(No Model.)

W. H. MARSHALL.

ARTIFICIAL DENTURE.

No. 456,626. Patented July 28, 1891.

Fig. 1.

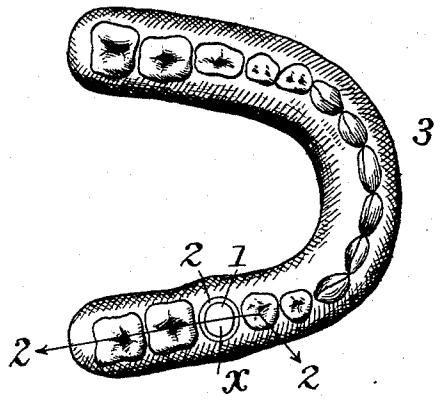


Fig. 2.

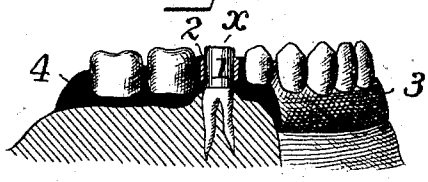


Fig. 4.

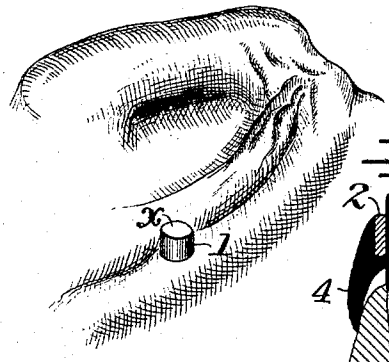


Fig. 3.

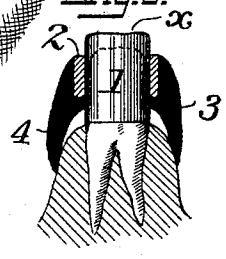


Fig. 5.

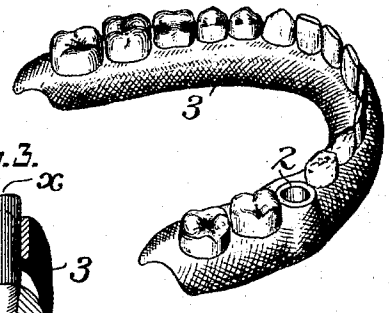
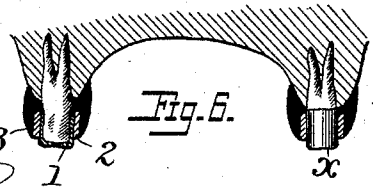


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY MARSHALL, OF OXFORD, MISSISSIPPI.

ARTIFICIAL DENTURE.

SPECIFICATION forming part of Letters Patent No. 456,626, dated July 28, 1891.

Application filed May 29, 1891. Serial No. 394,584. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY MARSHALL, a citizen of the United States, residing at Oxford, county of Lafayette, State of Mississippi, have invented certain new and useful Improvements in Artificial Dentures, of which the following is a specification.

Heretofore in securing artificial dentures within the mouth it has been common to make use of chambered or suctioned plates, which cannot well be applied for securing lower dentures and which necessitates the covering of the lingual surface with plate and are otherwise objectionable; or the plates have been provided with spring-clasps for gripping the natural teeth, which by their movement upon the teeth tend to wear and loosen the same, while they fail to securely maintain the plates in place; or bridges or frames are fastened to roots or stumps—an attachment which generally necessitates connections with two or more stumps upon each jaw; or the remaining natural teeth are capped or provided with "crowns" for receiving rings or bands connected with bridges, which attachment is objectionable, as the pressure upon the teeth is a source of constant irritation, which renders this mode of attachment exceedingly undesirable and temporary, as it destroys the abutments eventually.

To obviate the objections to the above described methods of attachments, I make use of the means hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing a lower denture as applied and secured in accordance with my improvements. Fig. 2 is a part sectional elevation on the line 2 2, Fig. 1. Fig. 3 is an enlarged part section on the line 3 3, Fig. 1. Fig. 4 is a perspective view showing the jaw with a single-capped tooth adapted to receive the denture. Fig. 5 is a perspective view of the denture detached. Fig. 6 is a view illustrating the position of two capped teeth of an upper jaw with the denture in section thereon.

In carrying out my improved method of attachment it is necessary that there shall be at least one natural tooth or good root in each jaw, and this tooth or root I prepare in an ordinary manner and apply thereto a crown 1 of gold or other suitable material, which has a masticating surface or end *x*, is oval or other shape in cross-section, but preferably is not round, so as thereby to prevent the denture from turning thereon as a pivot. This crown is preferably of uniform diameter—that is, with parallel sides—and neatly fitted thereto is a band 2 of metal, which when passed onto the crown will hug the same closely, so that there is no play laterally, and this band I secure to a plate 3, which is adapted to fit accurately the alveolar ridge without extending to any considerable extent over the lingual surface, and which plate 3 supports the artificial teeth of suitable number and character in their proper positions in relation to each other and to the cap or crown 1.

The plate 3 may be of metal, rubber, or other material, and a band or bands 2 may be secured thereto in any suitable manner, as shown, being embedded in the body of rubber 4, which constitutes the plate of the denture.

While the band or bands 2 must pass well up and secure a wide and close bearing upon the crown or crowns, it is important that said bands shall not bear upon the gum at the neck of the crown or natural tooth, and preferably the plate 3 is cut away, so that the gum at said point shall be practically free from pressure. It will therefore be seen that when the improved denture is within the mouth the bearing will be upon the alveolar ridge over an extended surface, so that there will be no tendency in masticating to wrench the natural tooth or teeth or to bring any side strains or pressure thereon and no pressure upon the gums at the necks of such teeth, and that, in fact, the attaching device described serves to retain the denture upon its natural bearing, which supports all the strains. As the crowns have parallel sides, the bands can slide thereon to an extent necessary to permit the slight play of the denture under pressure afforded by the compression of the gum under the plate without there being any strains from the pressure upon the tooth-crowns or natural teeth. By thus permitting the natural give or spring of the plates and the gums in mastication independently of the securing natural teeth, and relieving the latter of the pressure which in ordinary attachments

tends to force the roots into the sockets, I avoid that irritation which so often results in inflammation and the loss of the natural securing-teeth.

Where two or more natural teeth are crowned and used for securing the plate it is desirable that the sides of said crown-piece shall be as nearly as practicable parallel with each other, except that in some instances, as in the case of upper teeth, it is preferable that they shall diverge slightly upon opposite sides while the bands are filed or shaped so as to spread slightly toward their outer ends to thereby undercut or dove tail to a very slight extent, the crowned teeth being sprung toward each other slightly to receive the denture as it is put in place and then springing out slightly to hold it in position.

Without limiting myself to the precise form of crown and band shown, I claim—

1. The combination, with a natural tooth or good root having a cap or crown, of a denture having a band adapted to fit closely to the sides of said cap or crown and provided with a plate constituting the sole bearing of the denture under pressure, substantially as set forth.

2. The combination, with the natural tooth having a crown with parallel sides, of an artificial denture having a plate fitted to the gum, except at the neck of the crown, and supporting a band fitting closely but sliding upon the crown beyond the neck of the same, substantially as set forth.

3. The combination, with two or more natural teeth provided with crowns and having diverging faces, of a denture provided with a band adapted to each crown and to engage with said diverging faces and with a plate having its bearing upon the gum, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM HENRY MARSHALL.

Witnesses:

PHIL. A. RUSH,

D. H. ARCHIBALD.