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F. C. MILLER

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CARVED VENEER FOR ARTIFICIAL TEETH

Filed March 7, 1927

Fig. 1.

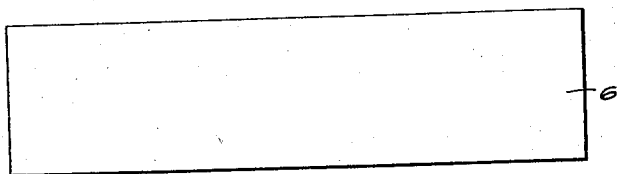


Fig. 2.



Fig. 3.

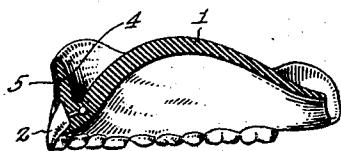
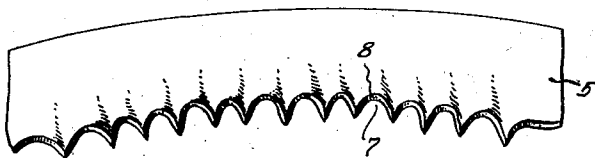


Fig. 7.

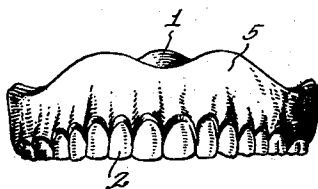


Fig. 5.

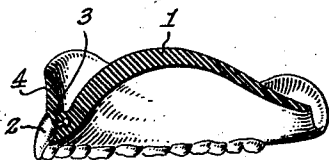


Fig. 4.

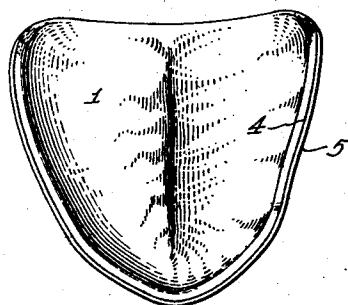


Fig. 6.

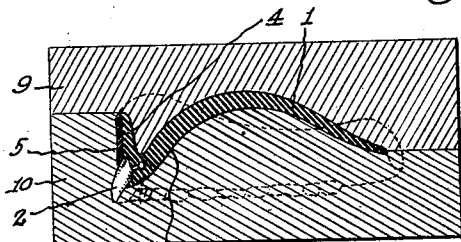


Fig. 8.

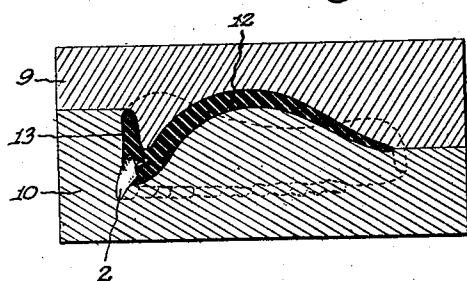


Fig. 9.

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CARVED VENEER FOR ARTIFICIAL TEETH

Application filed March 7, 1927. Serial No. 173,434.

My invention aims to facilitate the manufacture of artificial toothed plates for the mouth by providing a veneer which will save considerable time and labor and consequently

5 reduce the cost of producing a plate.

It is the present practice of a dentist to obtain an impression of the gums, palate, and those parts of the mouth contiguous to the location of teeth, so that a plate, holding artificial teeth may be produced and comfortably used in the mouth. After such an impression is obtained by a dentist using plaster Paris or a composition which will readily conform to the mouth and then set or harden, such embryo form is ordinarily placed in the hands of a mechanical dentist who produces a finished plate holding artificial teeth. For the production of such a plate a wax or composite pattern is made in which the artificial teeth are set. The mounting of the teeth in the pattern is an operation requiring considerable precision, particularly the trimming of the pattern about necks of the teeth or places where the teeth

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adjoin the pattern. The workman must be somewhat of a sculptor to carve the pattern and imitate as near as possible the appearance of a natural gum adjoining the teeth, for it is from this pattern that a plate is produced. The trimming and carving of the pattern about the teeth requires considerable time and labor and I have discovered that this operation may be minimized by using a prepared veneer in connection with the pattern. The prepared veneer is made from a strip of wax or other pliable material and the edge of the strip is scalloped, festooned, crenated, notched or otherwise formed so that it may be easily and quickly fitted on a pattern about the artificial teeth, at the juncture of the teeth with the pattern. The configuration of the veneer is such that its festooned edge will approximately fit a set of artificial teeth with the result that after the veneer is in place a workman may need to only retouch the veneer to complete the appearance of teeth naturally joining a gum. In some instances it may be only necessary to press the veneer into place, because the shape of the teeth being known it is possible to pro-

duce dies, rolls and other instrumentalities by which the festooned edge of the veneer will be substantially perfect for matched registration with the teeth set in the pattern. At the most it may be only necessary to do a little trimming here and there and it is by virtue of this veneer that the tedious and laborious task of carving a pattern is practically eliminated.

It is believed that my invention will be better understood when describing the drawing, wherein

Figure 1 is a plan view of a blank from which the veneer may be produced;

Fig. 2 is an end view of the same;

Fig. 3 is a plan of the veneer produced from the blank;

Fig. 4 is a longitudinal sectional view of a pattern plate before having a veneer mounted thereon;

Fig. 5 is a front elevation of the pattern with the veneer applied thereto;

Fig. 6 is a top plan of the same;

Fig. 7 is a longitudinal sectional view of the pattern with the veneer thereon;

Fig. 8 is a sectional view of a mold prepared about the pattern, and

Fig. 9 is a similar view of the mold from which the pattern has been removed and the plate formed in the mold.

As set forth in the beginning a pattern is produced holding artificial teeth and in Figs. 4 to 8 inclusive the pattern is designated 1. This pattern is made of wax or other composite material that may be readily molded or shaped and in the pattern is anchored artificial teeth 2. Pins 3, posts or other devices may be utilized for this purpose. In producing this pattern the front or "gum" wall 4 thereof is set back sufficiently to accommodate a veneer 5 which may be suitably mounted on the wall 4 to form a facing thereon, as shown in Fig. 6.

Reference will now be had to Figs. 1 to 3 inclusive and 6 designates a flat thin blank of wax or other pliable material which may be molded, rolled or otherwise worked in the formation of a scalloped edge 7 having the configuration or outline of the teeth 2 at their juncture with the wall 4. When cut-

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ting, trimming or otherwise removing material from the blank 6 to form the scalloped edge 7, the blank can be shaped to conform to the wall 4 and the scalloped edge 7 may have its edge, at the scallops or indentures beveled, as at 8, so that the outer face of the veneer will merge into the outer faces of the teeth 2 and afford a positive connection and seal with the teeth. Furthermore, the material of the blank bordering on the beveled indented edge thereof may be embossed, raised or otherwise shaped so that the scalloped or festooned edge of the veneer will conform to the undulating contour of the teeth 2 at their juncture with the wall 4. In other words, the veneer is made as perfect as possible so that after it is mounted against the wall 4 in proper relation to the teeth 2 there will be little, if any, carving or trimming to be done to effect a natural appearance of the veneer relative to the teeth. It may be necessary to here and there retouch the festooned edge of the veneer in order that the relatively thin edges and points of the veneer will fit between the teeth. Irrespective of how much retouching is necessary, the labor and accuracy ordinarily required is reduced to a minimum with the result that a pattern may be quickly made for the production of a plate.

In Fig. 8 I show separable mold parts 9 and 10 containing the wax or composite pattern and veneer. These mold parts are fashioned about the pattern to obtain an impression thereof and since the pattern and its veneer are made of wax or a composition that can be readily removed, preferably by heat, the mold parts will retain the impression of the pattern with the mold part 10 supporting the teeth 2 which protrude into the mold cavity 11.

After the production of these mold parts, a body of rubber 12 or other material is subjected to pressure and vulcanized in the mold cavity 11, whereby a plate is produced having the teeth 2 anchored therein, as shown in Fig. 9. The veneer has imparted a desired configuration to the wall 13 of the mold part 9 whereby the upstanding "gum" wall of the plate will be an exact replica of the veneer which was properly fashioned on the pattern.

I attach considerable importance to the undulating surface adjacent the notches of the veneer, as I have attempted to show by shading on Figs. 3 and 5 of the drawing. A natural gum, in the majority of instances, shows teeth roots under the gum and the average gum has an undulating surface because of such roots. So in imitation of a natural gum I provide the undulating or irregular surface of the veneer, whereby the plate with its teeth will be as natural looking as possible.

From one standpoint the veneer constitutes an article of manufacture. As such it may be expeditiously produced in strip form between

driven die rolls or other instrumentalities and when made of proper material there may be a saving by using the material again after it has once served its purpose. From another standpoint, the veneer contributes to a method of making toothed plates which method consists in producing an embryo pattern; completing the formation of the pattern by adding thereto a veneer, and then producing a plate for the veneer toothed pattern. The veneer, as an article of manufacture, facilitates the method of producing the toothed plate. Since there are materials that may enter into the veneer and final product, and since there are many ways of producing the veneer, I do not care to limit my invention other than defined in the appended claims.

What I claim is:—

1. A method of producing a dental plate, which method consists in providing a pattern having teeth mounted therein, applying a pliable veneer to said pattern at the teeth thereof, forming an impression of said pattern, teeth and veneer in a mold, removing the pattern and veneer from the mold, and pouring into the impression.

2. A method of producing a dental plate as called for in claim 1, which method includes an additional operation of retouching the veneer adjacent the teeth, prior to producing the plate.

In testimony whereof I affix my signature.

FREDERICK C. MILLER.