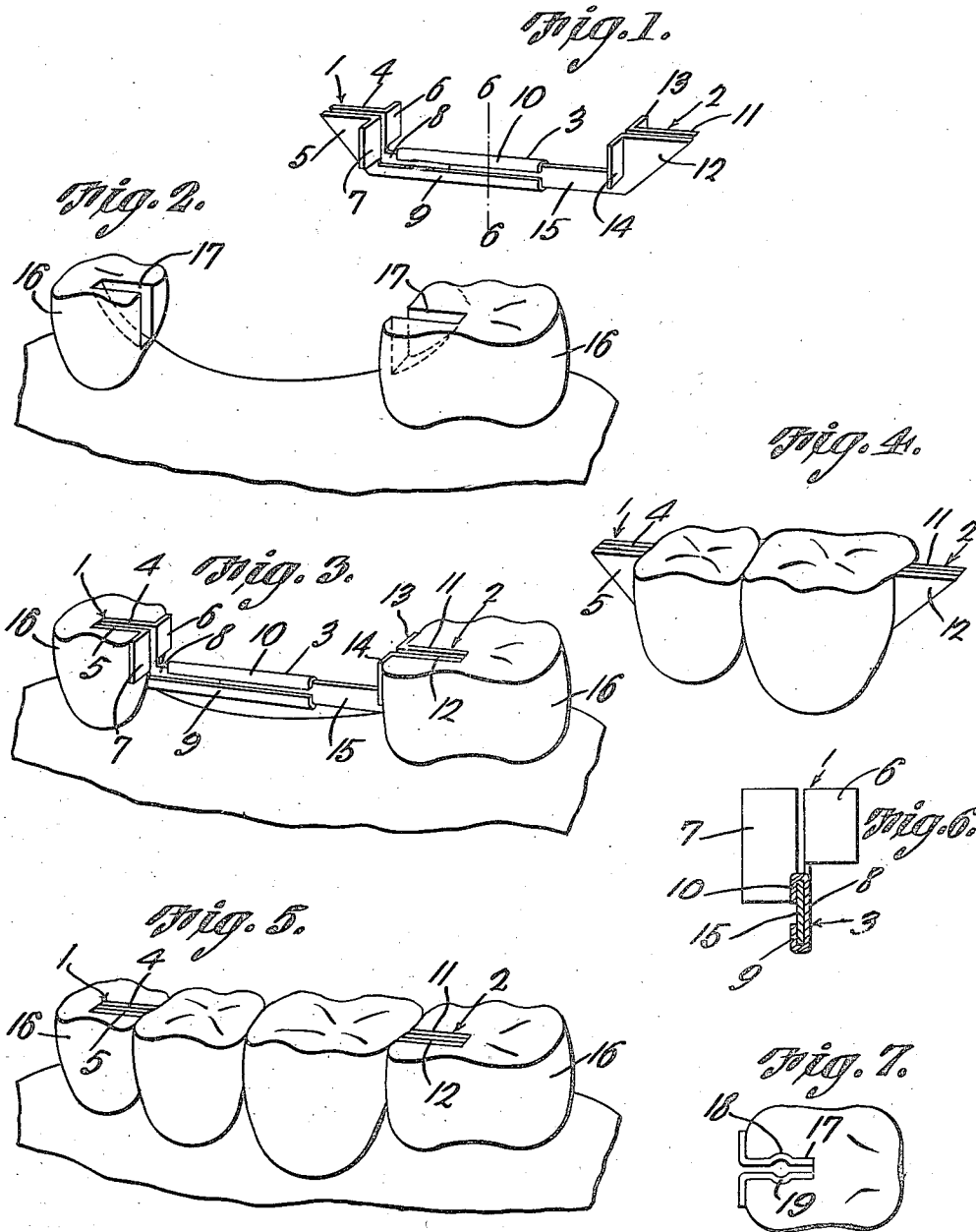


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DENTAL ARTIFICIAL ANCHOR.  
APPLICATION FILED SEPT. 1, 1916.

1,211,494.

Patented Jan. 9, 1917.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## DENTAL ARTIFICIAL ANCHOR.

1,211,494.

Specification of Letters Patent.

Patented Jan. 9, 1917.

Application filed September 1, 1916. Serial No. 118,110.

### *To all whom it may concern:*

Be it known that I, WILLIAM F. SHAW, a citizen of the United States, residing at Pueblo, in the county of Pueblo and State of Colorado, have invented a new and useful Dental Artificial Anchor, of which the following is a specification.

The present invention appertains to dental bridge work, and is particularly an improvement over the artificial tooth anchor disclosed in my previous Patent No. 1,158,732, granted November 2, 1915.

It is the object of the invention to provide a novel and improved device for anchoring a bridge between two natural teeth, and the present device is designed for replacing missing teeth by bridge work without the use of crowns or inlays, and without the necessity of devitalization.

The device is adjustable to the space between the natural teeth and to accommodate one or more artificial teeth or dummies.

Among its other objects, the invention aims to provide an anchor attachment for dental bridge work which will save time, being much more quickly adjusted, made and set, than other forms of bridges; which is simple and yet exceedingly inexpensive; which will not destroy the perfectly sound teeth that are used as abutments, as the case with the use of crowns; which will not irritate the gum margins, nor present the unsanitary features of crowns; which will provide a strong, sanitary attachment for permanent bridge work; which will require a minimum grinding away of the natural teeth; and which can be securely attached to the natural teeth and rendered invisible.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts, and in the details of construction, hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:—

Figure 1 is a perspective view of the improved anchor attachment. Fig. 2 is a perspective view showing a pair of natural teeth prepared for the application of the attachment thereto to serve as abutments.

Fig. 3 is a similar view showing the attachment applied to the teeth. Fig. 4 is a perspective view showing the artificial teeth or dummies applied to the attachment. Fig. 5 is a perspective view showing the bridge in position. Fig. 6 is a cross section on the line 6—6 of Fig. 1. Fig. 7 is a detail view illustrating how additional anchorage strength can be obtained.

The anchor attachment, which may be of gold plate, platenoid, or other appropriate material, embodies a pair of triangular anchor webs 1 and 2 connected by a longitudinally adjustable or extensible bridge member or bar 3. The web 1 is composed of the two layers or plies 4 and 5 disposed side by side and provided at those edges nearest the web 2 and at substantially right angles with the member 3, with abutment wings or ears 6 and 7, respectively, extending at an angle from the web in opposite directions. The member 3 is composed of slidably connected strip-like sections, one of which, designated 8, is integral with the layer 4 of the web 1. One edge of the section 8 has a bent back flange or lip 9 with one end of which the layer 5 is integral, whereby the layers 4 and 5 are held side by side, and the other edge of the section 8 has a similar bent back lip or flange 10 forming with the lip 9 a guide. The parts 4, 5, 6, 7, 8, 9 and 10 can be constructed of a single blank of material bent into proper shape.

The anchor web 2, like the web 1, is also composed of two triangular layers or plies, designated 11 and 12, and those edges of the layers 11 and 12 nearest the web 1 are provided with outturned abutments or ears 13 and 14, respectively, extending angularly from the web, in opposite directions and facing the webs 6 and 7. The web 2 has the other strip-like section 15 of the bridge member 3 integral therewith, and the layers 11 and 12 can be connected in any suitable manner with their upper edges detached from one another. The section 15 fits slidably within the guide formed by the section 8 and its lips 9 and 10, whereby the anchor webs 1 and 2 can be moved toward and away from one another to bridge spaces of different lengths between the natural teeth which are to serve as abutments. The webs 1 and 2 extend at an angle and in the same direction from the bridge member 3.

In preparing the natural teeth 16 which

are to serve as abutments, slits or grooves 17 are cut by an ordinary separating disk or otherwise, in the teeth on a line running from the gingival to the occlusal centers of the teeth, which requires but a minimum grinding away of the natural teeth, and much less than is occasioned by the use of crowns. The attachment is then applied to the teeth 16 by slipping the webs 1 and 2 into the slits 17, said webs being filed or cut away if necessary, and the webs are adjusted toward or away from one another so as to adjust the member or bar 3 to the proper length to bridge the space between the teeth. When the proper adjustment is secured, the adjustable bridge member or bar 3 is crimped with a pair of pliers, or the like, making it rigid to prevent any subsequent change of adjustment. When this is done, a flat burnisher is inserted between the two layers of metal of each web fitting in the slit of the tooth, and the metal is burnished close to the walls of the slit or groove, the layers being separated. The attachment is then removed, and the spaces between the layers of the webs are filled with solder. A little solder may also be run onto the adjustable bridge member or bar, to make sure that it does not change position. If the burnishing and soldering are carefully done, the anchor will fit back into the slits or grooves like inlays. After soldering, place the attachment in position and grind down smooth with occlusal surfaces of the teeth. From this point, the procedure can be followed as in ordinary bridge work, by making the impressions, bite, etc. In investing, it is necessary to use care so that the portions of the anchor which fit into the slits or grooves of the teeth are covered with the investment and not exposed to the solder, and at the same time, the metal wings 6-7 and 13-14 forming abutments for the artificial teeth or dummies are exposed for soldering. The artificial teeth or dummies are then attached to the bridge member or bar 3 and the abutment wings 6-7 and 13-14, and it will be noted in this connection, that the bridge member 3 can be adjusted for one, two or three teeth, or more if the device has the corresponding adjustment. After the artificial teeth are applied to the attachment, the attachment with the artificial teeth or dummies can be readily anchored to the natural teeth or abutments, the webs 1 and 2 being cemented or otherwise secured within the slits 17 of the natural teeth, thus providing a strong and durable bridge, as seen in Fig. 5. The gold or other metal used for the attachment is very soft and malleable so that a metal burnisher can be inserted between the layers or sheets of metal, to burnish out the metal to conform exactly to the size of the slit or slot of the natural teeth. The bridge eliminates the

use of crowns, and the disadvantages incident thereto.

Should additional strength be desired, for purpose of anchorage, reference being had to Fig. 7, after the slit 17 has been cut in the tooth 16, a bore 18 is drilled into the tooth near the center of the slit and to the bottom thereof, by means of a round burr or drill slightly larger in diameter than the width of the slit, thus making a bulge in the slit. The layers or sheets of the web are then burnished to conform to the bulge before soldering, and the bulged portions 19 of the web in fitting in the bulge 18 of the slit will provide considerable added anchorage strength, which, however, is seldom necessary. The space between the bulged portions 19 is filled with solder as well as the remaining space between the layers of the web.

The webs 1 and 2 and the bridge member or bar 3 are disposed substantially in the same plane, and will be concealed from view, as well as not being exposed at the lingual side of the teeth.

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

1. An anchor attachment for bridge work embodying an extensible bridge member having means at its ends for attachment to natural teeth.
2. An anchor attachment for bridge work comprising an adjustable anchor member embodying slidably connected sections, said sections having means at their remote ends for attachment to natural teeth.
3. An anchor attachment for bridge work embodying a bridge member having webs at the opposite ends thereof disposed substantially in the same plane and adapted to fit within slits in natural teeth, said webs having abutment wings to rest against said teeth and for the attachment of artificial teeth.
4. An anchor attachment for bridge work embodying a bridge member having webs at its ends to enter slits in natural teeth, said webs and bridge member being disposed in substantially the same plane and the webs extending at an angle in the same direction from said member, said webs having abutment wings at those edges nearest one another.
5. An anchor attachment for bridge work embodying an extensible bridge member having webs at its ends to fit within slits in natural teeth.
6. An anchor attachment for bridge work embodying a bridge member having two ply webs at its ends adapted to be burnished within slits in natural teeth, said webs and bridge member being disposed in substantially the same plane, and said webs extending at an angle and in the same direction from the bridge member.

7. An anchor attachment for bridge work embodying a bridge member having two ply webs at its ends adapted to be burnished within slits in natural teeth.

8. An anchor attachment for bridge work embodying a bridge member having two ply webs at opposite ends adapted to be burnished apart within slits in natural teeth, the plies when burnished apart being adapt-

ed to receive solder therebetween to fill up the spaces formed by burnishing.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM F. SHAW.

Witnesses:

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F. L. TAYLOR.