

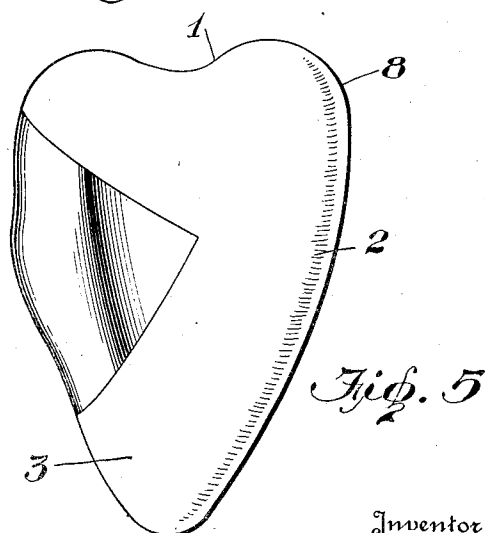
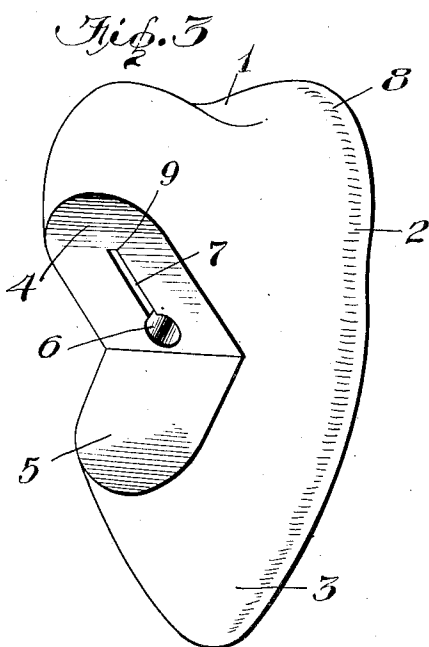
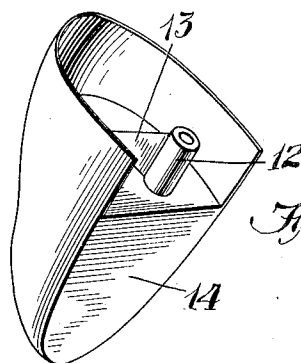
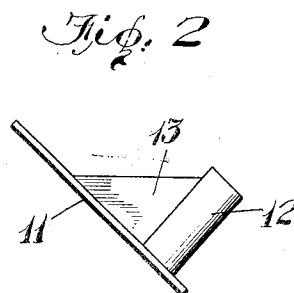
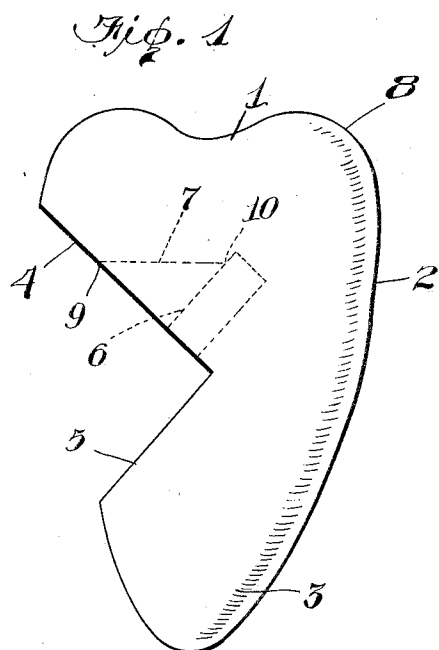
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PORCELAIN ROOT TEETH

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UNITED STATES PATENT OFFICE.

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PORCELAIN-ROOT TEETH.

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The object of my invention is to provide an interchangeable posterior all porcelain cusp artificial porcelain root tooth in combination with a backing.

Hitherto the dentist has been obliged to use gold as a masticating surface when making use of the artificial porcelain root in the posterior region. The gold cusps are very unsightly.

For esthetic reasons, this tooth is highly desirable, it having porcelain for a masticating surface, said tooth further having as an integral part an artificial porcelain root. The said root either to be placed in the socket (alveolus) where a natural tooth has been recently extracted, or to be placed in contact with the edentulous portion of the ridge where the natural teeth have been extracted a longer period of time and the soft tissues have healed over the bony structures. The said artificial porcelain root being highly glazed and of such contour as to substantially eliminate particles of food debris and calculus deposits from gathering about the gum tissues, thus producing a sanitary bridge and one which is highly advantageous for its physiological function. Further each tooth is ground to standards of dimension on its attachment surfaces making all the teeth interchangeable with each other on the metal backing.

In the drawings:

Figure 1 is a side elevation of a tooth embodying my invention,

Fig. 2 is a side elevation of a backing for said tooth,

Fig. 3 is a perspective view, from the lingual aspect, of Figure 1,

Fig. 4 is a perspective view of the backing with boxing effect and soldered or cast lingual restoration, and

Fig. 5 is a side elevation of the assembled tooth.

The masticating surface or cusp 1 is made of porcelain and is an integral part of the tooth, and has the buccal face 2. The root 3 may be either conical in shape or hollowed out saddle shaped, as will be understood. On the lingual side of the tooth is a flat base 4 extending the full width of the tooth in one dimension and extending from the lingual surface of the lingual cusp in a buccal and gingival direction until it inter-

sects in a line angle another plane 5. Said plane 5 being preferably at right angles to the base 4 and extending gingivally. In the base 4, centrally disposed from the proximal sides of the tooth, and near the line angle formed by the intersection of the base 4 and the plane 5 is a post hole 6. Said post hole 6 is preferably circular in cross section and of one diameter throughout its entire length, and is disposed at an angle to the flat base 4 and extends into the body of the occlusal portion of the tooth substantially toward the crest of the buccal cusp 8. The slot 7 in longitudinal section resembles a triangle to a certain degree, one leg 9 of which approximately bisects the base 4 and extends from the post hole 6 to a point 9 on the base 4 a perceptible distance from the lingual termination of the base 4. The other leg of the triangle coincides with the wall of the post hole 6 and extends inward to a point 10 a slight distance short of the inner end or termination of the post hole 6. The hypotenuse of the triangle joins the two points, said points being the extreme end of the legs of the triangle.

The slot 7 is of less diameter than the post hole 6, its lateral walls being substantially parallel. Said slot 7 throughout its entire length opens onto the base 4 on one leg and extending inwardly communicates throughout its entire length with the post hole 6 on the other leg.

The metal backing consists of a rectangular or square flat portion 11, a post 12 and a rib 13, said rib being an integral part of the post, each, the post 12 and rib 13 being shaped as to fit respectively into the post hole 6 and slot 7 of the tooth, said post and rib riveted and soldered or otherwise secured to the flat portion 11. In Fig. 4 I have shown the backing with boxing effect and soldered or cast lingual restoration 14.

What I claim is:

1. An interchangeable tooth including a porcelain masticating surface and a porcelain root and having a flat base ground at an angle divergent to the plane of the masticating surface, and having a longitudinal recess therein arranged at an angle to the base of the masticating surface and a slot of less diameter than the recess opening the latter perpendicularly to the plane of grind-

ing to a point near the lingual termination of the plane of grinding, and a flat unbroken plane on the root at substantially right angles to the flat base and extending from said base gingivally.

2. An artificial tooth having a porcelain masticating surface and a porcelain root and having a flat base at an angle divergent to the plane of the masticating surface from the lingual aspect of the tooth meeting a second plane at substantially right angles thereto and extending lingually, a tubular post hole perpendicular to the flat base and disposed in said base, a slot of less diameter than the post hole opening the post hole vertical to the flat surface of the base to a point near the lingual surface of the masticating surface.

3. An artificial tooth having a porcelain masticating surface and a porcelain root and having a flat base at an angle divergent to the plane of the masticating surface from the lingual aspect of the tooth meeting a second plane at substantially right angles thereto, said second plane having an uninterrupted surface throughout its area, a tubular post hole perpendicular to the flat base and disposed in said base, a slot of less diameter than the post hole opening the post hole vertical to the flat surface of the base to a point near the lingual surface of the masticating surface, and a backing complementary with said tooth.

4. An artificial tooth including a porcelain masticating surface and a porcelain root and having a flat base at an angle divergent to the plane of the masticating surface from the lingual aspect of the tooth, meeting a second plane at right angles thereto and divergent to the buccal face of the tooth, a post hole perpendicular to said flat base and disposed therein, a slot opening from the recess vertically to the flat surface to a point near the lingual termination of the flat base, said slot in longitudinal section being substantially a triangle, one leg of which approximately bisects the flat base and extends from the post hole to a point on the base at a substantial distance from the lingual termination of the base, the other leg of the triangle coinciding with the wall of the post hole and extending to a point short of the inner termination of the post hole.

5. An artificial tooth including a porcelain masticating surface and a porcelain root, having a flat base at an angle divergent to the plane of the masticating surface from the lingual aspect of the tooth, said root having a flat uninterrupted plane disposed occlusally and at right angles to and extending gingivally from the said flat base forming an overhang portion.

6. An artificial tooth including a porcelain masticating surface and a porcelain

root, having a flat base at an angle divergent to the plane of the masticating surface from the lingual aspect of the tooth, said root having a flat uninterrupted plane disposed occlusally and at right angles to and extending gingivally from the said flat base, and a post hole perpendicular to and opening on said flat base, a slot of less diameter than the post hole opening the post hole vertically on said flat base to a point near the lingual termination of the flat base.

7. An artificial tooth including a porcelain masticating surface and a porcelain root, having a flat base at an angle divergent to the plane of the masticating surface from the lingual aspect of the tooth, said root having a flat uninterrupted plane disposed occlusally and at right angles to and extending gingivally from the said flat base, and a post hole perpendicular to and opening on said flat base, a slot of less diameter than the post hole opening the post hole vertically on said flat base to a point near the lingual termination of the flat base, and a backing complementary with said plane, base, post hole and slot.

8. An artificial tooth including a porcelain masticating surface, and a porcelain root, a flat uninterrupted plane extending the full width of the tooth in one dimension and from the lingual aspect of the tooth buccally, and a flat base at right angles to said plane extending at an angle divergent to the plane of the masticating surface at the lingual aspect of the tooth, and a post hole perpendicularly to and opening on said base and a slot of less diameter than the post hole opening from the post hole vertically to the flat base at a point near the lingual surface of the flat base.

9. An artificial tooth including a porcelain masticating surface and a porcelain root, and having a flat base extending the full width of the tooth in one dimension and also extending from the lingual surface of the lingual cusp of the masticating surface in a buccal and gingival direction until it intersects in a line angle to another plane, said other plane extending gingivally and lingually, a post hole in the occlusal portion of the tooth intersecting the plane of the flat base, and a slot of less diameter than the post hole opening the post hole perpendicularly to the plane of the flat base.

10. A tooth having an integral porcelain root and porcelain masticating cusp, an angular recess in the lingual face of the tooth providing a wide flat bearing for a backing and extending from the proximal side to the proximal side thereof, and toward the labial face of the tooth, the upper edge of which recess is disposed so as to be out of contact with the gum when the tooth is mounted in the mouth, and a post hole and slot in one of the walls of said recess.

11. A tooth having an integral porcelain root and porcelain masticating cusp, an angular recess in the lingual face of the tooth the top and bottom walls of which diverge from each other toward the lingual face of the tooth, the upper wall terminating at a point on the lingual face out of contact with the gum when the tooth is mounted in the mouth, said recess opening through the proximal side walls of the tooth and providing a wide flat bearing for a backing, and a fastening element in said recess.

12. A tooth having an integral porcelain root and porcelain masticating cusp, an angular recess in the lingual face of the tooth the top and bottom walls of which diverge from each other toward the lingual face of the tooth, the upper wall terminating at a point on the lingual face out of contact with the gum when the tooth is mounted in the mouth, said recess opening through the proximal side walls of the tooth providing a broad flat bearing surface for a backing, a fastening element in said recess, and a backing mounted in said recess and provided with a complemental fastening to engage the fastening element in the recess.

13. A tooth having an integral porcelain root and a porcelain masticating cusp and a recess in the lingual face of the tooth intersecting the body of the tooth and extending from the proximal side to the proximal

side thereof, and toward the labial face of the tooth providing a wide flat bearing for a backing, the upper edge of which recess is disposed so as to be out of contact with the gum when the tooth is mounted in the mouth, and a post hole in one of the walls of said recess.

14. A tooth having an integral porcelain root and porcelain masticating cusp, an intersectant recess in the lingual face of the tooth opening through the proximal side walls of the tooth providing a wide flat bearing for a backing, the upper edge of which recess is disposed so as to be out of contact with the gum when the tooth is mounted in the mouth, fastening means in said recess, and a backing for said tooth provided with the complemental fastening means to engage the fastening means in the recess.

15. A tooth having an integral porcelain root and porcelain masticating cusp, a recess in the lingual face of the tooth providing a wide flat bearing for a backing and extending from the proximal side to the proximal side thereof and toward the labial face of the tooth the upper edge of which recess is disposed so as to be out of contact with the gum when the tooth is mounted in the mouth, and a post hole associated with said recess.

In testimony whereof I affix my signature.

HARRY A. MARX.