R. GARCIA DE LA BELDAD.

DENTAL BRIDGEWORK.

APPLICATION FILED OCT. 3, 1918.

1,324,331. Patented Dec. 9, 1919.

Fig. 1.

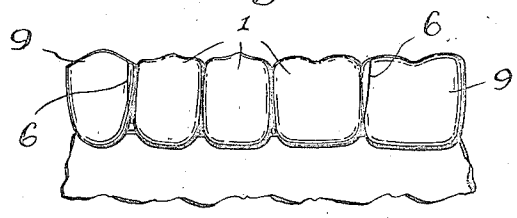


Fig. 2.

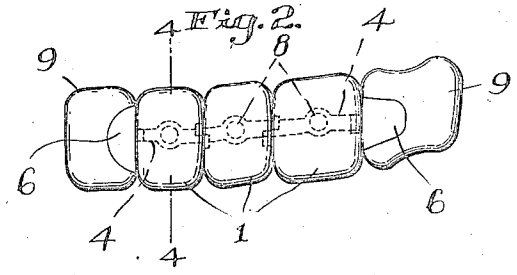


Fig. 3.

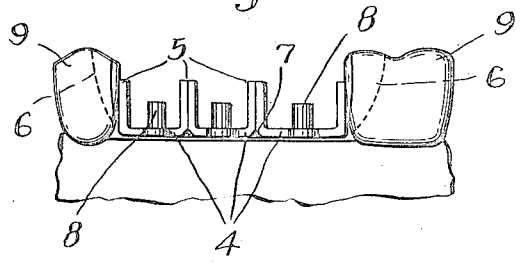


Fig. 4.

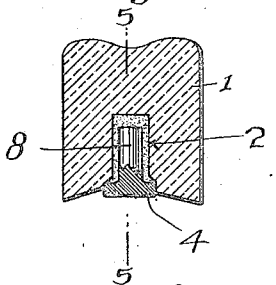


Fig. 5.

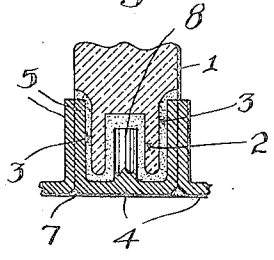


Fig. 6.

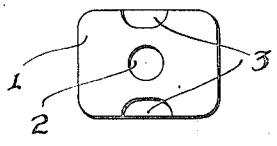
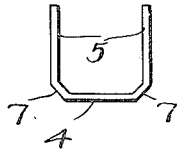


Fig. 7.



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UNITED STATES PATENT OFFICE.

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DENTAL BRIDGEWORK.

1,324,331. Specification of Letters Patent. Patented Dec. 9, 1919.

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To all whom it may concern:

Be it known that I, Dr. RAMON GARCIA DE LA BELDAD, a subject of the Kingdom of Spain, residing at 700 East 218th street, in the city and county of New York and State of New York, have invented a new and useful Improvement in Dental Bridgework, of which the following is a specification.

My invention relates to dental bridgework, and the objects are to provide an artificial denture which is more natural in appearance, more sanitary in use, and simpler to construct than any tooth heretofore offered to the dental profession, to avoid the use of gold or rubber saddles, and to provide for ready replacement of a broken tooth or teeth without removing the rest of the work from the mouth. These ends are attained by the novel features of construction, combination and relation hereinafter described and more particularly set forth in the appended claims.

In the drawings forming a part hereof:

Figure 1 is a side elevation of a plural denture embodying the invention in place between two natural teeth acting as abutments;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is a side elevation of the same denture, with the artificial teeth removed;

Fig. 4 is a vertical cross-section on the line 4—4 of Fig. 2;

Fig. 5 is a vertical longitudinal section on the line 5—5 of Fig. 4;

Fig. 6 is a plan view of the base of one of the artificial whole teeth; and

Fig. 7 is an elevation of one of the bridging elements.

Whole porcelain teeth 1 are formed with central holes 2 and side slots 3. The bases of the teeth have an overhang, as seen in Fig. 4. An artificial denture constructed in accordance with the invention may comprise one or more of these teeth, depending upon the number of missing natural teeth which are to be replaced.

An attachment for supporting the porcelain tooth or teeth is constituted of one or more substantially U-shaped elements 4, made of some suitable metal, such as gold clasp metal or platinum and iridium. These elements are readily constructed by bending up at right angles the ends 5 of short bars or strips, of either square or flat cross-section; these ends or side members serving both as means of attachment to abutment engagements 6 and as separators and retainers for the teeth 1, in the side slots 3 of which they are received. One of these elements will constitute the bridging attachment in the case of a single tooth denture, its two side members being soldered to the engagements 6; or a plurality of them may be soldered together as shown in Figs. 1 to 3, thus forming a bridging bar having bent ends, united to the abutment engagements, and intermediate ends or side members between which the teeth are inserted. The exterior bottom corners of the attachment elements are beveled, as shown at 7, to facilitate the formation and to increase the strength of the soldered joints. Ports 8, either round or square, projecting from the elements between the side members thereof, enter the holes 2 and still further anchor the teeth in place. The teeth when cemented in and upon these elements are firmly supported, yet readily and individually removable and replaceable in event of damage without necessitating the removal of the attachment or of the engagements 6.

The said engagements are represented as inlays, *i. e.*, as being countersunk and cemented in corresponding recesses in the sides of the natural teeth 9 in order to secure them to the latter at each end of the bridge; but it will be understood that instead of thus securing the said terminal engagements they might be permanently secured in any convenient manner as by soldering them directly to any of the well-known forms of caps or crowns carried by the said natural teeth.

It will be noted that, as clearly shown in Fig. 4 of the drawings, each tooth is provided with a longitudinal groove extending centrally across the base thereof; also that the bridging bar 4 is of lesser transverse dimension than is the tooth and is adapted to engage, or coöperate, with, *i. e.*, enter in whole or in part into, said groove; also that said bridging bar when carrying a plurality of teeth is composed of a like plurality of short metallic units, each bent as aforesaid, *i. e.*, upon itself to embody the therefrom parallelly projecting, therewith unitary side members one of which comprised in one of said units is united with a corresponding member of another of said units and the thus united members jointly countersunk in the sides of mutually proximate teeth while other portions of the unit

are disposed to underlie, *i. e.*, extend medially transversely across the base of, a tooth; also that the side slots 3 and the hole 2 in the tooth constitute a group, or plurality, of therein recesses extending in alinement and parallelism with each other, and in the plane of, said groove from the base, toward the top, of the tooth; also that the ends, or side members, 5, of each attachment element 4, taken together with the post 8, constitute a group, or plurality, of members carried by the bar and therefrom projecting in alinement therewith and in parallelism with each other, each of which is adapted to enter one of said recesses in a tooth. Also that the side members 5 without the post, or the post with one only of the side members will constitute such a group.

It follows from this construction that the teeth can be mounted on, and withdrawn from, the bar by a single movement in a straight line and that the bridging attachment is completely concealed by the teeth.

As indicated above, this denture possesses in a superior degree the advantages of naturalness of appearance, cleanliness, and interchangeability of teeth. It eliminates the use of metal or rubber saddles and is far less bulky. It is more natural on both labial and lingual surfaces and shows no display of metal or rubber. It economizes gold, and is easier and cheaper to make and much lighter in weight than prior constructions.

What is claimed as new is:

1. In a dental bridge, the combination of a tooth having a central hole and side slots, and a bridging bar having a post and side members, the tooth being cemented removably upon the bar in engagement with said post and side members.

2. In an artificial denture, the combination of a plurality of artificial teeth with a bridging bar composed of a like plurality of short metallic units each of less transverse dimension than any of the teeth, and each bent upon itself to comprise therefrom parallelly projecting, therewith unitary side members, one of which comprised in one of said units is united with a corresponding member of another of said units, and such members countersunk in the sides of the teeth, and another portion of each unit being disposed to transversely, medially, underlie the base of a tooth.

3. In an artificial denture, the combination of a plurality of artificial teeth with a bridging bar composed of a like plurality of short metallic units each of less transverse dimension than any of the teeth, and each bent upon itself to comprise therefrom parallelly projecting, therewith unitary side members, one of which comprised in one of said units is united with a corresponding member of another of said units, and such members countersunk in the sides of the teeth, and another portion of each unit being disposed so as to transversely, medially, underlie the base of a tooth, and to be laterally overhung thereby.

DR. RAMON GARCIA DE LA BELDAD.