

No. 772,104.

PATENTED OCT. 11, 1904.

G. C. KÜSEL.
ARTIFICIAL TOOTH.

APPLICATION FILED DEC. 12, 1903.

NO MODEL.

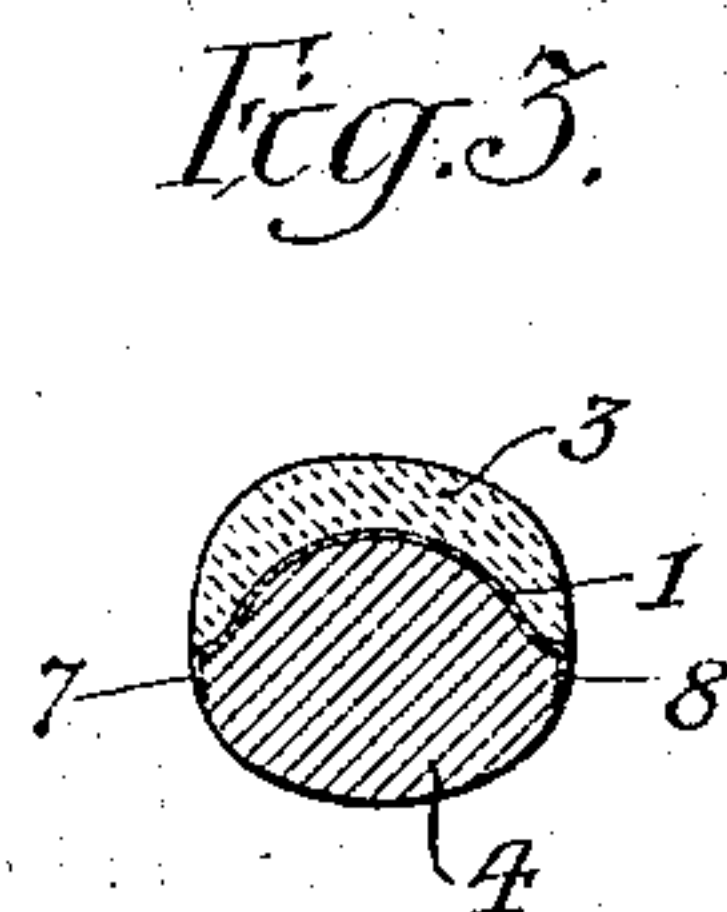
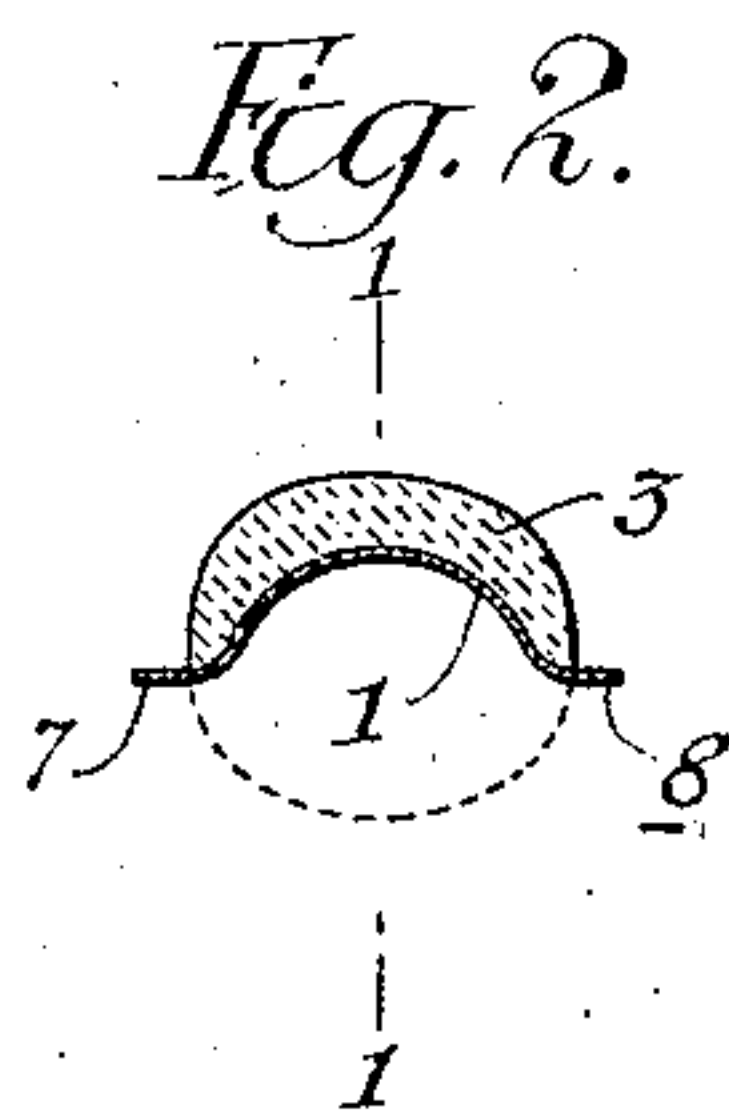
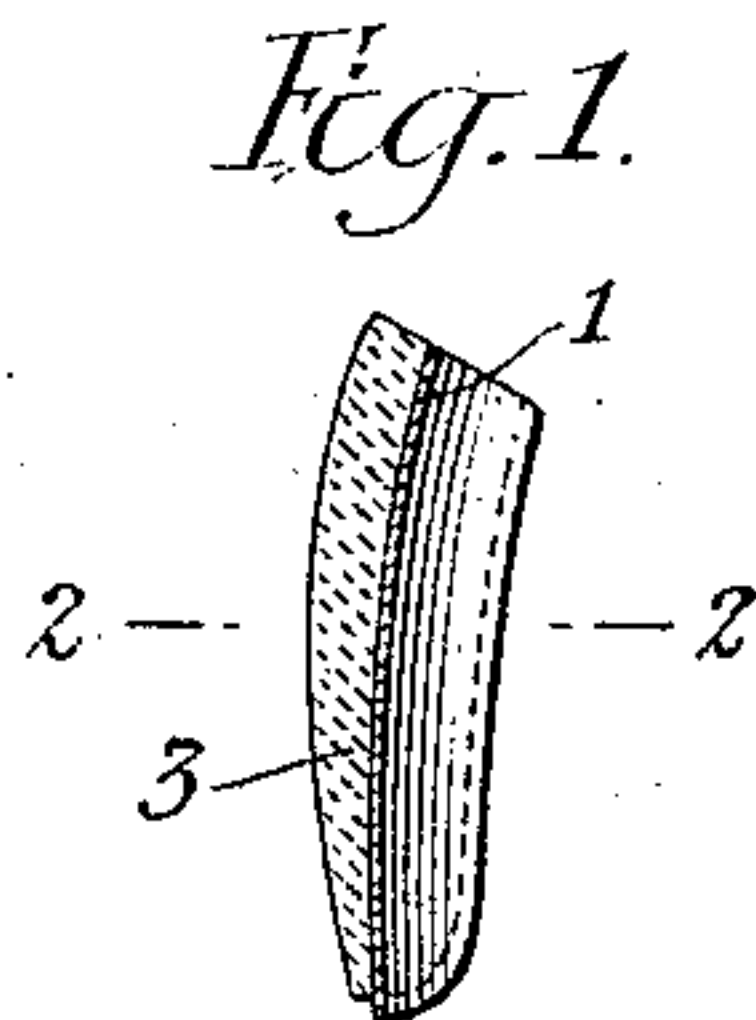


Fig. 4.

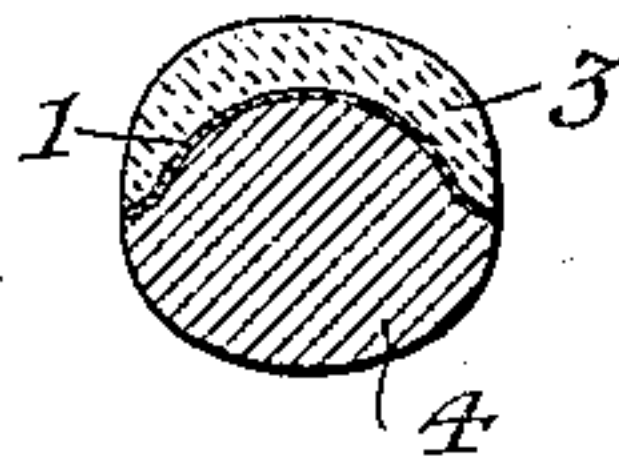


Fig. 5.

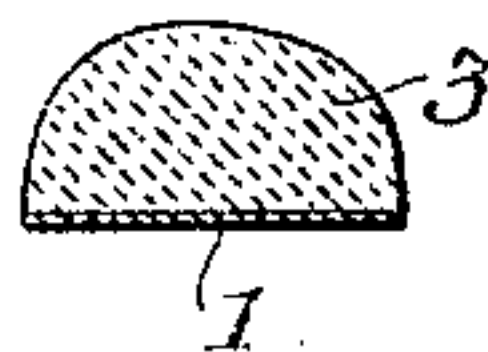


Fig. 6.

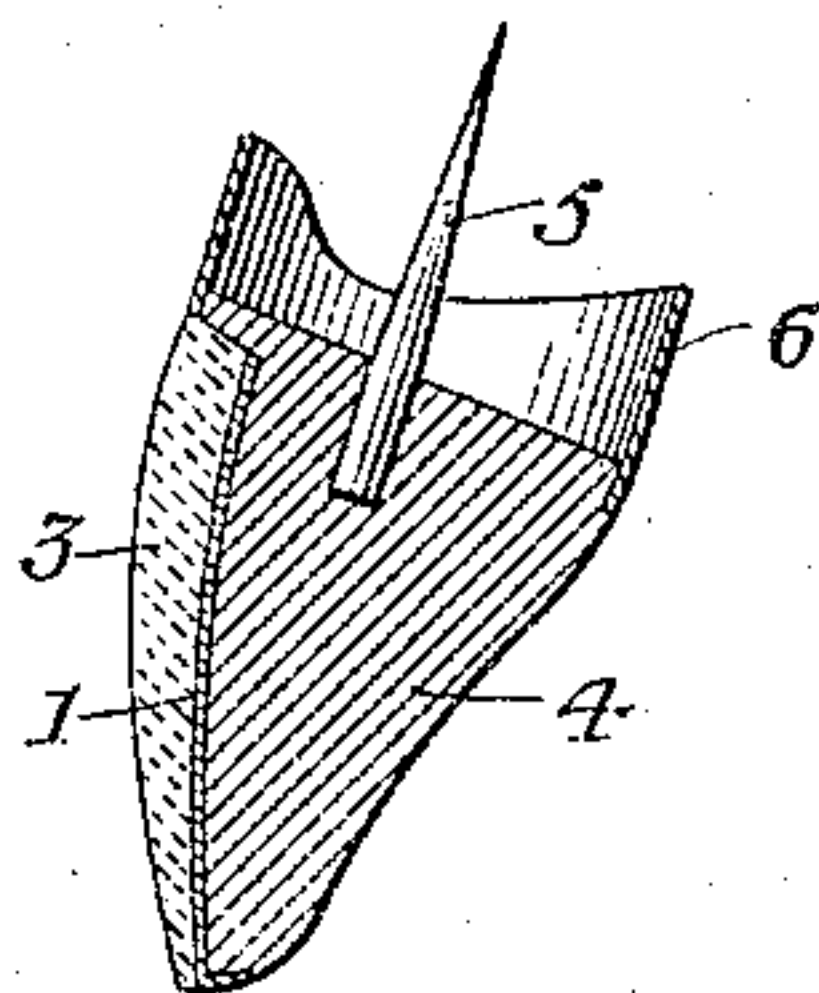
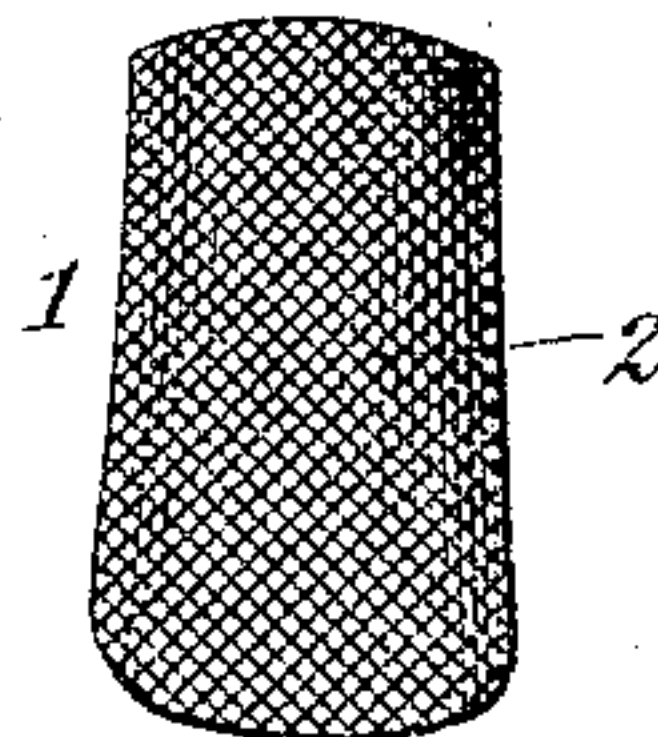


Fig. 7.



WITNESSES:

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ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 772,104, dated October 11, 1904.

Application filed December 12, 1903. Serial No. 184,957. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. KÜSEL, a citizen of the United States, residing at Devon, in the county of Chester and State of Pennsylvania, have invented a new and useful Artificial Tooth, of which the following is a specification.

My invention relates to improvements in means for providing porcelain or other similar faces to metallic structures, and is especially adapted for use in connection with artificial-tooth crowns, my object being to secure the porcelain face or other desired face or surface upon a metallic plate, which plate in turn is adapted to be secured to or have secured to it the other portions of a desired structure.

In the accompanying drawings, Figure 1 is a vertical sectional view of the metal plate with the enameled facing suitable for a tooth-crown on the line 1 1 of Fig. 2. Fig. 2 is a horizontal section of the same. Fig. 3 is a horizontal section with the balance of the tooth-crown filled in. Fig. 4 is a similar view as that shown in Fig. 3 with a variation in form of metal plate. Fig. 5 is a similar view with a straight metal plate instead of a concave one. Fig. 6 is a vertical sectional view of the finished tooth-crown. Fig. 7 is an elevation of the metal plates, showing cross-hatching for more efficient engagement with the enamel.

Similar numerals refer to similar parts throughout the several views.

My invention is particularly useful in connection with the construction of crowns for artificial teeth.

A usual method of providing tooth-crowns with porcelain surfaces has been to employ metallic pins embedded in said porcelain, to which pins is secured the structure carrying the band or socket. These pins to have a sufficient hold must of necessity be embedded into a considerable mass of enamel, from which it follows that the enamel crowns must be of considerable thickness, so thick and massive, in fact, that they must invariably be ground down and cut out to make room for the pin and other portions of the structure which cooperate in the formation of the com-

plete crown. Another method for providing enamel faces to porcelain crowns has been to fuse the porcelain upon the perforated surface of a complete hollow metallic crown. This method obviously implies that such crown must be especially constructed for its specific or individual case. The purpose, therefore, of my invention is to obviate some of the objections in both of the methods above alluded to.

I provide a thin metallic plate 1, preferably of metal melting only at a very high temperature. When intended for tooth-crowns, it may be desirable to shape this plate as nearly as possible to correspond to the front dimensions of the visible portion of the crown. I serrate, corrugate, or cross-hatch the outer or convex surface 2 of this plate—for example, as shown in Fig. 7—then apply a thin coating 3, of enamel or similar material, upon this convex surface of the plate, and then subject the same to a heat sufficient to fuse the enamel to the metallic plate 1. Into the concave side of this plate 1 may be formed the body 4 of the crown, composed of solder or other desired material, to which may be secured also the pin 5 for insertion in the root of the tooth and the band or socket 6 for surrounding said root of the tooth. In other words, this enamel-faced metallic plate 1 is readily adapted to have the pin 5 and the band 6 secured directly and firmly to it without the intermediate steps of first securing the metallic plate 1 to the enameled front 3 by means of pins embedded in said enamel, which must in turn be soldered to the metallic plate. Furthermore, the necessity is avoided of cutting or grinding away a large portion of said enameled crown to make room for the pin 5 and other structure to be added thereto. This is because the metallic plate 1 can be formed concave and of the desired dimensions and then treated with an extremely thin coating of enamel or other facing material, so that ample space is left for filling in with the body 4 of the crown and securing thereto the pin 5 and the band 6, if such is required.

As shown in Figs. 2 and 3, the metallic plate 1 may be made of greater dimensions

than the enamel facing 3, so that the ends 7 and 8, which project from either side of the enamel 3, may be caused to embrace the body 4, as shown in Fig. 3. Of course in some cases these corresponding ends 7 and 8 may be omitted—for instance, as shown in Fig. 4—and there may be cases in which it is desirable to have the plate 1 straight and flat, as indicated in Fig. 5, instead of in the concave form.

For the purpose of securing a more substantial and efficient coöperation between the metal and the enamel, porcelain, or other similar material I may corrugate or in any other suitable way roughen the surface of the metal plate to which the porcelain or enamel is secured. A cross-hatching is indicated at 2 in Fig. 7.

An especial advantage of my invention as above described is that the porcelain or enamel coated plate may be made in great numbers and in various shades of color and irrespective of any specific work or case—that is, said enamel or porcelain coated plates are adapted to be applied to a variety of dental work without being made specially for any particular case—that is, they are adapted to be secured to crowns, bridgework, or any other

artificial denture requiring the application of an enameled surface to a metallic body or base.

While I have described my device as applied to the construction of artificial-tooth crowns, it is obvious that the invention may be readily applied to other structures comprising a metallic plate faced with porcelain, enamel, or other similar material to which other portions of the desired structure may readily be secured.

What I claim is—

1. An article of manufacture consisting of an artificial-tooth structure comprising a thin metallic plate having a facing of enamel or other similar material fused to one side thereof and adapted to be secured to a supporting dental structure.

2. An artificial-tooth structure comprising a thin metallic plate having a facing of enamel or other similar material fused to one side thereof, and a solid metallic body portion secured to the other side thereof.

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Witnesses:

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