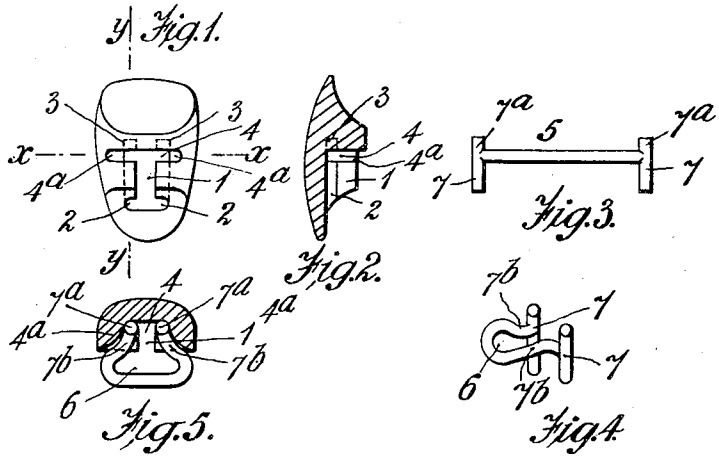
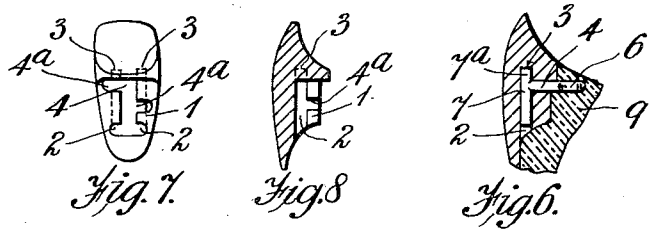
T. GOODHUGH.

ARTIFICIAL TOOTH.

APPLICATION FILED JULY 22, 1912.

1,042,105. Patented Oct. 22, 1912.





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ARTIFICIAL TOOTH.

1,042,105. Specification of Letters Patent. Patented Oct. 22, 1912.

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To all whom it may concern:

Be it known that I, THOMAS GOODHUGH, a subject of the King of Great Britain and Ireland, and resident of Brockley, London, England, have invented certain new and useful Improvements in Artificial Teeth, of which the following is a specification.

The present invention relates to the manufacture of artificial teeth and has for its object an improvement in the method of mounting or attachment of the teeth to the vulcanite or other base plate or denture.

In that surface of the tooth which is to be applied to the base plate I form a rectangular groove and I undercut each of the two longitudinal walls of the groove with a channel sufficiently deep to contain the wire post hereinafter mentioned. One end of the groove and the channels is open, and at the other end a hole may be bored into the substance of the tooth opposite to the end of each channel and in continuation therewith, so that the wire post when thrust along the channel from the open end will find its way into the hole. At right angles to the groove and channel beforementioned and extending across the same preferably near to one end and at the same depth, I cut another and narrower groove. The wire loop by which the tooth is to be attached to the base plate is constructed in the following way. A single open loop of wire has attached to the extremity of each leg of the loop and at right angles thereto a straight wire post so as to form a T-shaped junction therewith, the two legs of the loop being in one plane, the posts being parallel to one another and in a plane at right angles to the loop. The posts are now thrust along the channels beforementioned so that the ends enter the terminal holes, the legs of the loop being bent beforehand so as to allow them to travel up the middle of the groove. When the legs arrive in alinement with the transverse groove, the loop is flattened or pressed inward so as to cause the legs to separate and enter the openings to the transverse groove, which they fit, and the wire is thus locked in position.

The grooves may be filled up with the soft material used for the base plate and the projecting loop is embedded in the substance of the base plate and secures the tooth in position.

The invention is illustrated by the accompanying sheet of drawings in which:—

Figure 1 is a rear elevation and Fig. 2 a vertical section of a tooth constructed in accordance with the present invention. Fig. 3 is a view of a blank of which the locking pin is formed. Fig. 4 is a view of said pin when formed. Fig. 5 is a horizontal section on line x, x of Fig. 1, but showing the locking pin in position. Fig. 6 is a vertical section on line y, y of said Fig. 1, locking pin in position. Figs. 7 and 8 are rear elevation and vertical central section illustrative of a narrow tooth constructed in accordance with the invention.

Like numerals of reference indicate corresponding parts in the several figures.

In carrying the invention into effect, that surface of the tooth which is to be applied to the base plate or denture is formed with a rectangular groove 1—Figs. 1, 2, 5, 7 and 8—having each of the two longitudinal walls thereof undercut with a channel 2 of sufficient depth to contain the wire posts or post tags of the locking pin hereinafter mentioned. One end of the groove and channel is open, and at the other end a hole 3 is bored into the substance of the tooth opposite to the end of each channel 2 and in continuation or alinement therewith, so that the wire posts or post tags of the locking pin when thrust along the channels 2 from the open ends thereof will find their way into the aforesaid holes 3. This pair of holes while not essential to my invention is an advantageous way of carrying the same into effect.

At right angles to the groove 1 and channels 2 beforementioned and extending across the same, preferably near to one end (the end remote from the open end) and at the same depth, is formed another and narrower groove (a locking groove) 4 from which extends the loop of the locking pin by which the tooth is to be attached to the base plate.

The locking pin is constructed in the following way:—A wire blank or stamping 5 of the shape shown in Fig. 3 is bent to form—as in Fig. 4—a single open springy loop 6 provided at the extremity of each leg and at right angles thereto with a straight portion, post or post tag 7, making a T-shaped or approximately T-shaped junction piece, the legs 7^b of the loop 6 being in one plane and the posts or tags 7 parallel to

one another and in a plane at right angles to said loop 6.

A pin of the above construction is secured to the tooth by passing the posts 7, loop outward, along the channels 2 beforementioned till the ends 7^a of said posts enter the terminal holes 3—see Fig. 6—the legs 7^b of the loop 6 being bent beforehand to allow them to travel up the middle of the rectangular groove 1. On the legs and with them the loop 6 arriving in alinement with the transverse groove 4, said loop 6 is flattened or pressed—as in Fig. 5—causing the legs 7^b to separate and enter the openings or cut-away portions 4^a of said transverse groove, which they fit, and the pin is thus locked in position.

The tooth is now secured to the base plate or denture by embedding—Fig. 6—the loop 6 of the pin in the material 9 of said base plate or denture, said loop being left at right angles to the post or bent upward or downward to suit requirements, the grooves in the tooth being filled up, if desired, with the substance of the base plate or denture or with any other suitable material.

In some cases, and this applies more particularly to narrow teeth, the opening and cut-away locking portions 4^a may be arranged otherwise than previously described in order more especially to obviate the liability of the tooth breaking across the transverse groove owing to the weakness of the tooth at that part, and such an arrangement is shown in Figs. 7 and 8 (a narrow tooth), and from an inspection of said Figs. 7 and 8 it will be seen that the locking portions 4^a instead of being arranged opposite one another are now arranged at different levels, and to meet this constructional alteration it will be understood that the loop 6 of the pin will be inclined to the post but yet still at right angles to the same and that the legs 7 of said loop when flattened will engage in the locking portions 4^a in the manner previously set forth and that as in the previous case said loop may be bent upward or downward to suit requirements. An advantage obtained by this method of attachment or mounting is that a cheap or base metal may be employed for the pin or loop, and further that the double shaped pin prevents the tooth from moving.

Although the pin has been described as formed from a blank or stamping, yet said pin may be otherwise formed; for instance, from a length of wire bent to form the loop and with the posts or post tags, which may be either solid or hollow, soldered or otherwise secured thereto so long as the loop is provided with T or approximately T-shaped ends.

Having now described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

A fixing for artificial teeth consisting of the combination of an undercut groove on the inner surface of the tooth and a transverse groove or grooves issuing from each side of the same and at right angles thereto, together with an open loop of wire with posts fastened at right angles to its extremities, the posts being adapted to be inserted one at each side of the undercut groove, and the portions of the loop nearest to the posts being adapted to enter the limbs of the transverse groove for the purpose set forth.

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

THOMAS GOODHUGH.

Witnesses:
BENJ. THOS. KING,
ROBT. HUNTER.