(No Model.)

F. N. BROWN.

ARTIFICIAL TOOTH FOR CROWN AND BRIDGE WORK.

No. 604,363. Patented May 24, 1898.

Fig. 1

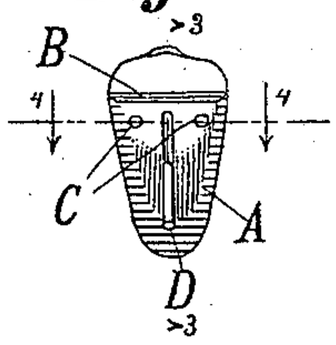


Fig. 2

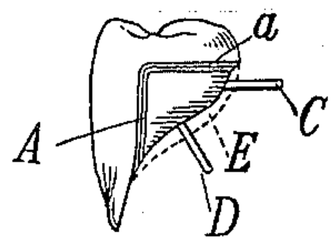


Fig. 3

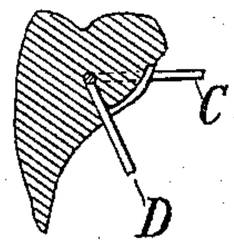


Fig. 4

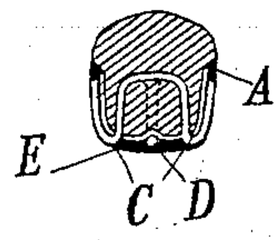


Fig. 8

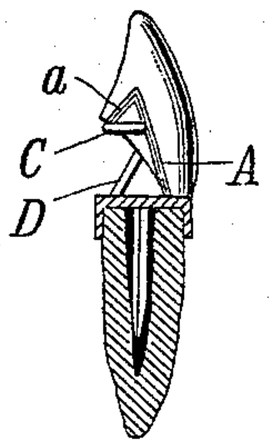


Fig. 5

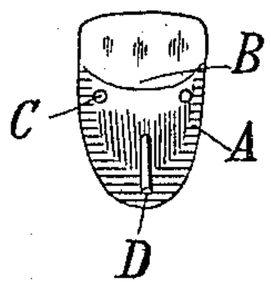


Fig. 6

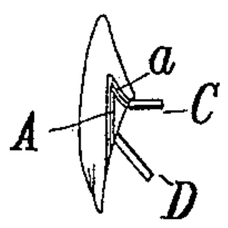


Fig. 7

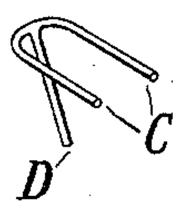


Fig. 9

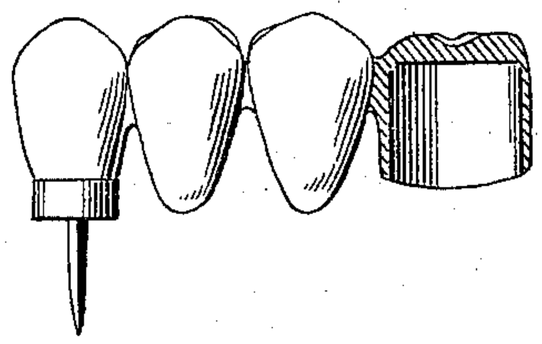
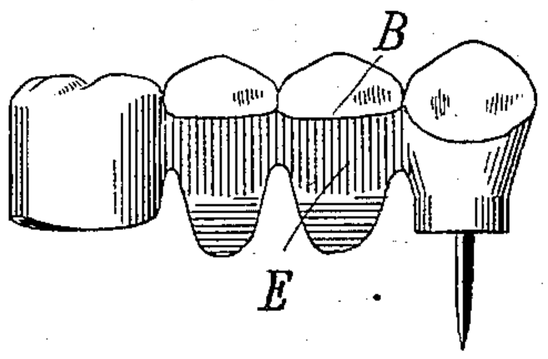


Fig. 10



WITNESSES:

John M Culver.

John A Rollins

F. Nat Brown INVENTOR

UNITED STATES PATENT OFFICE.

FRANCIS NAT BROWN, OF CHICAGO, ILLINOIS.

ARTIFICIAL TOOTH FOR CROWN AND BRIDGE WORK.

SPECIFICATION forming part of Letters Patent No. 604,363, dated May 24, 1898.

Application filed July 7, 1896. Serial No. 598,365. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS NAT BROWN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Artificial Teeth for Crown and Bridge Work, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to artificial teeth for crown and bridge work; and my object is to provide an artificial tooth which may be securely mounted by soldering without such use of metal as would make it observable.

To this end my invention consists in an artificial tooth of peculiar formation which is provided with a backing forming a solder-surface and having also a novel anchoring device or means for securing it to a bridge, a saddle, or a cap, the tooth and its solder-surface and the anchoring device being of such construction that the tooth will withstand the forces of mastication.

My invention is shown in the accompanying drawings, in which—

Figures 1 and 2 are respectively palatine and approximal views of a bicuspid having the peculiar body formation of my invention and showing the projecting points of the anchor. Fig. 3 is a section on line 3 3, and Fig. 4 a section on line 4 4, of Fig. 1. Figs. 5 and 6 show an incisor, the views corresponding to those of Figs. 1 and 2. Fig. 7 is a perspective view of my improved anchor detached. Fig. 8 is an approximal view of a cuspid secured to a cap and post applied to a root shown in section. Figs. 9 and 10 are respectively labial and lingual views of a bridge finished and ready for insertion embodying my invention.

In carrying out my invention I construct an artificial tooth of porcelain or other suitable material capable of being baked or hardened. The tooth may be a practical reproduction in size and contour of the natural tooth, except that it is cut away or shouldered on its approximal surfaces, leaving the cusp or the portion above the shoulder the full width, while below the shoulder it is reduced in transverse diameters, both on the approximal line and also upon a line substantially at right angles thereto. The tooth is thus reduced in thickness on its approximal and lingual sides, and a continuous shoulder or ledge is formed in the body of the tooth, portions of such ledge or shoulder (marked A) extending in a vertical or substantially vertical direction and being joined by a continuous ledge or shoulder, the approximal parts of which are marked *a* and the connecting or lingual portion B. Embedded within this artificial body is an anchor such as shown in Fig. 7, and which anchor is formed by three pins, one of said pins (marked D) having a downward inclination toward the lingual side of the tooth, and two of said pins (marked C) being connected to the upper end of the pin D and to each other and extending at an angle therefrom, the angles of inclination to the pin D depending upon the character of the tooth and of the support to which it is to be applied. Over the points of these pins and covering the reduced or cut-away portion of the tooth is placed a platinum backing, (marked F,) through which the pins will extend, said backing being fitted closely under the shoulders. The pins C are then folded back over said backing, as clearly shown in Fig. 4, being pressed up against the shoulders and lying within the plane of the approximal sides of the tooth. The reduced portion is of greater depth than the thickness of the backing, thus making it possible to solder one tooth directly to another on their approximal surfaces. The pin D in this instance is bent upwardly, and a groove *d* is provided in the substance of the tooth, into which the platinum backing and the pin may be depressed.

The platinum backing and the pins may then be coverd with a solder E when made a portion of a bridge, such as shown in Figs. 9 and 10, or the tooth may be applied as a crown for a natural root in the manner shown in Fig. 8, in which the pin D, instead of being bent up, rests at its lower end upon and is soldered to the cap H. In the construction shown in Fig. 8 the crown is a cuspid and the construction is slightly modified to suit the form of tooth. In this case, as well as in the construction shown in Figs. 5 and 6, the approximal shoulders *a* extend upwardly toward the cusp of the tooth and form an acute angle with the shoulders A. This construction is intended to enable the tooth to better with-

stand vertical pressure, while in bicuspids and molars the palatine shoulder is horizontal, there being in those teeth sufficient depth to give the shoulder the necessary supporting-surface.

I claim—

1. An artificial tooth of a contour approximately that of the natural tooth and having its approximal and palatine surfaces provided below the cusp with a shallow depression bounded by vertical and horizontal shoulders, said depression being of a depth suitable to receive a metal backing and a pronged anchor embedded within the tooth and having the exposed ends of the pins or prongs thereof extending from the depressed portion of the body of the tooth and adapted to penetrate the backing and to be bent down thereon, substantially as described.

2. An artificial tooth of a contour approximately that of the natural tooth and having its approximal and palatine surfaces provided below the cusp with a depression bounded by vertical and horizontal shoulders, said depression being of such depth as to receive a suitable backing, an anchor embedded within the body of the tooth and having pins or prongs projecting from the depressed portion and a backing secured in said depressed portion by said pins, substantially as described.

F. NAT BROWN.

Witnesses:

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