

J. KOHN.
 PROCESS OF PLACING ANCHORS IN ARTIFICIAL TEETH.
 APPLICATION FILED DEC. 18, 1912.

1,056,427.

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FIG. 1.

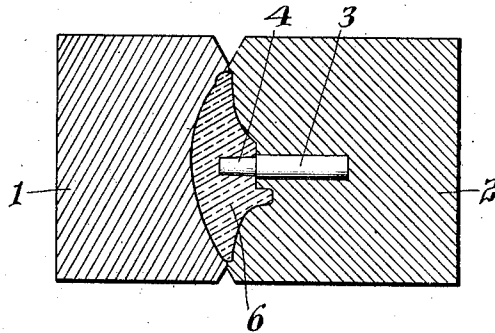


FIG. 2.

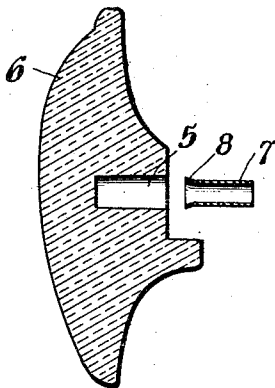


FIG. 3.

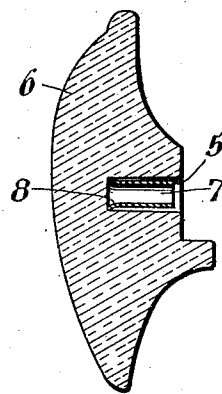


FIG. 6.

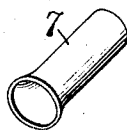


FIG. 4.

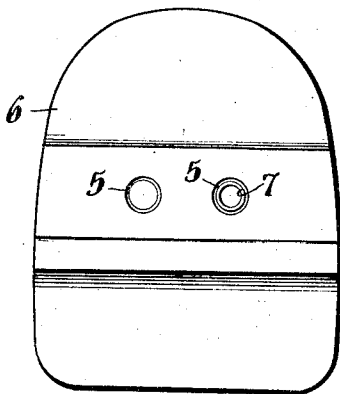


FIG. 7.

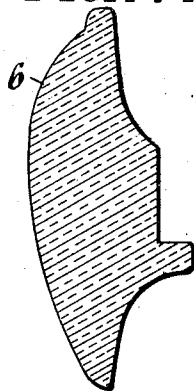
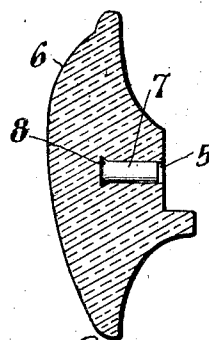


FIG. 5.



WITNESSES

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PROCESS OF PLACING ANCHORS IN ARTIFICIAL TEETH.

1,056,427.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed December 18, 1912. Serial No. 737,365.

To all whom it may concern:

Be it known that I, JOSEPH KOHN, a citizen of the United States, residing at 2204 Natrona street, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Process of Placing Anchors in Artificial Teeth, of which the following is a specification.

The purpose of my invention is to insure the accurate placing of an anchor within an artificial tooth.

A further purpose of my invention is to avoid glazing the soldering surface of the anchor during burning.

A further purpose of my invention is to reduce the skill and care needed in the molding of soldered pin teeth.

I have preferred to illustrate my invention in connection with the form of structure shown in the drawing, which is simple, effective and relatively inexpensive and which at the same time well illustrates the principles involved.

Figure 1 is a transverse section of a mold and post with tooth in place. Fig. 2 is a longitudinal section of a biscuited tooth with an anchor in position for placement therein. Fig. 3 is a section corresponding to Fig. 2, with the anchor in place. Fig. 4 is a rear elevation of a tooth with an anchor in position in one of the two holes shown. Fig. 5 is a section corresponding to Fig. 3 but after burning. Fig. 6 is a perspective view of a preferred form of my anchor. Fig. 7 is a transverse section of a solid tooth.

In the manufacture of artificial teeth intended for use with soldered pins, it has been the usual practice to insert the infusible metallic anchor by which the pins are ultimately to be retained, and to which they are to be soldered, by supporting the anchor upon the post by which the cavity is formed and molding the tooth about this post and anchor. The teeth are subsequently dried or "biscuited" and then burned. Whatever the character of anchor used, it has been difficult, if not commercially impracticable, to uniformly retain the anchors upon the posts in the exact position desired. They are at times displaced, either because of initial accidental displacement upon the post itself, or because of variation in the distribution of the material in the two halves of the mold before the halves are

pressed together. This has led to occasional displacement angularly with respect to the post and consequently to the cavity and also, at times, has resulted in some of the material from which the tooth is formed being forced over that surface of the anchor, to which the pin is ultimately to be soldered, glazing this surface when the teeth are burned. When either displacement or glazing of the anchor has taken place, the pin cannot be fitted properly to the anchor and effective soldering is difficult or impossible.

I have discovered that it is not necessary to place the anchor within the tooth at the time the tooth is molded, but that it can be placed in subsequently with greater accuracy and that the anchor will be firmly retained by reason of the contraction of about one fifth in the size of the tooth during the process of firing or burning.

In Fig. 1, I show the ordinary form of upper and lower molds 1 and 2, with a post 3, in this case provided with an end 4 of such a character as will produce any form of cavity 5, in the tooth 6, which may be desired for the type of anchor to be inserted subsequently. It will be noted that, by my process, the anchor is not placed within the cavity during the molding operation, but after the tooth has been dried out or biscuited, at which time it may be removed from the mold and handled freely. After the biscuiting, I insert an anchor 7 of any suitable character, which I have preferred to illustrate here as of tubular form, slightly flared at 8. It is obviously not essential that this be tubular and it can be retained in place without flaring, but this represents the most desirable form which I have used. I insert the anchor by any appropriate tool, so forming the cavity and anchor that the anchor will be frictionally retained in position, when it has been pressed to place. I have shown my preferred form of anchor so retained in place in Fig. 3 and have shown one such anchor in place in Fig. 4, the other cavity being shown empty and in tapered form, to permit withdrawal of the post 3. This tapering is of course not essential to the placing of the anchor.

I retain my anchor, of whatever character, in position permanently by the contraction of the material of the tooth about it during the burning operation showing my preferred anchor so retained in Fig. 5.

The contraction of the tooth about the anchor is sufficient to retain a tubular insert by friction alone, even without the flare and whether the material about the opening
5 be glazed by the heat or not; and the flare shown is used out of excess of caution only and so that frictional support may be had with the side of the cavity before firing, without corresponding friction of the sides
10 of the tube with the sides of the opening when the anchor is being inserted.

It will be seen that my process is independent of the exact time at which the anchor is inserted, provided it be subsequent to the initial molding operation and that the
15 insert be retained by the contraction of the tooth. It will be seen also that my invention is basically independent of the manner in which the openings are formed in the
20 teeth. While I have shown and described as my preferred form the production of these openings as part of the molding operation, it is obvious that they might be

formed in other ways and that the tooth structure may be molded and biscuited, as
25 seen in Fig. 7, without openings, and that an opening or openings, such as 5, whether tapered or otherwise, could be drilled therein subsequent to the biscuiting. My invention is therefore independent of the time or
30 manner of forming the openings, provided a biscuited tooth having openings be produced.

Having thus described my invention, what I claim as new and desire to secure by
35 Letters Patent is:

The process of placing anchors within artificial teeth, which consists in producing
biscuited teeth each having an opening, subsequently inserting an anchor within the
40 opening and afterward firing the teeth.

JOSEPH KOHN.

Witnesses:

THOS. D. MOWLDS,

HELEN I. KAUFFMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."