

No. 667,723.

Patented Feb. 12, 1901.

F. A. L. MURDOCK.
ARTIFICIAL TOOTH.

(Application filed Dec. 26, 1399.)

(No Model.)

Fig. 1.

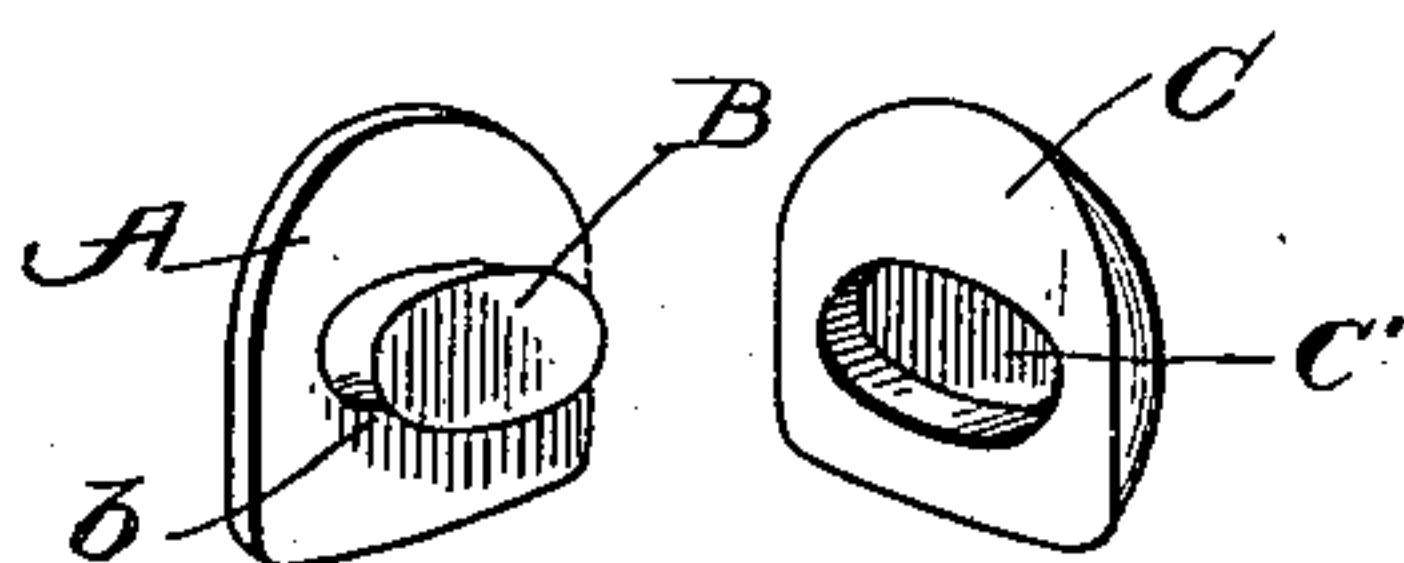


Fig. 2.

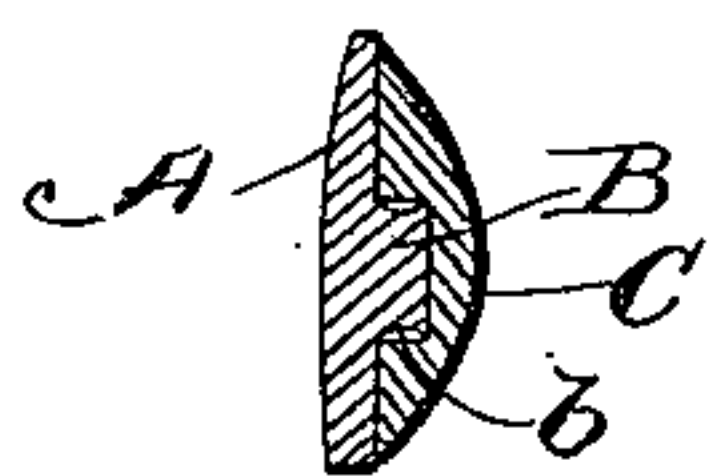
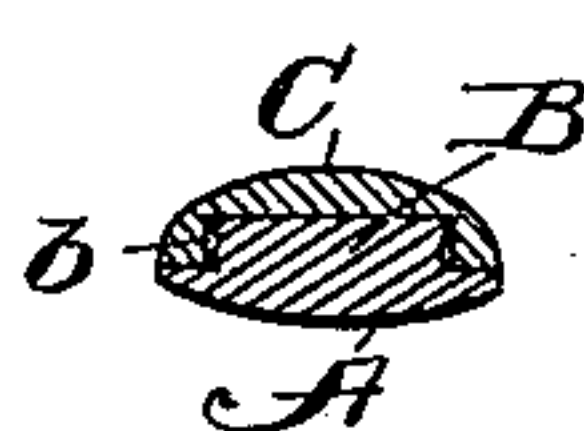


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK A. L. MURDOCK, OF MERIDEN, CONNECTICUT.

ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 667,723, dated February 12, 1901.

Application filed December 26, 1899. Serial No. 741,653. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. L. MURDOCK, a citizen of the United States, and a resident of Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Artificial Teeth; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in artificial dentures, and has for its object the provision of a strong, simple, and convenient means for uniting the porcelains and their supports, provision being made whereby the porcelains may be readily removed and renewed individually, so as to avoid the necessity of constructing a new denture should a porcelain be broken, discolored, or worn.

With this object in view the invention consists in forming the rear faces or sides of the porcelains substantially uniform, each with a relatively large centrally-arranged undercut projection, the projection, while of large diameter, being relatively short and adapted to fit into a concavity in the inner faces of a metallic backing, which backing may constitute a part of a plate or a bridge or other supporting means, such as are usually employed in the art at this day.

Referring to the accompanying drawings, Figure 1 is a perspective view of a porcelain and its metallic backing slightly separated so as to illustrate the projection and recess. Fig. 2 is a vertical section through the united porcelain and backing. Fig. 3 is a section at right angles to Fig. 2.

Like letters of reference in the several figures indicate the same parts.

The porcelain (lettered A in the accompanying drawings) is shown as an ordinary front tooth with a cutting edge at the bottom. According to the present invention the porcelain may be made extra heavy and thick, and on its rear face, which is preferably made substantially plain, there is a relatively large central projection B, usually slightly undercut at the edges, as shown at *b*, and of a height which will permit it to be entirely cov-

ered by the metal backing without unduly thickening the whole tooth.

The particular shape of the projection B is immaterial; but it is preferably of a somewhat irregular shape, so as to resist any tendency of the porcelain to rotate with said projection as a center, and while in the preferred construction the said projection is an integral part of the porcelain and is of such large diameter as to form a solid backing for the whole central portion thereof, yet in some instances it may be found desirable to form the projection separate from the porcelain and unite it thereto in the baking process, in which cases the projection may, if desired, be of other material than porcelain—metal, for instance.

For retaining the porcelain in position on the plate or bridge it is provided with a solid metal cap C, which surrounds the projection B, and on its outer face is made smooth and conforming approximately to the shape of the inner side of a tooth. The concavity C', into which the projection B fits, is formed in the solid metal of the cap, and the edges of the cap lie closely against the rear face of the tooth, without, however, projecting over the edges of the tooth so as to show from the front.

The metal cap may be sold attached to the porcelain or the porcelains may be sold and distributed separately and united to the metal caps by the dentist either before or after the formation of the denture, and in uniting the two parts cement of any approved character—such as chloro-percha, sulfur, &c.—may be employed to fill the interstices between the edges of the projections and sides of the cavity in which it fits, as well as between the edges of the cap and rear face of the porcelain. Cement having been applied to one or both of the parts, the parts may be pressed together horizontally rather than with a vertical sliding motion, as has heretofore been customary, and when seated it will be found that the porcelain is held rigidly against all strain which will occur in the process of mastication. The broad bearing-surface afforded by the relatively large projection guards against breakage or loosening of the porcelain, and a much sharper and more uniform cutting or grinding edge may be maintained

on the porcelain because of the fact that the metal of the cap or backing is not brought around the edge of the porcelain.

5 The metal cap may be united to or formed in the bridge by means of solder or like fastening means and the same method of attachment may be employed for mounting it on the plate where platework is done, and hence I do not wish to be limited to any particular
10 manner of connecting or mounting the porcelain with its cap.

Having thus described my invention, what I claim is—

15 In an artificial denture, the combination with an integral porcelain having a plain rear face with a relatively large central projection, irregular in contour to resist twisting and

having undercut edges, of a cap having a plain front face for coöperating with the rear face of the porcelain and conforming in con- 20 tour to the contour of the porcelain and having a recess in its front face, closed on all sides save the front and adapted to receive the projection on the porcelain, the said recess being of such size as to admit the said 25 projection and a surrounding body of cement for uniting the parts with the edges of the porcelain and cap in registry; substantially as described.

F. A. L. MURDOCK.

Witnesses:

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