

(No Model.)

W. S. HOW.
ARTIFICIAL TOOTH CROWN.

No. 282,639.

Patented Aug. 7, 1883.

Fig. 1.

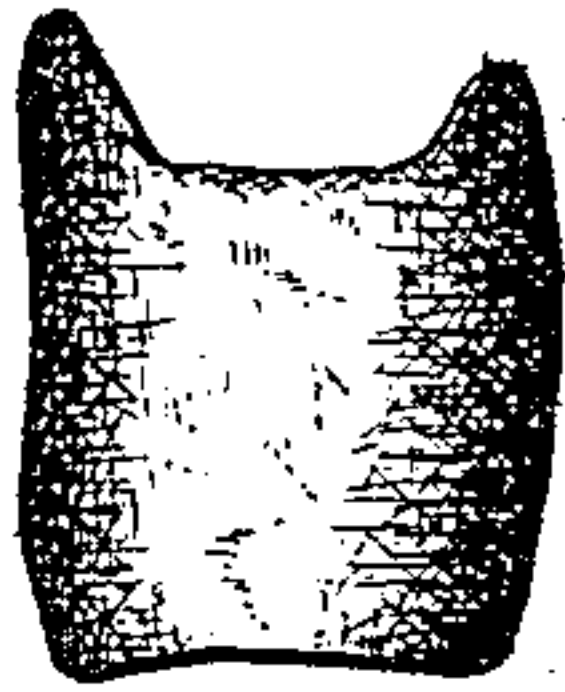


Fig. 2.

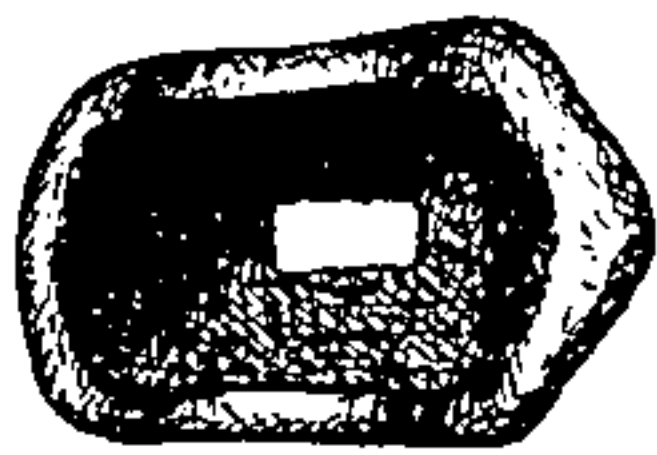


Fig. 3.

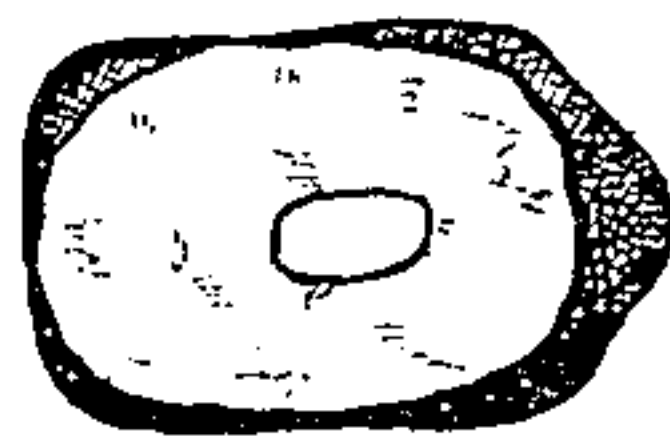


Fig. 4.

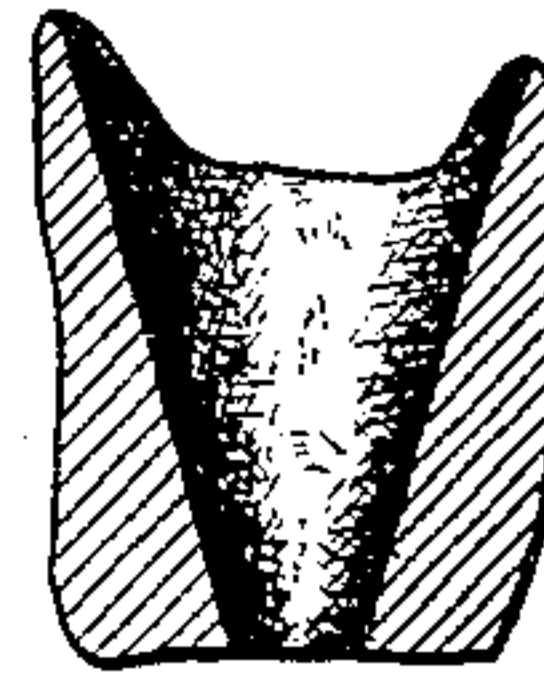


Fig. 5.

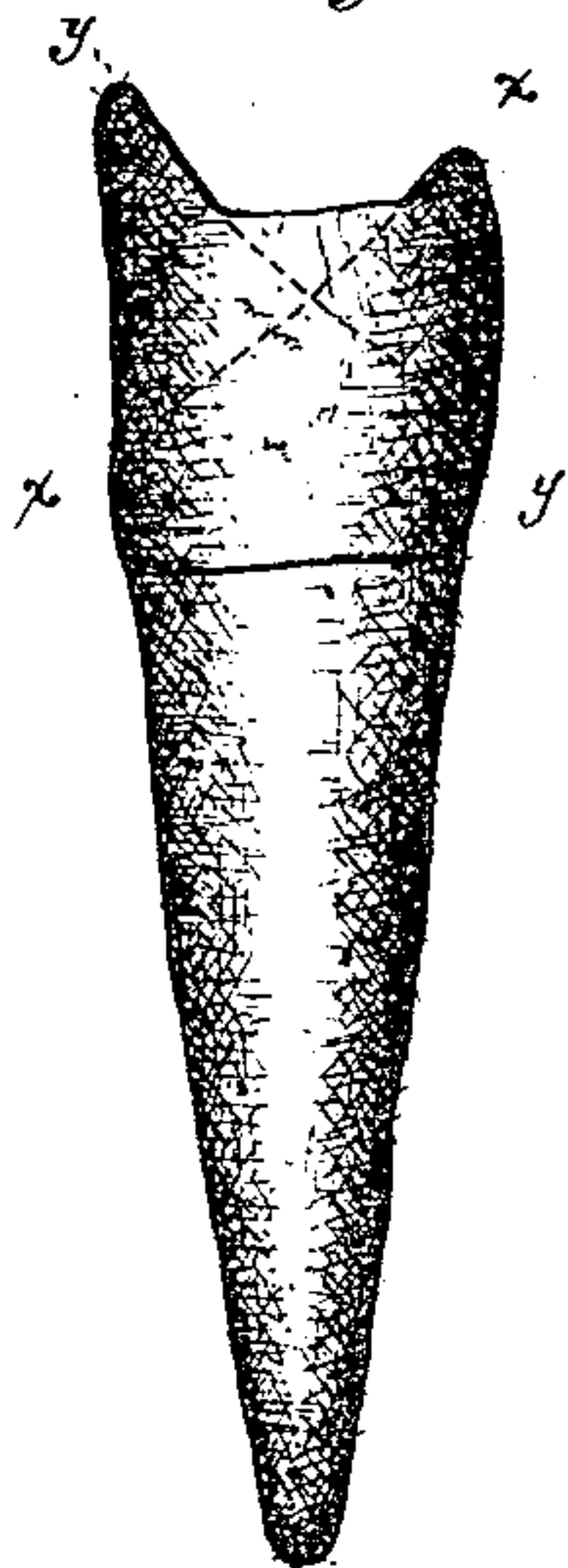


Fig. 6.

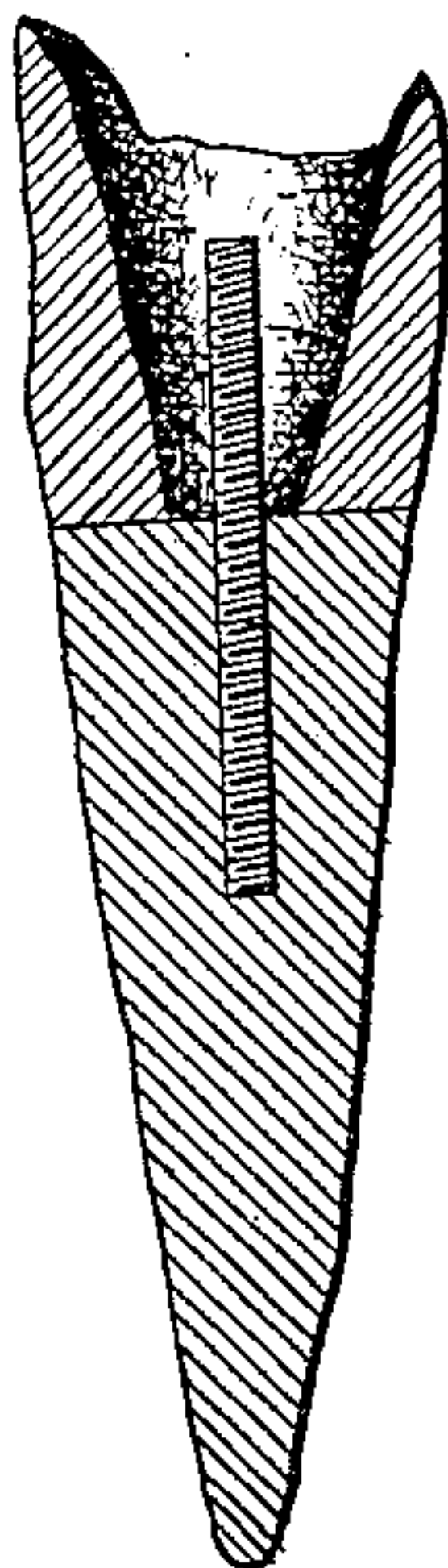


Fig. 7.

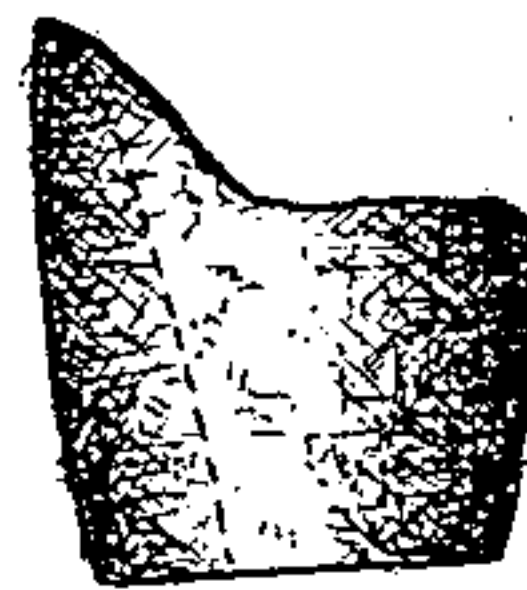


Fig. 8.

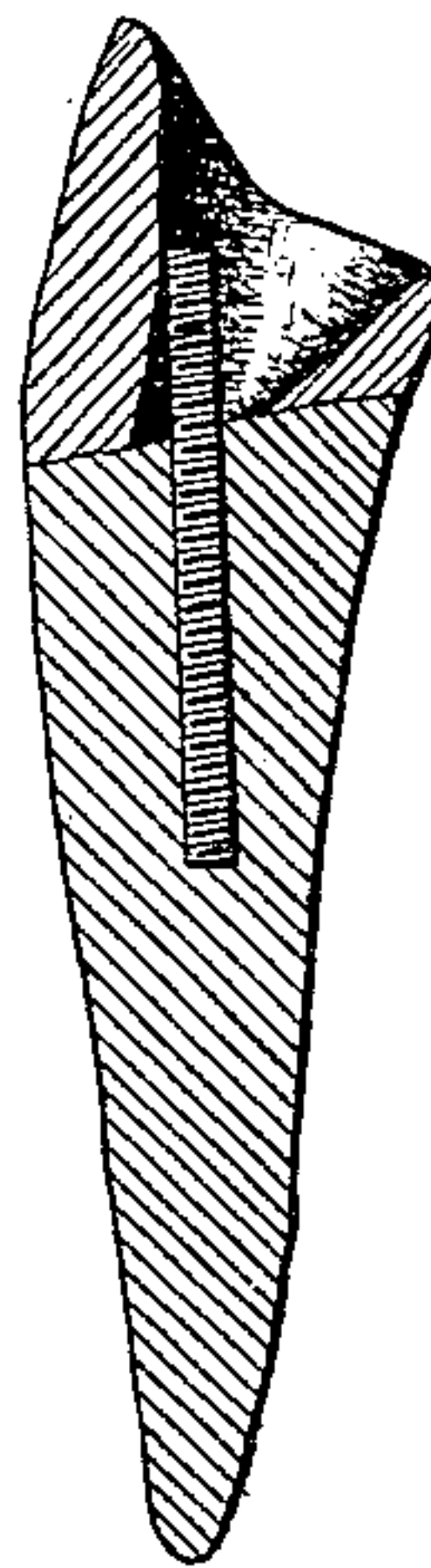


Fig. 9.

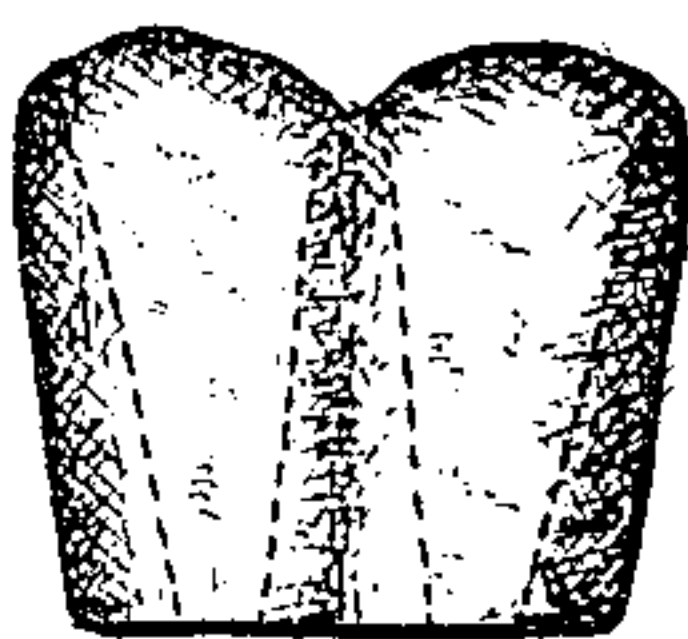


Fig. 10.

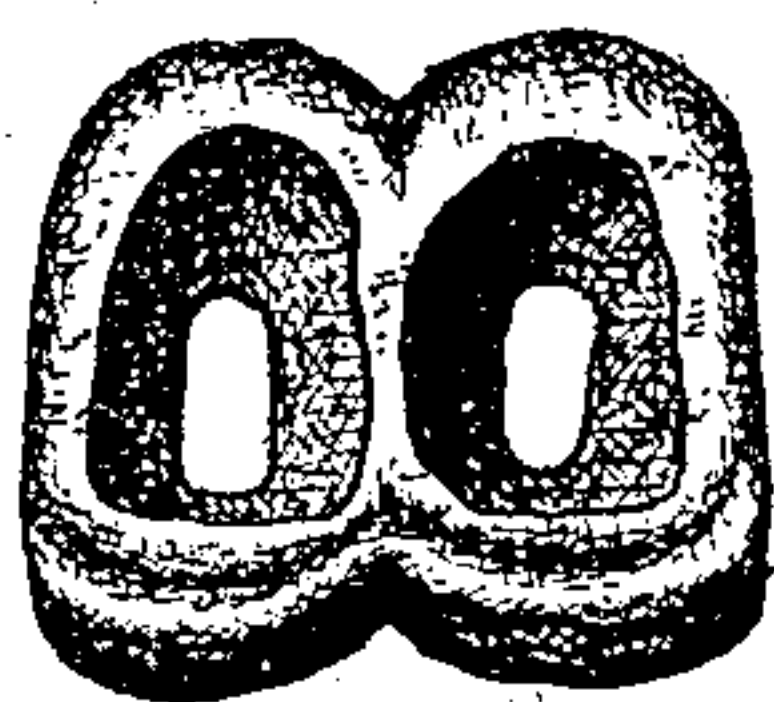


Fig. 11.

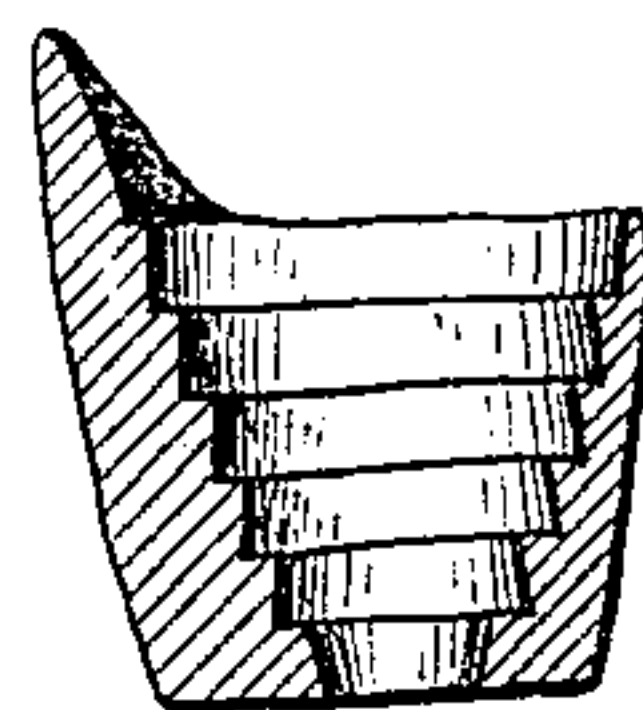
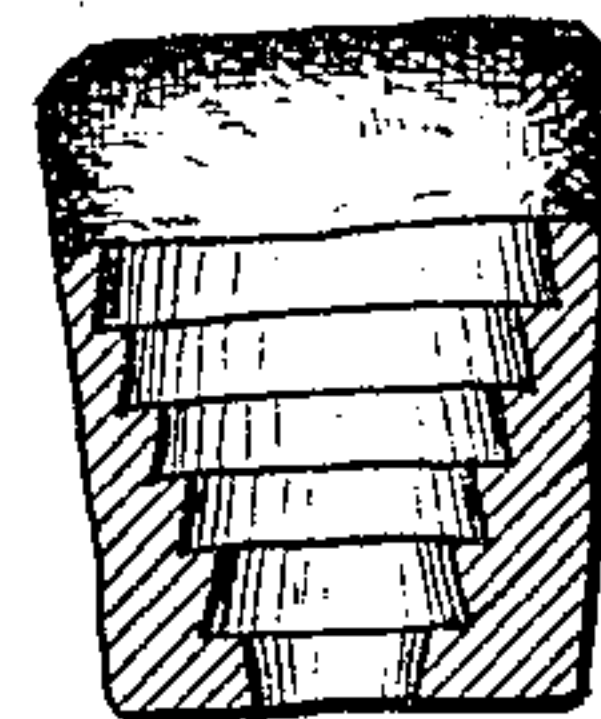


Fig. 12.



WITNESSES

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ARTIFICIAL TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 282,639, dated August 7, 1883.

Application filed January 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, WOODBURY S. HOW, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful
5 Improvements in Artificial Tooth-Crowns, of which the following is a specification.

My invention relates more particularly to artificial tooth-crowns to be fitted to the roots of natural teeth remaining in the mouth after
10 the natural crowns have been removed; and its objects are to provide an all-porcelain crown capable of being readily fitted to the tooth-root and of being firmly secured thereto, the crown in one or more of its forms being
15 capable of being readily cut or ground away upon its face, so as to convert it into a crown suitable for the different kinds of teeth, whether incisor, cuspid, or bicuspid.

The subject-matter claimed herein as my invention is first fully described, and then particularly pointed out at the close of the specification.

In the accompanying drawings, Figure 1 is a view in elevation of one form of my improved
25 convertible crown; Fig. 2, a top or plan view thereof; Fig. 3, a bottom view thereof. Fig. 4 is a vertical central section through the improved crown from front to rear. Fig. 5 is a view of the improved crown fitted to a tooth-
30 root, the full lines showing the crown as a bicuspid, and the dotted lines *y y* showing the crown cut away to form a cuspid, while the line *x x* shows the crown cut away to form a lateral incisor. Fig. 6 is a longitudinal sectional view of the crown fitted to its root, showing particularly the manner of fastening the
35 crown and root together. Fig. 7 is a view of an improved incisor crown; and Fig. 8 is a sectional view, illustrating one of the extreme adjustments of the improved incisor crown upon
40 a tooth-root. Figs. 9 and 10 are views of molar forms of the improved crown. Figs. 11 and 12 are sectional views, taken at right angles to each other, of a modified form of the improved
45 crown, the modification being embodied in an incisor crown in the example illustrated.

My improved all-porcelain tooth-crown A may be constructed in several forms. I will describe one form, primarily constructed as a
50 bicuspid crown, but readily convertible into a

cuspid or lateral-incisor crown by grinding or cutting away, as shown by dotted lines in Fig. 5. A tapering or conical opening, *a*, is made centrally through the crown, and terminates at its smaller end, at the base of the crown, in an
55 elongated opening, (see Fig. 3,) extending in a backward and forward direction. The face of the crown shown in Figs. 1 to 6, inclusive, is provided with the cusps *b b'* of a bicuspid, as usual.

To fit my improved crown shown in Figs. 1
60 to 6, inclusive, to a natural root in the mouth as a cuspid, it is ground or cut away at its lingual side, as shown by the dotted lines *y y*, Fig. 5. If the crown is to be converted into
65 one adapted for a lateral incisor, the labial cusp or side *b'* is cut away to the proper degree—for instance as shown by the dotted lines *x x*, Fig. 5—leaving the rear cusp, *b*, to be
70 shaped to constitute the cutting-edge of the lateral incisor. If the crown is to be fitted as a bicuspid, it is only necessary to fit it properly to the root.

By constructing the crown with the tapering or conical opening *a* through it, with the
75 smaller end of the opening at the base of the crown, it presents a retaining form for the retaining-post C and packing or investment material D, hereinafter more explicitly referred
80 to, in whatever direction the crown may be cut, either at its face in converting it from one form to another, or at its base in adjusting it upon the root in practical application.

When the crown A has been ground or cut away to fit it for the purposes required, its
85 base is accurately jointed to the outer end of the properly-prepared root B over a post, C, which has previously been inserted in an opening formed in the tooth-root, and anchored therein in any suitable manner. This post C
90 is preferably made in the form of a continuously-threaded wire, one end of which is screwed into the opening in the tooth-root, or into a suitable filling in said opening, in order to anchor the post securely in place.

95 In practice I preferably interpose between the base of the crown A and the end of the root B, to which said base is to be fitted, a thin stratum, *e*, of packing material—for instance, such as gutta-percha or the amalgam com-
100

monly used by dentists. After the crown has been thus fitted and a perfect joint made, packing material, D, such as the aforesaid amalgam, gutta-percha, gold, or other filling, is packed in the tapering cavity *a* of the crown, around the screw-threaded wire C, so as to securely lock and rigidly fasten the crown in place.

By means of the oblong opening at the base of the crown, the crown, in being fitted to the root, may be adjusted backward and forward in order to secure its proper alignment, while by means of the tapering opening *a*, extending through the crown, not only is the crown adapted to receive material to firmly secure it to the anchoring-post, but is also capable, by fitting, cutting, or otherwise, of being inclined to the desired degree relatively to the root and to the post projecting therefrom, so as to secure proper occlusion relatively to the opposing teeth.

I have confined the foregoing detailed description particularly to a convertible crown, primarily constructed with its biting or grinding end of bicuspid form. It will be readily understood, however, that my improvements may be embodied primarily in incisor as well as in molar crowns.

In Fig. 8 I have shown a section of an incisor crown having primarily a cutting-edge, *i*, and an extended lingual portion, *i'*, by which construction I am enabled to cut away the base to a large degree in fitting it to the root, so as to give the crown any desired degree of inward or outward inclination.

In Figs. 9 and 10 I have shown a molar crown having some of my improvements.

In some instances, instead of constructing the tapering opening *a* in the crown with plain or smooth walls, I prefer to construct said opening with walls having terraced or shouldered sides, as clearly shown in Figs. 11 and 12. This, in some instances, is desirable, as it provides a construction less liable to fracture, and also enables a firmer connection to be made when using a yielding filling, as gutta-percha, by affording a more positive lock for the filling material upon the crown than would be the case with a crown having a tapering opening with smooth walls.

I reserve for future application or applications all the patentable matter disclosed herein which is not particularly claimed herein, and the reservation is not affected by the making and erasure of claims in prosecuting the application for this patent.

I claim as my invention—

A tooth-crown having a tapering opening extending through it, with the smaller end of said opening at the base of the crown, said crown also having surfaces or cusps at its face, to be cut away to change the character of said crown without destroying the retaining function of the tapered opening, substantially as described.

In testimony whereof I have hereunto subscribed my name this 8th day of September, A. D. 1882.

WOODBURY S. HOW.

Witnesses:

WM. J. PEYTON,
EUGENE V. BROWN.