

Feb. 12, 1929.

1,702,212

A. B. JOHNSON

ARTIFICIAL TOOTH CONSTRUCTION

Filed Oct. 16, 1925

Fig. 1

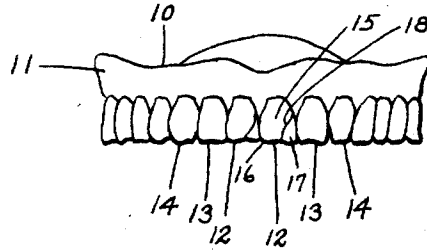


Fig. 2

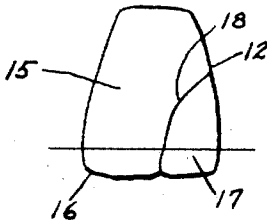


Fig. 3

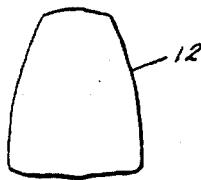


Fig. 4

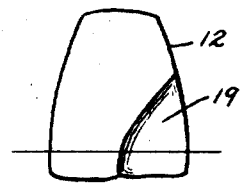


Fig. 5

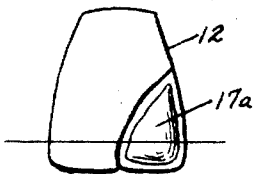


Fig. 6

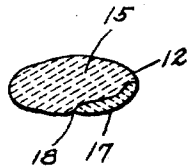


Fig. 7

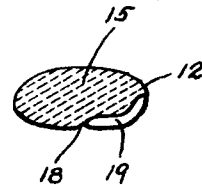
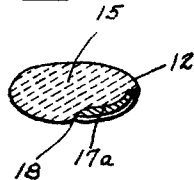


Fig. 8



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UNITED STATES PATENT OFFICE.

ALBERT B. JOHNSON, OF HARTFORD, CONNECTICUT.

ARTIFICIAL-TOOTH CONSTRUCTION.

Application filed October 16, 1925. Serial No. 62,849.

My invention relates to improvements in artificial tooth construction, involving the grinding off of material from a portion only of the exposed surface of a tooth of porcelain and the application to said ground off portion of porcelain paste and the use of heat for fusing porcelain from said paste, uniting the same to the tooth body, and the object of my improvement is to disclose means for effecting this result that are relatively simple, reliable, and efficient, whereby said ground off portion or zone will be coated with a deposit of porcelain in the form of a film or veneer, and which presents a surface or face that will usually be distinguishable in appearance the exposed surface of the adjacent body portion that is in the original condition.

In the accompanying drawing:—

Figure 1 is a front elevation of a set of artificial teeth in which are incorporated certain individual teeth embodying my invention.

Figure 2 is a front elevation of one of said individual teeth, being the first or front and left incisor shown in Fig. 1, and on an enlarged scale.

Figure 3 is a front elevation of the same before being operated upon by grinding.

Figure 4 is a similar view of the same after grinding.

Figure 5 is a similar view after the deposit of porcelain from paste in the ground off portion or zone.

Figures 6, 7 and 8 are sectional views respectively on the correspondingly indicated lines of Figs. 2, 4, and 5.

My improved artificial tooth construction is illustrated in the present instance by a set of artificial teeth, the set being an upper set with the individual teeth incorporated in the plate 11 of the usual form.

Said individual teeth comprise as determined from the front and on each side the first or front incisor 12, the second incisor 13, and the canine teeth 14. Then come the premolars and the molars.

Certain of the teeth specifically mentioned have a portion of the exposed surface or a zone that is marked off or defined by a line of division between the same and the adjacent surface of the body portion, the tinting or shading being slightly different for the two sides of the line.

The body portion or tooth proper is made

of porcelain; is the initial condition in the form in which it is received from the manufacturer for the use of the dentist, being a complete tooth adapted to be inserted in the plate; is operated upon by grinding to the extent of the zone determined upon by the operator; a layer of porcelain paste is applied to the ground-off portion; baking follows, involving fusing of the paste and also a shrinkage thereof; and, there may be repetitions of the application of the paste and baking.

These details will now be considered with reference to a selected tooth, being the front and left incisor 12, having the body portion 15 and terminating at the lower left side in the corner 16.

The zone 19 at and adjacent the lower right hand corner and indicated in Fig. 4 is the portion that is ground off and is defined by the border edge 18, Figs. 6, 7, and 8.

In Figs. 2 and 6 the character 17 indicates the deposit of porcelain from paste in the ground off zone 19 and which deposit covers substantially the entire zone. This result may be obtained from a single treatment or application or may follow a second application.

The character 17* in Figs. 5 and 8 indicates a partial deposit only and a second treatment would be desirable to complete the coating of the zone 19.

For the baking an electric furnace is preferably employed.

The material deposited has substantially the same characteristics as that of the body portion and the junction between the two is substantially of integral character.

I find that the new porcelain of the paste melts on the old portion in a manner similar to the way in which 18k. gold melts on 14k. gold.

I claim as my invention:—

In artificial tooth construction, providing a tooth of porcelain, removing the surface layer of a portion of said tooth to the extent of a zone that is appreciably smaller in area than the area of the exposed face of said tooth, applying to said zone a layer of porcelain paste, and heat-treating said tooth with the paste so applied thereto in a furnace so as to melt said paste and form an integral coating of the melted material for said zone.

ALBERT B. JOHNSON.