

(No Model.)

C. M. CARR.
DENTAL BRIDGEWORK.

No. 583,565.

Patented June 1, 1897.

Fig. 1.

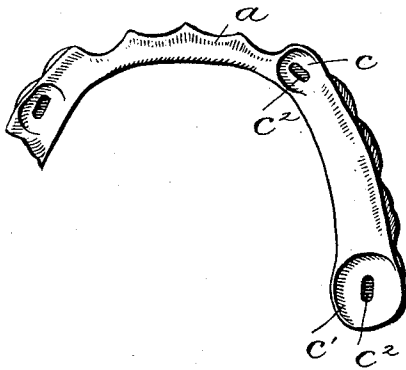


Fig. 2.

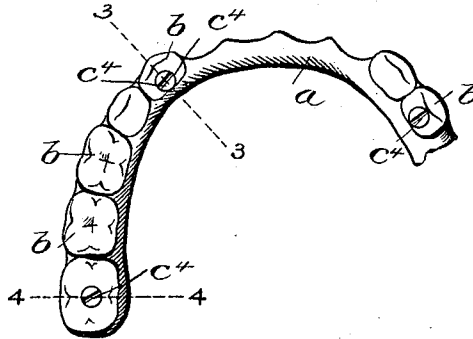


Fig. 3.

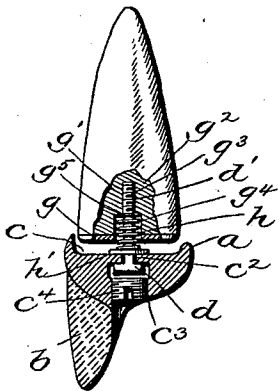


Fig. 4.

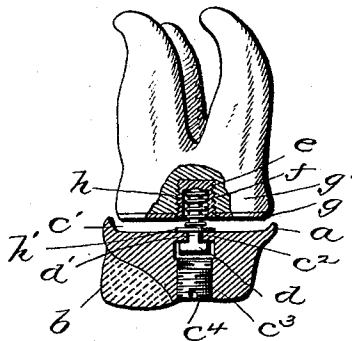


Fig. 5.

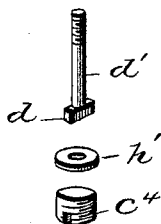
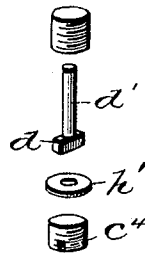


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

CASSIUS M. CARR, OF LOS ANGELES, CALIFORNIA.

DENTAL BRIDGEWORK.

SPECIFICATION forming part of Letters Patent No. 583,565, dated June 1, 1897.

Application filed April 19, 1895. Serial No. 546,365. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS M. CARR, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Dentistry; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to certain improvements in dental bridgework, and is designed as an improvement on the devices shown and described in my copending application, Serial No. 451,680, wherein I employ a loosely-attached denture having a cushioning-spring interposed between it and the root in such a manner as to allow the denture to press collectively on the intervening gums and the roots during mastication.

To this end my invention consists in the novel means for facilitating the application of said devices, all of which means will be more fully described hereinafter and pointed out in the claims.

In the accompanying drawings, Figure 1 represents the inside of a bridge with chambers and slots for the reception of the attaching devices after the manner of my invention; Fig. 2, a view of the opposite or outside of the bridge; Fig. 3, a vertical transverse section through 33 of Fig. 1 of a cuspid tooth and bridge to which my device is applied; Fig. 4, a modified form of my device as applied to a molar tooth, the latter being cut away in transverse section and the bridge being also in transverse section through 44 of Fig. 2; Fig. 5, a detail view of the attaching bolt or stud, the washer, and screw-plug; and Fig. 6, a detail view of the bolt or stud when the latter is provided with a screw-tap, as in the modification of Fig. 4.

The bridge or denture is represented by the reference-letter *a* and is provided with the usual teeth *b*, attached thereto. Formed in the back of bridge are countersunk chambers *c* and *c'*, located to lie directly opposite the roots of the teeth to which the bridge is attached. An oblong slot *c''* is made through

the inside wall of each chamber for the reception of the cross-head *d*, and the opposite or outside wall of the chamber is provided with a round threaded opening *c''*, through which the stud *d'* is passed in the operation of attaching the bridge, after which the hole is closed by the screw-plug *c''*.

In applying my improvement to an incisor, cuspid, or bicuspid tooth I chamber out the root and then insert gold lining or filling *g'*. A plate *g*, which covers the end of the root, is then applied and the whole soldered together. In the inner portion *g''* of the lining *g'* which lies nearest to the apex of the tooth I cut a screw-threaded opening *g'''* for the reception of the threaded end of the stud *d'*. From this threaded portion *g''* I make a chamber *g''''*, larger than the opening *g'''*, and by so doing form a shoulder *g'''''* for the reception of the end of the spiral spring *h* around the stud.

The means by which the stud is attached to the natural root or pier of a molar tooth consists of an externally-threaded tap, tube, or plug *e*, inserted in a threaded aperture *f*, made through the plate *g* and in the tooth filling or lining *g'*. The stud is soldered firmly to the inner end of the plug, so that the latter can be screwed into the aperture *f*, the stud being used as a handle to rotate the plug, as will be presently described. Seated in the cavity of the plug and encircling the stud *d'* is a spiral spring *h*, the outer end of which is adapted to press against the bridge. A washer *h'* is interposed between the outer end of the spring and the bridge for the purpose of keeping the spring from working through and for closing the oblong slot *c''* when the bridge is attached.

The manner of applying the bridge thus constructed can be briefly outlined as follows: Having first cut off the tooth and applied the plate and lining and having prepared the surface of the bridge so that it will conform to the shape of the gums and not bear against the roots, I then place the washer *h'*, spiral spring *h*, and stud *d'* so that the threaded end of the stud and the spring will pass into the aperture *f* and the head of the stud into the oblong slot *c''*. Now upon screwing the studs in their heads will draw the bridge snugly against the gums, care being taken not to draw it close enough to touch the piers, be-

cause a space should be left between the two in order to allow the gum to receive the major part of the pressure, the remainder being taken up by the spring.

- 5 It will be seen that when pressure of mastication is brought on the bridge the gums take all the excessive pressure, the roots only sustaining the light pressure imparted to them by the spring and not enough to produce irritation and ulceration, as is the case when the
10 roots have to sustain all the pressure, as under a bridge cemented on rigidly.

Having thus described my invention, what I claim as new, and desire to secure by Letters
15 Patent, is—

1. An improved bridging device which consists of the combination of a bridge provided with a chamber or chambers having an oblong opening therein, in combination with a stud
20 adapted to pass through said opening and to

be attached to a root or pier, a spring adapted to be interposed between the bridge and root, and a T-shaped head on the stud adapted to pass through and be turned crosswise of said opening, as and for the purposes described. 25

2. As an improvement in the art of dentistry, the combination with a bridge provided with one or more chambers adapted to receive the head of a stud and having an oblong slot in one side through which the head passes, a
30 threaded hole in the opposite side of said chamber, and a screw-plug adapted to close said hole, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CASSIUS M. CARR.

Witnesses:

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