

J. A. MAKER.
ARTIFICIAL DENTURE.
APPLICATION FILED APR. 25, 1916.

1,218,289.

Patented Mar. 6, 1917.

Fig. 1.

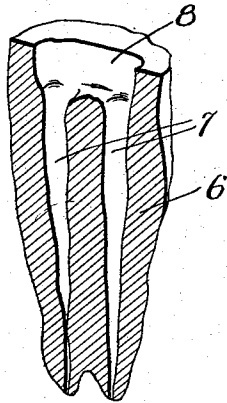


Fig. 2.

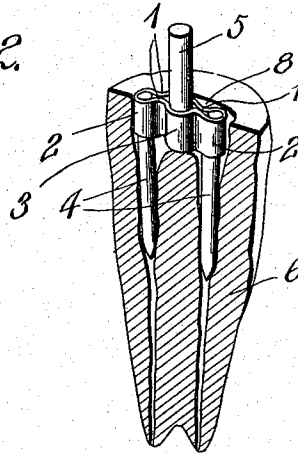


Fig. 3.

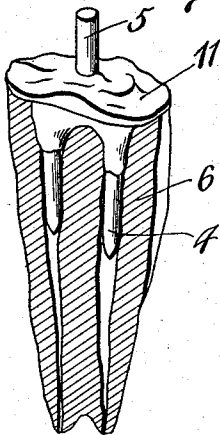


Fig. 4.

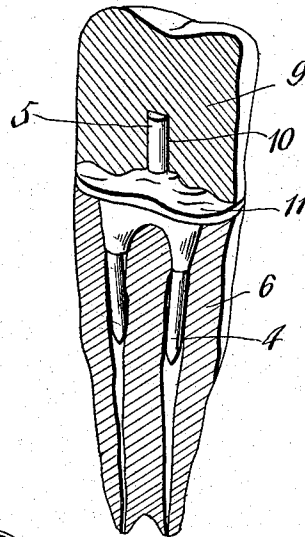
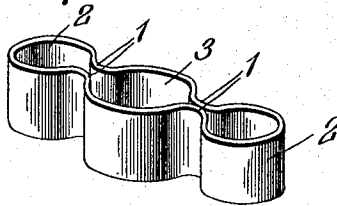


Fig. 5.



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ARTIFICIAL DENTURE.

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To all whom it may concern:

Be it known that I, JOHN A. MAKER, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Artificial Dentures, of which the following is a specification.

This invention relates to improvements in artificial dentures and the method of preparing the same for implantation and more particularly to that type of artificial dentures known as cast washer crowns. Where an artificial crown is to be applied to a natural root having a single nerve canal the post for the crown may be readily so fitted into the socket provided for its reception in the crown and into the single nerve canal as to properly aline the crown with the root but where the root is a molar or bicuspid root and there are two nerve canals it is impractical to employ a single post fitting within the socket in the artificial crown and in one of the nerve canals as in such instance the artificial crown would not be in perfect alinement with the root. The present invention, therefore, aims to provide means whereby the crown washer may be cast with a centrally located post adapted to fit within the socket provided for its reception in the gingival end of the artificial crown and with two anchoring pins which are adapted to seat properly within the two nerve canals so that not only is the crown correctly alined with relation to the root but the attachment of the crown to the root is rendered far more secure than where but a single anchoring pin or post is employed.

Another aim of the invention is to provide a device with which the post and anchoring pins may be assembled and held properly relatively positioned for respective reception within the socket in the artificial crown and the nerve canals in the root and which device will yet permit of the anchoring pins assuming positions conforming to any relative inclination which the nerve canals may have, the device being arranged to yieldably support the said pins and the post. Therefore, by the use of the device just mentioned, when the device with the pins and post assembled therewith is applied to the natural root by inserting the pins in the nerve canals, the pins will automatically assume positions properly fitting within the nerve canals and the parts thus

held while the wax impression is being taken. Then after the impression wax hardens it, together with the device and anchoring pins and post, may be removed for the purpose of forming the cast and the hardened wax will cause the pins and post to maintain the positions to which they have been automatically relatively adjusted while the impression is being made.

In the accompanying drawings:

Figure 1 is a sectional perspective view of a natural bicuspid tooth root.

Fig. 2 is a similar view illustrating the device embodying the present invention together with the anchoring pins and crown post assembled therewith fitted to the said natural root.

Fig. 3 is a similar view illustrating the cast washer and the manner in which the same is to be fitted to the natural root and before the washer and crown post are united to the crown.

Fig. 4 is a similar view but illustrating also the artificial crown united to the washer and crown post.

Fig. 5 is a perspective view of the anchoring pin and crown post supporting device embodying the present invention.

The device embodying the present invention is initially in the form of an endless band or annulus of relatively thin resilient sheet metal and this band is crimped in at spaced points as indicated by the numeral 1 so as to provide sockets to receive the ends of the anchoring pins and the end of the crown post. The sockets which receive the ends of the anchoring pins are indicated by the numeral 2 and the socket which receives the end of the crown post is indicated by the numeral 3, and these sockets are arranged in alinement, the socket 3 occupying an intermediate position and the sockets 2 being located at diametrically opposite sides thereof. It will be observed that the portions 1 of the clip or holding device are free from connection with each other and have a tendency to spring toward each other due to the inherent resiliency of the clip. Therefore, when the anchoring pins and the crown post are fitted into their respective sockets the ends of the pins and post will be frictionally gripped by the walls of the respective sockets. The anchoring pins are indicated in the drawings by the numeral 4 and are, as heretofore explained, two in number, and the crown post is indicated by the

numeral 5. By reference to Fig. 2 of the drawings it will be observed that the pins 4 are fitted at their corresponding ends into the respective sockets 2 and that the post 5 is fitted into the socket 3. The natural tooth root is indicated in the drawings by the numeral 6 and has two nerve canals which are indicated at 7, and the end of this root, the point, is provided with a recess 8 communicating with the outer ends of both of the canals 7 and of a depth and dimensions to more or less completely and snugly receive the clip which is provided for holding the anchoring pins and crown post. The artificial crown is indicated by the numeral 9 and is formed in its gingival end with a socket 10 to receive the post 5.

In employing the clip shown in Fig. 5 of the drawings, the anchoring pins 4 are first fitted at their ends into the sockets 2 and the crown post 5 is fitted at one end into the socket 3. The parts completely embedded in and surrounded by the impression wax are then applied to the natural root in the manner shown in Fig. 2 of the drawings, the wax, however, being omitted in this figure for the sake of clearness. After the wax has hardened, the same, together with the clip and pins and post carried thereby, is removed from the root. It will be understood that at the time of initial application of the device to the root the anchoring pins 4 as they enter the nerve canals will be caused to automatically assume a position more or less different from their original position, depending upon the relative direction or extent of the nerve canals and that the wax being at such time warm and plastic the same will permit the pins to assume their new positions and, as stated above, after the wax has hardened and the wax and clip are removed, the hardened wax will serve to hold the pins and post in proper position so that the cast may be prepared. The cast or washer is indicated by the numeral 11 and it will be apparent by reference to Figs. 3 and 4 of the drawings that the same will completely surround and embed the clip shown in Figs. 2 and

5 and the ends of the anchoring pins and crown post which are fitted in the sockets of the clip.

In carrying out the present invention the sockets 2 and 3 will be made of such size as to exactly grip the pins 4 and post 5 respectively and the pins and post will be preferably made of some standard gage wire and the lengths of the pins will be determined by the length of the nerve canals.

Having thus described the invention, what is claimed as new is:

1. The combination with the crown post and anchoring pins of an artificial denture, of a support for the said post and pins embodying means for yieldably supporting the pins.

2. As a new article of manufacture, a support for the crown post and anchoring pins of an artificial denture including sockets arranged to receive and frictionally grip the ends of the said crown post and anchoring pins.

3. As a new article of manufacture, a support for the crown post and anchoring pins of an artificial denture comprising a socket arranged to receive one end of the crown post and sockets located at opposite sides of the first mentioned socket and arranged to receive the ends of the anchoring pins and yieldably support the said pins.

4. As a new article of manufacture, a support for the crown post and anchoring pins of an artificial denture comprising a socket arranged to receive one end of the crown post and yieldable expansible sockets arranged to receive and frictionally grip the ends of the anchoring pins and yieldably support the said pins.

5. As a new article of manufacture, a band of yieldable material having its opposite sides bent in at corresponding points to provide a plurality of sockets for the reception of the crown post and anchoring pin of an artificial denture.

In testimony whereof I affix my signature.

JOHN A. MAKER. [L. S.]

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."