

J. W. IVORY.
ARTIFICIAL TOOTH.
APPLICATION FILED AUG. 22, 1908.

911,398.

Patented Feb. 2, 1909.

Fig. 1.

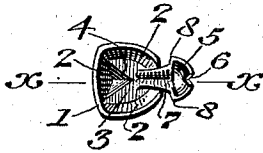


Fig. 2.



Fig. 3.



Fig. 6. Fig. 5. Fig. 4.

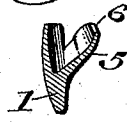
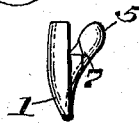
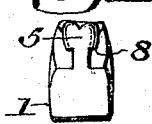


Fig. 9. Fig. 8. Fig. 7.

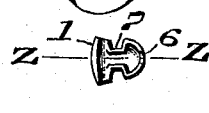
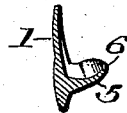
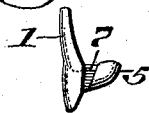
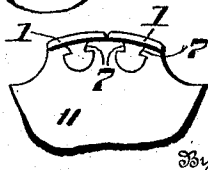


Fig. 10.



Witnesses
P. F. Nagle.
L. Douville.

Inventor
James W. Ivory.
Wiedersheim & Fairbanks.
Attorneys

UNITED STATES PATENT OFFICE.

JAMES W. IVORY, OF PHILADELPHIA, PENNSYLVANIA.

ARTIFICIAL TOOTH.

No. 911,398.

Specification of Letters Patent.

Patented Feb. 2, 1909.

Application filed August 22, 1908. Serial No. 449,813.

To all whom it may concern:

Be it known that I, JAMES W. IVORY, a subject of the King of Great Britain, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Artificial Tooth, of which the following is a specification.

This invention relates to the setting of artificial teeth and has for an object to securely anchor such teeth in the supporting plate in a manner to insure the same against displacement in any direction.

It is well known that owing to the small available surface for fastening artificial teeth to a plate, that the means employed at present give very unsatisfactory results, and the teeth become loosened or displaced. By my novel means an interlocking is secured between each tooth and a plate, which advantageously coöperates with a sufficient portion of the plate surface to make possible a permanent fastening for each tooth and prevents displacement in any direction.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings a general form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a plan of a tooth embodying my invention. Fig. 2 represents a side elevation of the same. Fig. 3 represents a section on line *x-x*, Fig. 1. Fig. 4 represents a plan of the same. Fig. 5 represents a section on line *y-y*, Fig. 4. Fig. 6 represents a side elevation of a tooth embodying a modification of my invention. Fig. 7 represents a plan of an incisor tooth embodying a modification of my invention. Fig. 8 represents a section of the same on line *z-z*, Fig. 7. Fig. 9 represents a side elevation of the same. Fig. 10 represents a

portion of a plate with the teeth in position. Fig. 11 represents a rear view of an incisor tooth.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—1 designates the body portion of an artificial tooth embodying my invention the same being hollow for the reception of the material which forms the plate for the artificial denture. The interior of said portion 1 of the tooth is provided with inclined sides 2 converging to the bottom 3, which latter is provided with a suitably shaped depression 4, serving the purpose of an anchorage for the plate material.

5 designates the projecting nodular portion formed integral with the body portion 1 of the tooth and of the same material, the function of which is to act as an interlocking means for holding the tooth securely in the plate and is adapted to be embedded in the material of the plate itself. The projecting nodular portion 5, in the present instance, is cup shaped and hollowed out to provide for the reception of the plate material, and in addition has a nick 6 into which the plate material enters to prevent lateral displacement.

7 designates a converging dovetail on both sides of the projection 5 at a point where the body and nodule join. The body 1 has interior sloping sides to a groove forming a communication between the hollow portion of the nodule projection 5 and the interior of the tooth proper joining with grooves in the body of the porcelain leading into the converging dovetail slots in the sides of the nodule projection 5. Side extensions 8 are formed on the nodule projection 5, and extend laterally from the neck 7 in order to provide strength to the nodule and depth to the wall as a retention for rubber with- in this nodule projection. As a further securing means apertures 9 may be formed in the sides of the body to allow the plate material to be forced therein.

10 designates a recessed portion of one of the sides 2, whereby an overhanging lip is provided as fastening means, preventing vertical displacement of the tooth. It will be noted that the nodule projection 5 ex-

tends rearwardly from the lingual side of the artificial tooth and is inclined relative thereto, whereby the lower part of the tooth is substantially cup shaped, forming a depression from the anterior to the distal sides, thus providing a saddle for the alveolar ridge.

The upper surface of the projection 5 is substantially continuous with the biting or incisive edge or grinding surface of the tooth and slants off to the palatal ridge of the mouth. Of course it will be understood that for the different teeth a somewhat different pitch will necessarily have to be given to the projection 5 in order that it will correctly assume a position relative to the cooperating ridge of the mouth.

The projecting nodular portion 5 is somewhat half spherical on its exterior surface forming a converging face or an inclined outer surface around which the plate material flows in an interlocking manner, this together with the notch 6 and converging grooves 7 help to hold the tooth firmly embedded in the plate material.

It will be apparent that when the artificial teeth have been set in the plate 11, as shown in Fig. 10, that the lateral grooves formed by the side extensions 8 securely retain the teeth in position while the irregular shaped interior of the tooth with all portions of which the channel in the converging dovetail grooves on either side of the projecting nodular communicates with the channel in the body and forms a substantial and permanent setting for the teeth. As a further securing means, the portion 10 is well adapted to prevent vertical movement and the entire tooth is securely interlocked with the plate.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what

I claim as new and desire to secure by Letters Patent, is:—

1. In a tooth, a body portion a neck, and a cup-shaped nodular projection integral therewith facing the concavity of the tooth cooperating with a plate to prevent displacement of said body portion.

2. In a tooth, a body portion a neck, and a nodular projection integral therewith said projection being cup shaped and having side extensions thereon to prevent displacement of said body portion.

3. In a tooth, a body portion, a neck extending rearwardly from the inner side of the tooth, a projection integral therewith and means on said projection cooperating with the plate to prevent displacement of said body portion.

4. In a tooth, a body portion, a nodular projection integral therewith being cup shaped and having a nick to prevent displacement of said body portion.

5. In a tooth, a body portion, inclined sides therein, a bottom therefor having a recess and an integral cup-shaped nodular projection extending therefrom with inclined sides and recess to form a locking means for the tooth with a plate.

6. In a tooth, a body portion, a projection integral therewith and projecting rearwardly from the inner side of the tooth, side extensions on said projection forming a neck, and grooves in said neck cooperating with said body portion to interlock said body portion with a plate.

7. In a tooth, a body portion, a projection integral therewith and projecting rearwardly from the inner side of the tooth, side extensions on said projection forming a neck, and grooves in said neck cooperating with said body portion to interlock said body portion with a plate.

8. In a tooth, a body portion, and an integral nodular projection having an inclined outer face and a hollow internal portion facing the concavity of the tooth.

9. In a tooth, a body portion, an integral nodular projection having an inclined outer face, a hollow internal portion, and converging dovetails on the sides of the face.

JAMES W. IVORY.

Witnesses:

C. D. McVAY,
F. A. NEWTON.