G. W. TODD.

ARTIFICIAL TOOTH.

APPLICATION FILED MAY 15, 1911.

1,005,365. Patented Oct. 10, 1911.

Fig. 1.

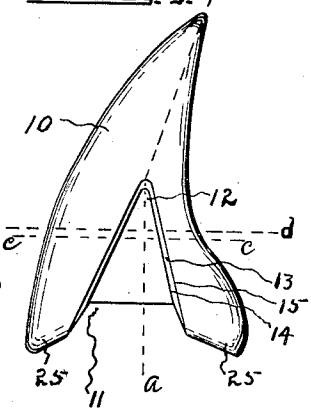


Fig. 2.

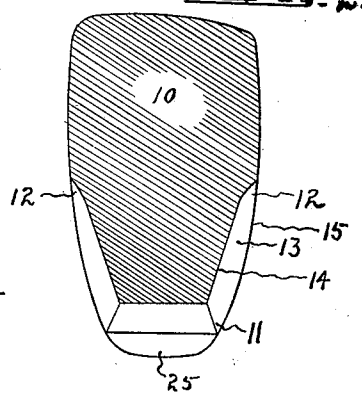


Fig. 10.

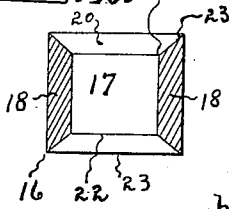


Fig. 3.

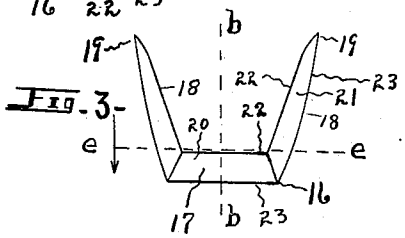


Fig. 5.

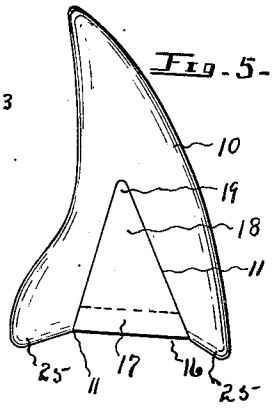


Fig. 4.

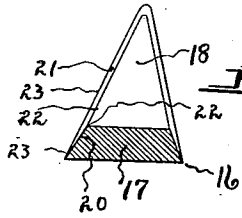


Fig. 6.

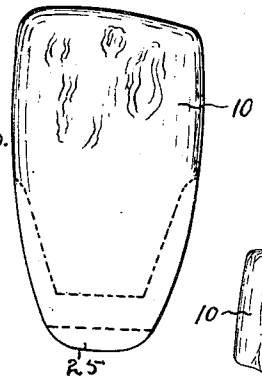


Fig. 8.

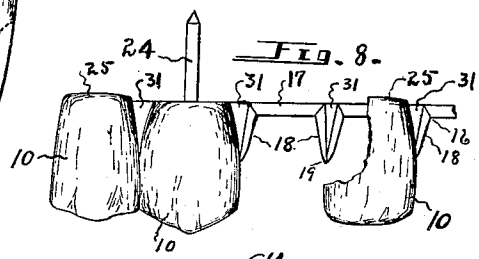


Fig. 7.

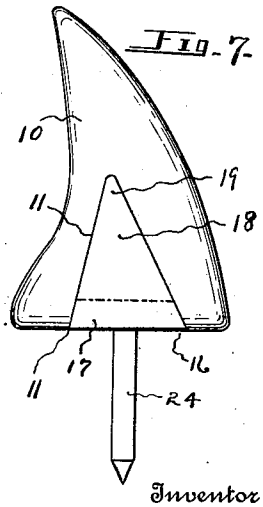
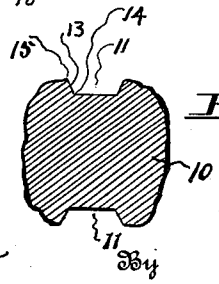


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

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ARTIFICIAL TOOTH.

1,005,365. Specification of Letters Patent. Patented Oct. 10, 1911.

Application filed May 15, 1911. Serial No. 627,309.

To all whom it may concern:

Be it known that I, GEORGE W. TODD, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Artificial Teeth, of which the following is a specification.

This invention relates to improvements in artificial teeth, and has for its object, broadly, to provide teeth which may be used separately or for bridge or plate work, each to consist of a metallic base with prongs and a body-portion or tooth, preferably of porcelain, which may be conveniently mounted therein or removed therefrom.

The invention has especial reference to a construction whereby the posterior as well as anterior parts of the body-portion or tooth may consist of porcelain, this feature being particularly useful in bridge or plate work, since a less quantity of metal is required for the base than has formerly been needed, and the objectionable formation of pockets or recesses at the base of the plate may be avoided.

The invention includes both the metallic base and the porcelain tooth which fits therein, the base providing a housing for a part of the tooth, and so constructed that the tooth will be securely held without the use of pins or lugs.

By use of the herein described tooth for bridge or plate work, the metallic base and prongs are wholly excluded from view, since the porcelain covers their entire front and rear sides. Also in the preparation of bridge work the porcelain teeth are not subjected to the action of heat, as they are not inserted until after the soldering has been completed.

With the objects in view as above outlined and others to be mentioned hereinafter, the invention consists of the novel and useful construction, combination and arrangement of parts as described herein and claimed, and as illustrated in the drawing, wherein,—

Figure 1 is an enlarged side view of a tooth-portion. Fig. 2 is a view in longitudinal section, on line *a a* of Fig. 1. Fig. 3 is a side view of the base. Fig. 4 is an end view of the metallic base sectioned on line *b b* of Fig. 3. Figs. 5 and 6 are, respectively, side and front views of the tooth-portion and base, when assembled. Fig. 7 is a view somewhat similar to that shown in Fig. 5, a pivot being added to the base, the lower terminals of the tooth, in this instance, being formed parallel with the lower wall of the base. Fig. 8 is a detail relating to bridge work, and showing a plurality of bases soldered or secured end-to-end, for a support thereon of the porcelain teeth. Fig. 9 is a transverse section between lines *c c* and *d d* of Fig. 1. Fig. 10 is a transverse section on line *e e* of Fig. 3.

Referring now to the drawing for a more particular description, I provide a tooth-portion 10, preferably of porcelain, which may be of a form to resemble the enameled part of any ordinary tooth, said tooth-portion having a channel 11 substantially of U-shape opening upon its sides and bottom, and formed tapered and divergent in a direction of its terminals 12, said channel preferably having side walls 13 formed inclinedly from their inner edges 14 to their outer edges 15.

While I have mentioned porcelain as preferred, I do not, of course limit myself to the kind of material used for the body of the tooth. The remaining part of the tooth consists of a base 16, comprising a substantially flat body-portion 17 with outwardly projecting prongs 18 formed tapered and divergent in a direction of their terminals 19, the side walls of said body portion and prongs, respectively indicated at 20 and 21, being inclined outwardly from their inner edges 22 to their outer edges 23.

As thus described, the base member is substantially of U-shape, and while it may be constructed of various kinds of metal, I have employed gold to advantage. In some instances pivot-posts 24 are used, and are secured between the ends and project outwardly of body portions 17.

In practice, the tooth-portion 10 may be mounted between the prongs of the base-member and the inclined side walls of its channel may be seated upon the inclined side walls of the prongs and base; and, on account of the construction and relation of parts, a sidewise movement of the tooth-portion, with reference to the base, will be prevented. Cement is used between the parts, as in other cases, but, to prevent a rocking movement, the construction does not depend upon cement, lugs or pins, but rather upon the fact that the base and its prongs engage within the channel.

While the preferred construction is to employ the inclined side walls for the channel and base, the prongs may be securely held in

the channel without such inclination, and, therefore, I do not limit myself to the use of the inclined side walls mentioned.

On account of the outward divergence of the channels and prongs, the parts may be more conveniently assembled when mounting the porcelain part between the prongs; and where it is desired to remove the porcelain part from the base, such removal may be more conveniently effected by reason of the divergence mentioned; but the artificial tooth would be useful and the parts would be operative, in a measure, without this divergence, and therefore I do not limit myself to a divergently formed channel or divergently formed prongs.

It will be noted (Fig. 5.) that, when the parts are assembled, projections 25 of the tooth-portion extend outwardly or beyond the bottom and at each side of the base. This is a desired construction. No part of the metal composing the base or prongs is visible from the front or rear, when the parts are assembled, since the base and prongs are housed within the tooth portion, and the side walls of the prongs are disposed flush with the sides of said tooth-portion.

The use of the artificial teeth for bridge work is very convenient, for the reason that the teeth may be assembled readily side-by-side. When so disposed, the metallic prongs will be disposed adjacent to each other and solder 31 is used between the prongs and between the ends of the bases.

In practice, for bridge work, the bases are first secured together, end-to-end by use of the solder, and the porcelain teeth are then inserted, the prongs and base providing a saddle for a mounting of each tooth, and the porcelain is not subjected to any action of the heat. The arms of the U-shaped channel may have any desired length, the arms of the U-shaped base or support, of course, having a corresponding length. By this construction the teeth are especially adapted for bridge work, for the reason that the comparatively long, adjacent arms provide adequate surfaces, longitudinally of each tooth, for the application of solder, and when the bridge is completed, it will therefore sustain stresses and strains to advantage.

Having fully described my invention, what I claim and desire to secure by Letters Patent is,—

1. In combination with a tooth formed with a channel opening upon its bottom and two of its sides, a base adapted to have a mounting in the channel of said bottom and provided with prongs engaging in said channel at the sides of the tooth, the front and rear parts of said tooth at its bottom overhanging and projecting beyond said base.

2. In combination with a tooth formed with a bottom groove and with uniformly divergent grooves at its sides extending outwardly from the bottom groove, a base adapted to have a mounting in said bottom groove and provided with uniformly divergent prongs adapted to engage in the grooves at the sides of the tooth, the front and rear parts of the tooth at its bottom overhanging and projecting beyond said base.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE W. TODD.

Witnesses:
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ALICE F. NELSON.