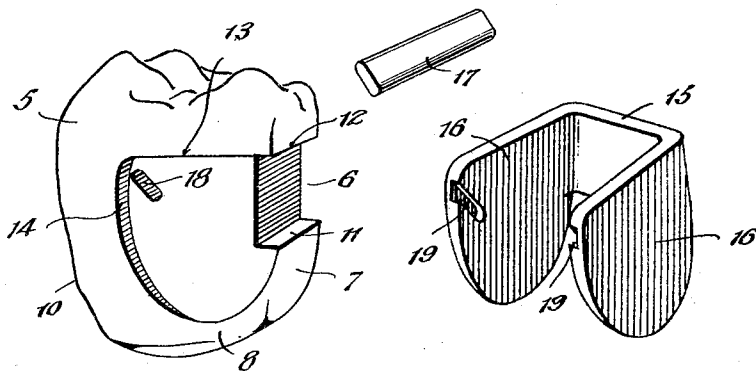


Fig. 2.

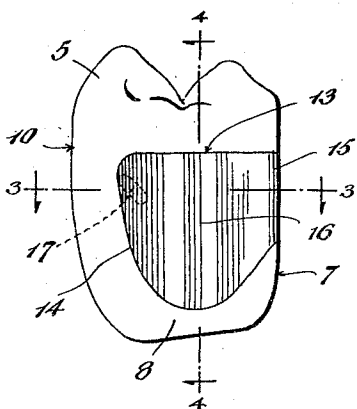


Fig. 3.

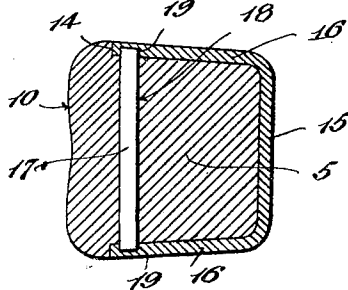


Fig. 5.

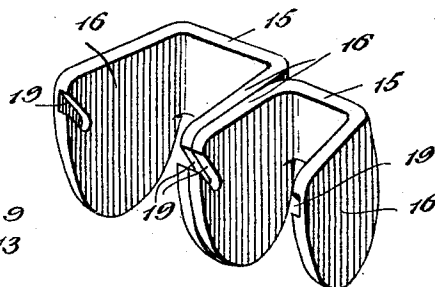
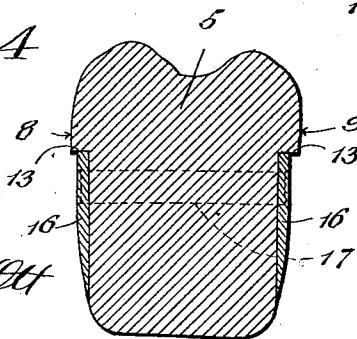


Fig. 4.



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ARTIFICIAL DENTURE

Application filed October 2, 1929. Serial No. 396,799.

This invention relates to artificial dentures, and has particular reference to an artificial tooth and mounting which is designed especially for molar and bicuspid posterior pontic bridge work.

The invention primarily aims to provide improved artificial molar or bicuspid teeth with mountings therefor designed for posterior pontic bridge work which will be of a few standard sizes whereby the dentist is required only to select the proper tooth or teeth, grind them to fit, solder or otherwise attach a backing or backings to the bridge and then solder or attach the bridge to the abutment teeth, crowns, inlays or other attachments.

The invention further comprehends an artificial tooth and mounting which are rigidly and effectually interconnected in such a manner as to withstand the hardest bite and which interconnection admits of the interchanging and replacement of a broken tooth.

The invention furthermore embodies an artificial tooth and backing member which are effectually locked and secured together against the possibility of separation and in which the backing and connecting means are concealed from view when the tooth is in position.

A further feature of the invention resides in the provision of an artificial tooth and backing which are assembled by relative movement of the same in a direction at substantially a right angle to the stress of the bite in order to minimize the possibility of disassociation of the backing member and tooth in ordinary usage.

Other objects of the invention reside in the simplicity and strength of construction of the tooth and its backing member or mounting, the economy with which the same may be produced, assembled and fitted and the general efficiency derived therefrom.

With the above recited and other objects in view, reference is had to the following description and accompanying drawings, in which there is exhibited one example or embodiment of the invention while the claims define the actual scope of the same.

In the drawings:

Figure 1 is a collective perspective view illustrating the tooth and its backing member separated.

Figure 2 is a side view of the same in assembled relation.

Figure 3 is a horizontal sectional view taken approximately on the line 3—3 of Figure 2.

Figure 4 is a vertical sectional view taken approximately on the line 4—4 of Figure 2.

Figure 5 is a perspective view illustrating the manner in which a plurality of the backing members are associated or connected together to afford a multiple tooth bridge.

Referring to the drawings by characters of reference, 5 designates an artificial tooth either of the molar or bicuspid type, with which the present invention is particularly concerned. As illustrated, the tooth 5 is formed with a continuous groove 6 which extends completely across the lingual side 7, partially into the mesial and distal sides 8 and 9 and terminating short of the buccal side 10. The lower portions of the groove which lie in the mesial and distal sides merge into said sides an appreciable distance below the lower edge portion or shoulder 11 of the groove in the lingual side. The groove 6 forms an upper shoulder 12 in the lingual side and upper shoulders 13 in the mesial and distal sides, as well as terminal shoulders 14 in said mesial and distal sides. The backing member conforms generally to the shape of the groove previously described and is of substantially U-shaped formation to form a bight portion 15 which is adapted to snugly fit within that portion of the groove 6 which is formed in the lingual side 7 of the tooth 5. The bight portion 15 connects the side wings 16 which are designed to snugly fit within the portions of the groove 6 which lie within the mesial and distal sides 8 and 9. In order to reinforce and support the outer, front or buccal side of the tooth, as well as to provide means for requiring the association of the tooth and the backing member by relative movement of the same in a direction at substantially a right angle to the stress of the bite, a bar

17 is employed which extends horizontally through the tooth from the mesial to the distal sides with its opposite ends projecting into the groove terminals at a point adjacent the juncture of the upper edges of the shoulders 13 with the terminal edges or shoulders 14. It will be observed that the bar is of greater width and thickness and that the major width is disposed at approximately a right angle to the stress of the bite within a correspondingly formed opening 18 in the tooth. The wings 16 of the backing member are provided with corresponding angulated grooves or notches 19 which coact with the opposite projecting ends of the bar 17 to necessitate relative movement of the tooth and its backing member in a direction substantially at a right angle to the stress of the bite when assembling said backing member and tooth. In practice, the portions of the mesial and distal sides of the tooth which lie above the upper shoulders or edges 13 of the groove extend slightly beyond the wings 16 of the backing member to allow for grinding if necessary in fitting the tooth in place between the neighboring teeth, this overhang being particularly illustrated in Figure 4 of the drawings.

Where the bridge supports a plurality of teeth, the backing members will be soldered together at their wing portions 16, as illustrated in Figure 5, and, in this instance, a single bar will be employed which will extend through all of the teeth forming the bridge. Obviously, the wings will carry the necessary means of attachment for either fixedly or removably associating the bridge with the abutment teeth.

From the foregoing, it will thus be seen that an artificial tooth and backing member has been devised which embodies a simple, effective and durable mode of connection therebetween, by virtue of which a dentist of average skill may properly effect the building and fitting of bridges and by virtue of which interchanging or replacement of broken teeth may be accomplished at a minimum expense of time and labor.

What is claimed is:

1. In an artificial denture, an artificial tooth having a groove girdling the lingual, distal and mesial sides, a backing member snugly fitted into the groove by relative movement of the tooth and backing at substantially a right angle to the stress of the bite and a reinforcing bar extending through the tooth from the mesial to the distal sides, projecting from said sides and having interengagement with the backing member.

2. In combination, an artificial tooth having a horizontal groove extending completely across its lingual side, partially into the mesial and distal sides and terminating

short of the buccal side, said tooth having a horizontal slot extending therethrough from its mesial to its distal sides, terminating with the terminals of the groove and disposed at an angle to the stress of the bite and a bar extending through the slot with its opposite ends projecting therefrom; a backing member conforming generally to the shape of the groove having notches disposed at an angle to the stress of the bite for receiving the opposite ends of the bar and adapted to be associated with the tooth and bar by relative movement of the tooth and said backing member at an angle to the stress of the bite.

3. In combination an artificial tooth having a horizontal groove extending completely across its lingual side, partially into the mesial and distal sides and terminating short of the buccal side, said tooth having a horizontal slot extending therethrough from its mesial to its distal sides, terminating with the terminals of the groove and disposed at an angle to the stress of the bite and a bar extending through the slot with its opposite ends projecting therefrom; a backing member conforming generally to the shape of the groove having notches disposed at an angle to the stress of the bite for receiving the opposite ends of the bar and adapted to be associated with the tooth and bar by relative movement of the tooth and said backing member at substantially a right angle to the stress of the bite.

4. In an artificial denture, an artificial tooth having a continuous groove extending completely across its lingual side, partially into its mesial and distal sides and terminating short of its buccal side, the lower portions of the groove which lie in the mesial and distal sides merging into said sides of the tooth below the lower edge of that portion of the groove in the lingual side, a backing member conforming generally to the shape of the groove applicable to and removable from the tooth by relative movement of the tooth and backing member in a direction at substantially a right angle to the stress of the bite and interengaging reinforcing means on the backing member and tooth consisting of a bar extending through the tooth from its mesial to its distal side having its opposite ends projecting into the grooved terminals adjacent the upper edges thereof and notched portions of the backing member receiving said ends of the bar.

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