No. 883,382. PATENTED MAR. 31, 1908.

E. C. BENNETT.

# REMOVABLE DENTAL BRIDGEWORK.

APPLICATION FILED APR. 16, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

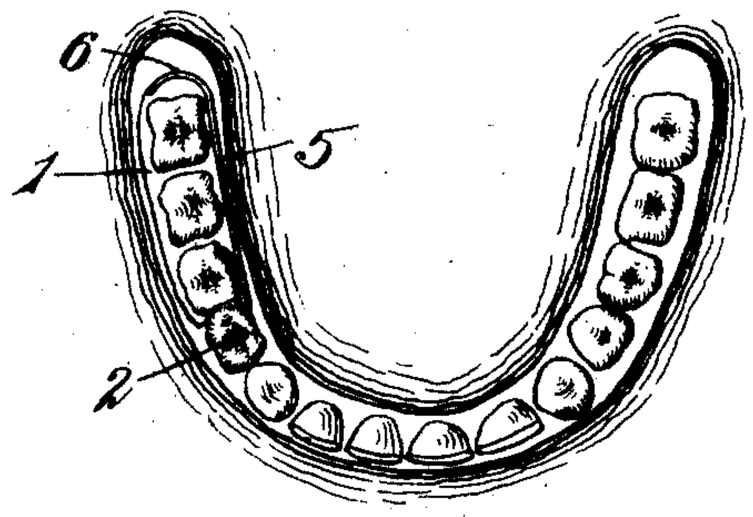


Fig. 2.

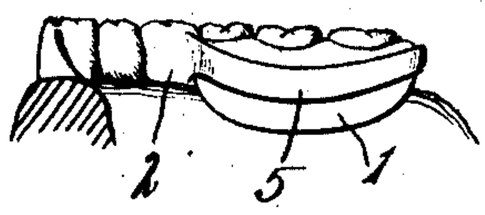


Fig. 3.

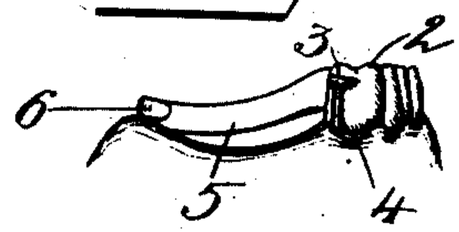


Fig. 4.


Fig. 5.




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2 SHEETS—SHEET 2.

Fig. 6

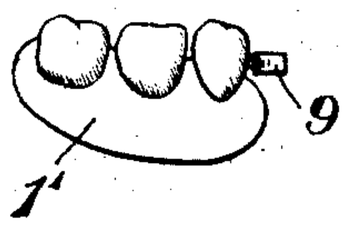



Fig. 8.

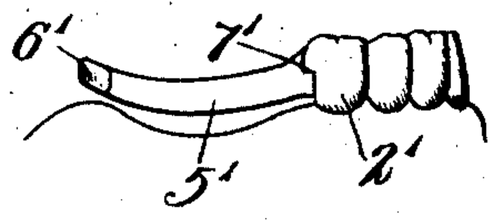



Fig. 7.


Fig. 9.


Fig. 10.

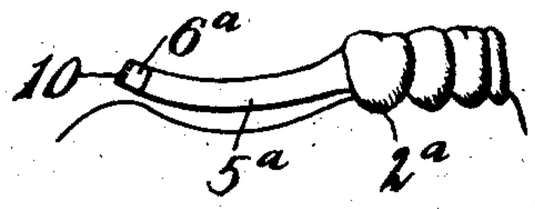
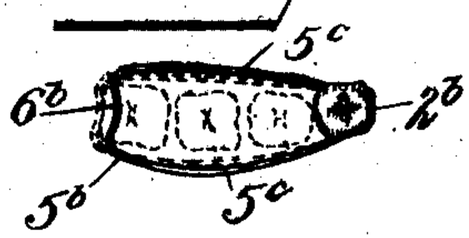



Fig. 11.

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# UNITED STATES PATENT OFFICE.

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## REMOVABLE DENTAL BRIDGEWORK.

No. 883,382. Specification of Letters Patent. Patented March 31, 1908.

Application filed April 16, 1907. Serial No. 368,493.

*To all whom it may concern:*

Be it known that I, ERNEST C. BENNETT, a citizen of the United States, residing at city, county, and State of New York, have invented certain new and useful Improvements in Removable Dental Bridgework, of which the following is a full, clear, and exact description.

My invention relates to removable dental bridgework.

One form of my invention is shown and described in my Patent No. 832,538, of October 2, 1906, and another form in my Patent No. 852,413 of May 7, 1907. The removable bridge construction of this application is particularly designed for use where a rear tooth or root is lacking, but may be used as well in any other position. The form illustrated herein for particular cases is an improvement over the construction of my patent above cited, but is essentially an improvement over my former application in that it provides the frame member in a superior location and furnishes great strength and durability.

The present invention contemplates the use of a frame connected to one tooth or crown and extending along the line of the gum, but above and to one side of the same, together with a bridge adapted to be snapped into place between the stationary tooth or crown and the opposite curved end of the frame, or removed therefrom when desired.

In the drawings, Figure 1 is a plan view of a set of teeth showing a bridge and its connection. Fig. 2 is a side elevation of the same on the inside of the mouth. Fig. 3 is a side elevation partly in perspective of the same, viewed from the opposite side and with the bridge removed. Fig. 4 is a side elevation of the bridge in detail. Fig. 5 is an end elevation of the same. Figs. 6 to 11 are modifications in detail.

In the particular form shown in Figs. 1 to 5 inclusive, 1 indicates a bridge member. 2 is a stationary tooth or crown constituting a forward abutment. The stationary abutment 2 preferably has a horizontal projection or shoulder 3 and a vertical projection 4. 5 is a frame preferably formed of a thin flattened spring extending from one side of abutment 2. 6 is a resilient curved end portion forming a rear abutment. The removable bridge member 1 has at one end a recess 7 and a vertical groove 8. The bridge may be readily slipped into place by engaging one end of the same against the resilient curved portion 6 and pressing it into place until the recess 7 receives the projection 3 on the abutment 2. The vertical groove 8 corresponds to the vertical projection 4 and will receive the same therein and thus retain the bridge in place. To facilitate this, the shoulders or projections may be properly rounded. The frame 5 may extend from either side of the abutment 2 or may be made in the form of a loop, (such as shown in Fig. 11, described later) without departing from the scope of my invention.

In Figs. 6 to 8, the stationary abutment 2′ has a shoulder 7′ which is more abrupt on its under surface. The bridge carries a spring-pressed plunger 9 adapted to snugly fit beneath the shoulder 7′, while the opposite end of the bridge 1′ is clasped in the curved end portion 6′ of the frame 5′, which in this case may be more rigidly constructed, since the yielding element is here found in the member 9.

In Figs. 9 and 10, the frame $5^a$ and the curved end portion $6^a$ are comparatively rigid, and the latter may have its inner surface 10 inclined forwardly in the direction of the abutment $2^a$. In this case the rear end of the bridge $1^a$ carries a spring member 12 extending downwardly and rearwardly therefrom, adapted to engage under the surface 10.

Another modification is shown in Fig. 11, in which the frame $5^b$ consists of a continuous resillient band secured to the opposite sides of the abutment $2^b$. The sides of the frame $5^b$ are in the form of convex spring members $5^c$, joined by the rear anchorage portion $6^b$. In placing the bridge in position it is inserted between the side members $5^c$ with one end engaging the portion $6^b$ and then pressed down in place. This action draws the members $5^c$ together in such a manner as to engage the opposite sides of the bridge, as shown in dotted lines, while the portion $6^b$ holds the bridge against the abutment $2^b$. The construction is simple and easy to erect in the mouth, and it is easy to remove and replace the bridge. There is this added advantage—that while the bridge is secured at both ends, there is no tendency to regulate or move the natural teeth. The vertical shoulders and corresponding grooves at one end and the curved frame at the other prevent side movement of the bridge. The saddle, of course, is intended to rest on

the gums as usual, and take up the principal strain when in use.

As stated at the outset, the present construction is essentially an improvement on the construction set forth in my Patent No. 852,413. In that case the bridge either covers or stands above the frame. In the first instance it requires a recess in the under side of the saddle to afford room for the frame. In the second instance it requires that the edges of the saddle be somewhat abbreviated or shortened to afford clearance for the frame below the same. In the present instance the frame embraces the bridge at one or both sides and is never covered. By this construction the side edges of the saddle may extend well down on opposite sides of the gum to provide a sufficient lateral bearing. By the present construction also, which comprises flattening the frame so as to cause it to lie snugly against the side of the bridge, the said frame prevents the bridge from becoming unseated or lifted, since the greatest strength of the frame is in a vertical direction owing to the contour thereof.

What I claim is:

1. A denture comprising a stationary or crown abutment, an interlocking shoulder thereon, a frame member extending from said abutment above and to one side of the ridge of the gum and having a laterally offset end portion forming a second abutment, and a removable bridge member adapted at one end to said interlocking shoulder and at its other end to said second abutment, said frame lying along the side of said bridge when the latter is in place.

2. A denture comprising a stationary tooth abutment, a frame member secured thereto extending above and to the side of the ridge of the gum and having a curved end portion forming a second abutment, and a removable bridge adapted to be embraced on both sides by said frame and to be secured between both of said abutments.

3. A denture comprising a stationary abutment, a removable bridge member, a frame member extending from the side of the abutment above and to the side of the ridge of the gum and on the exterior of said bridge member when in place and having a curved end portion, one of said members having a longitudinally yielding portion, said bridge being secured between said abutment and said curved portion of the frame.

4. A denture comprising a removable bridge member, a stationary abutment, a frame extending longitudinally from the side thereof above and to one side of the ridge of the gum and having a laterally curved end portion, said bridge being adapted when in place to be engaged and held at both ends and along the side.

5. A denture comprising a stationary abutment, a member carried by said abutment and following the line of the gum, and a removable bridge member adapted to be engaged by said abutment and said longitudinally extending member, the latter extending along the side of said bridge above the gum.

6. A denture comprising a stationary forward abutment, a rear abutment carried by a frame, the latter being connected to the forward abutment, and a removable bridge arranged to be detachably engaged between said abutments, said frame extending along the side of said bridge above the gum.

7. A denture comprising a fixed or stationary abutment, a frame carried thereby extending rearwardly therefrom and having an abutment at the rear thereof, a bridge arranged to be engaged between said abutments, said frame extending along the side of said bridge above the gum, and a yielding or resilient portion to permit said bridge to be removed.

8. A denture comprising a removable bridge member, a frame extending rearwardly therefrom following the line of the gum and to one side thereof, a horizontally arranged hooked portion carried by said frame and constituting a rear abutment, and a bridge arranged to be embraced between said abutments, said frame lying along the side of the bridge above the gum.

9. A denture comprising a fixed abutment, a resilient flattened frame member, a laterally arranged hooked portion carried thereby and constituting a second abutment, and a bridge adapted thereto, the side of said frame being adjacent the side of said bridge when the latter is in place.

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