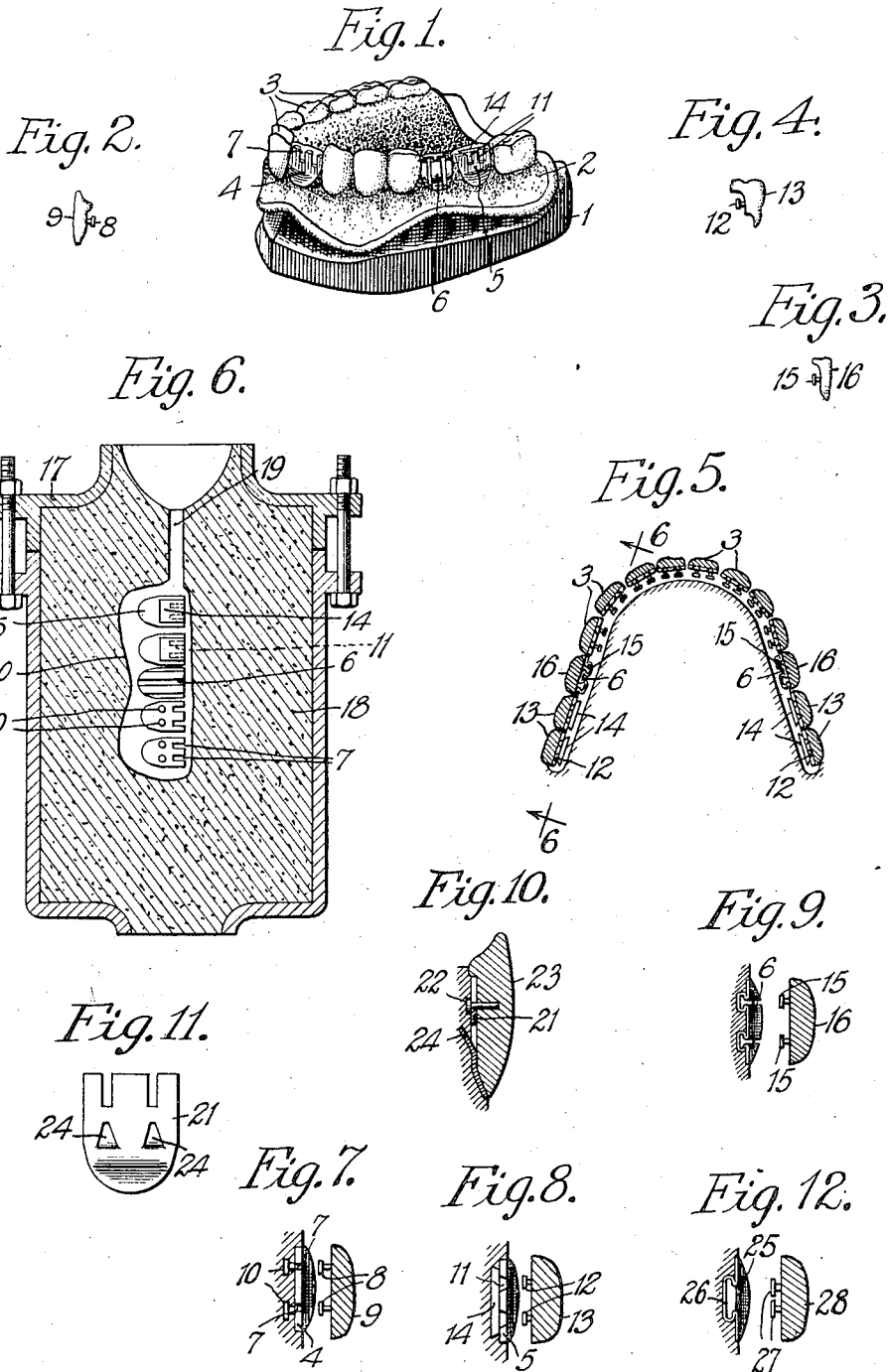


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ARTIFICIAL TEETH.
APPLICATION FILED JAN. 3, 1911.

1,036,562.

Patented Aug. 27, 1912



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANCIS A. CARTER, OF CHICAGO, ILLINOIS.

ARTIFICIAL TEETH.

1,036,562.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed January 3, 1911. Serial No. 600,414.

To all whom it may concern:

Be it known that I, FRANCIS A. CARTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Artificial Teeth, (Case 3,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to an improved means for use in connection with the construction of cast metal plates for supporting artificial teeth.

By my invention artificial teeth are interchangeably secured to the cast metal plates in such a manner that, if for any reason one of the teeth becomes broken in use, it may readily be replaced by a similar tooth, without remodeling in any way the metal plate or parts permanently carried thereby.

An essential feature of my invention consists in individual backing plates for the several teeth; each backing plate being provided with projections adapted to be engaged and retained by the mounting plate during the casting operation, and conformed also to engage the teeth to hold them properly in position, so that they may be removed subsequently, if necessary, and new teeth applied.

The several drawings illustrating my invention are as follows:

Figure 1 is a perspective view of a model of the patient's mouth and a wax pattern of the plate in place thereon, showing some of the teeth mounted upon the pattern, while others of the teeth have been removed to show the mounting means. Figs. 2, 3 and 4 show side views of the teeth removed from the mounting means shown in Fig. 1. Fig. 5 is a transverse sectional view through the teeth shown in Fig. 1, to illustrate the relation between the teeth, their mounting means, and the wax pattern supporting them. Fig. 6 shows in sectional view, along the line 6-6 in Fig. 5, a portion of the mold made by means of the wax pattern shown in Fig. 1. Figs. 7 and 8 are enlarged transverse sectional views of two of the teeth shown in Fig. 5, removed from their backing plates to more clearly show the construction employed. Fig. 9 shows in a view similar to Figs. 7 and 8 a modified form of backing plate. Fig. 10 is a vertical sectional view through a modified form of

backing plate and tooth, which backing plate is shown in face view in Fig. 11. Fig. 12 shows in a view similar to Figs. 7 and 8 another modified form of backing plate.

Similar numerals refer to similar parts throughout the several views.

In order to clearly show the advantages of my improved construction, it is desirable to consider the manner in which it is used in mounting teeth upon cast metal mounting plates. In doing this a model 1 is first made, as is customary in the art, of the mouth of the patient for whom the plate is to be made. A thin sheet of beeswax 2 is applied to the model 1 and warmed and shaped to closely fit such model, after which the teeth 3, together with their backing plates, are placed in position upon the wax pattern 2, so that they will occlude properly with the teeth of the other jaw. Melted beeswax is applied around the backing plates to build up the pattern 2 and securely hold the backing plates in position.

The backing plates may be of different conformation, as shown at 4, 5, and 6. The construction of the backing plate 4 is shown more clearly in Fig. 7, from which it will be seen that slots 7 are made through such backing plate from its upper edge to receive the heads of the pins 8 extending from the lingual surface of the tooth 9. The backing plate 4 has extending from its lingual surface anchors 10, having enlarged heads to be surrounded by the wax forming the pattern 2, by means of which the backing plate 4 is securely held in position.

The backing plate 5 is shown more clearly in Fig. 8 and is provided with two slots 11, preferably of dove-tailed conformation, extending through the upper edge of the plate, as indicated in Fig. 1, and adapted to receive the heads of the pins 12 extending from the lingual surface of the tooth 13. The backing plate 5 has secured to its lingual surface a second plate 14, the edges of which are beveled as indicated, to afford engagement with the wax of the pattern 2 during the adjusting operation and ultimately to afford engagement with the metal of the mounting plate, so that the backing plate 5 may be securely held in proper position upon such mounting plate. The backing plate 6 is formed, as indicated more clearly in Fig. 9, so that the portion of the backing plate which receives the heads 15 of the pins carried by the tooth 16 consti-

tutes the anchors for retaining the backing plate 6 upon the wax pattern 2 and ultimately for engaging the metal of the cast plate.

5 In Figs. 10 and 11 a modified construction of backing plate 21 is indicated, adapted to engage the pins 22 carried by the tooth 23 in a manner similar to that described above in connection with plate 4. In this
10 modification, however, projecting anchors 24 are cut from the body of the backing plate and bent away from the lingual surface of the tooth to be engaged by the wax of the pattern and ultimately to be surrounded and retained in place by the metal
15 of the cast plate.

In the modification shown in Fig. 12 the backing plate 25 is formed with an anchor 26 in a manner similar to that shown in
20 connection with the backing plate 6 in Fig. 9. The anchor 26 is wider than the anchors shown in Fig. 9, in order that the single slot formed thereby may receive the two pins 27 secured in the tooth 28, since the
25 narrower teeth are not sufficiently wide to space the pins 27 far enough apart to engage separate slots in the backing plate. A backing plate similar to the plate 25 may be used for other arrangements of the pins 27
30 whether they are disposed transversely of the tooth 28 or not.

35 An advantage secured by my improved backing plates is that by means of them it is not necessary to especially construct artificial teeth for use with them, as there are

many forms of teeth on the market particularly adapted for use in the way described above. So far as I am aware I am the first to employ individual backing plates adapted to receive supporting devices carried by artificial teeth, which backing plates are provided with anchoring means to be engaged by the metal of the cast plate to be thereby rigidly secured in proper position. I do not limit myself, therefore, to the particular construction described but desire to claim broadly any equivalent mounting means and also the combination of a base plate and such mounting means.

What I claim is:

1. As a means for supporting an artificial tooth from a cast metal plate, an individual backing plate having a supporting projection and provided with a slot for receiving a pin carried by the tooth.

2. An individual backing plate for artificial teeth comprising a thin piece of sheet metal a portion of which is formed into a supporting projection extending from one face of the piece, the projection thus formed adapted to receive and retain a headed pin carried by a tooth to be supported by such backing plate.

In witness whereof I hereunto subscribe my name this 31st day of December, A. D., 1910.

FRANCIS A. CARTER.

Witnesses:

ALBERT C. BELL,
ROBERT F. BRACKE.