(No Model.)

W. S. HOW.

ARTIFICIAL TOOTH.

No. 275,491. Patented Apr. 10, 1883.

Fig. 1.

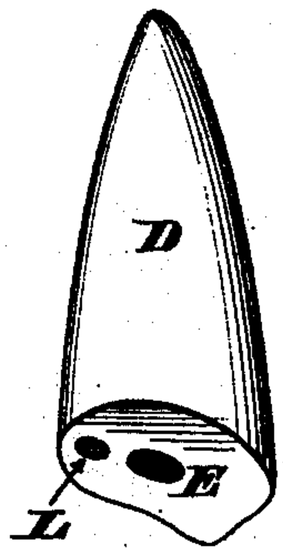


Fig. 2.

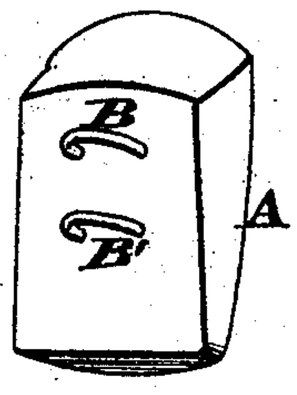


Fig. 3.

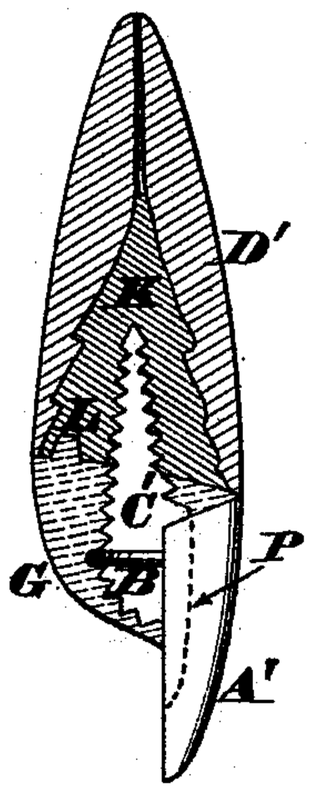


Fig. 5.

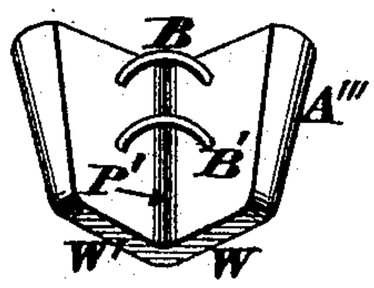


Fig. 4.

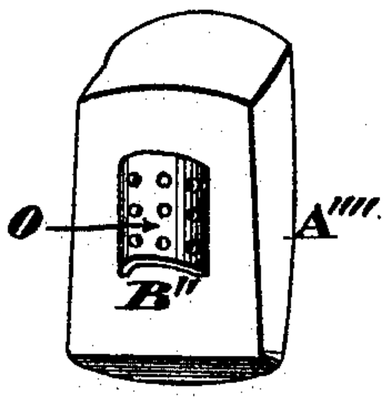


Fig. 6.

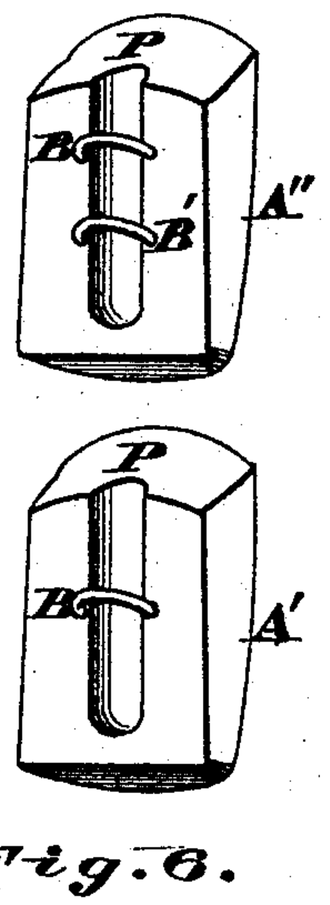
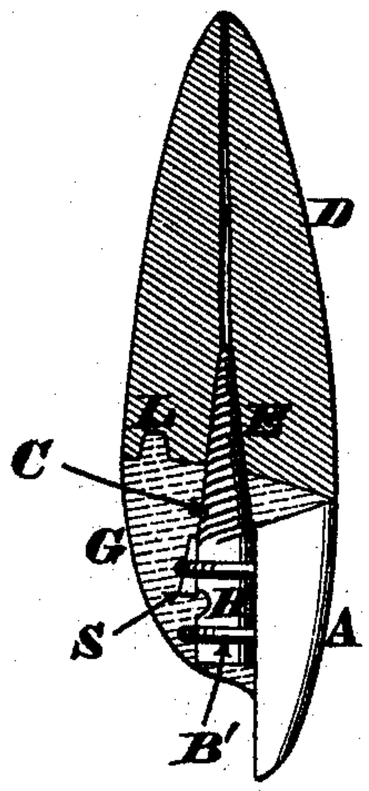


Fig. 7.



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UNITED STATES PATENT OFFICE.

WOODBURY STORER HOW, OF CINCINNATI, OHIO, ASSIGNOR TO THE S. S. WHITE DENTAL MANUFACTURING COMPANY, OF PHILADELPHIA, PA.

ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 275,491, dated April 10, 1883.

Application filed June 12, 1882. (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 Improvements in Artificial Teeth and Crowns, of which the following is a specification.

My invention relates to artificial tooth-crowns for the roots of natural teeth, and has for its object the provision of a more perfect means for securely fixing the artificial crown on the root or fang while still in the mouth.

My invention consists in providing what is commonly known as a "plain-plate tooth-crown" with two rearwardly-projecting loops of wire, arranged to form with the plain back a socket for the outer part of a post first firmly fixed in the root. Then by wedging or by bending the loops on the post the crown is securely fixed on the root. Afterward a cement packed on the root, around the post, over the loops, and against the back affords additional security, tight joints, and natural contour.

My invention consists, furthermore, in certain modifications and combinations, which will now be more particularly set forth with reference to the drawings, in which similar letters indicate like parts.

Figure 1 is a perspective serial view of a prepared root, a notched screw-post, and an improved crown. Fig. 2 is a vertical median section of a root and the investment or cement, with a side elevation of a post, crown, and fixing wedge or shim, all in final place. Fig. 3 is a vertical median section of a root, its terraced filling, the investment, the screw-post, and a side elevation of an old grooved and looped crown, which Fig. 4 exhibits in perspective, with a double-looped crown, this Fig. 4 being introduced to show the state of the art. Fig. 5 is a perspective of my angle-crown, with wire loops from wing to wing. Fig. 6 is a perspective of my angle-crown in place on a post fixed in a bicuspid tooth-root. Fig. 7 is a perspective rear view of my plain back crown and perforated loop.

Into the porcelain plain back incisor tooth-crown A, Fig. 1, I have baked the ends of two round platinum-wire loops, so placed as to form a loop-socket, B B′, for a round post, C, notched at H, and screw-cut to fit the screw-socket E in the natural-tooth root D. In practice I arch the root end as usual, enlarge the pulp-cavity, and tap it to fit the screw-post C, that is then, by bending, aligned for adjustment in suiting the lateral and other relations of the crown A, which is easily put on and off the post C for that purpose. The four legs of the two loops B B′ serve also, in conjunction with that region of the plain back, to maintain the crown in position on the post C while the occlusion of the opposing tooth receives due attention; and then, by wedge or shim, as S, Fig. 2, or by bending the loops close against the screw-post, which has been first firmly fixed in the root, the crown is fixed on the root to the post. I have thus at this stage of the operation effected an organization which is capable of use by the patient, because all the adjustments have been made, and the crown is secured to the fixed post; but for further security, and to insure a more lasting operation, I build either a gold or cement or amalgam abutment and backing G, Fig. 2, over the root end, into the locking-pit L, around the post C, into the notches H, between and over the loops B B′, and against the plain back F, the round post and the round wire of the loops affording a locking grasp for the investment, so that I thus make the backing practically inseparable from post or crown under outward stress, to which the backing is often subjected when built up for grinding use.

The much-decayed root D′, Fig. 3, I have terraced, as usual, to lock the filling or cement K, in which I embed the screw or notched post C′, arching the surface of the cement and forming the locking-pit L as in the case of the sound root D, Figs. 1 and 2. Then, after the cement has set, to fix the post firmly in the foot, I adjust my crown on post and root, and in the present instance I use the old grooved and looped crown A′, Fig. 3, to illustrate my combination of the wire loop B with the screw-threaded or notched post C′, which is thus gripped so tightly by the loop B as to render the crown A′ capable of use independently of the investment G, which, if of cement, requires time for hardening.

The old crowns A′ and A″, Fig. 4, are de-

fective by reason of the groove P, which weakens the crown, and also prevents the investment from grasping the round post, such defects being rendered manifest by comparison with my improved crown A.

My angle-crown A''', Fig. 5, has the outer faces of the wings W W' shaped like a bicuspid tooth, and is shown in position on a right superior bicuspid root, D'', Fig. 6, ready for the cement investment to be contoured for use as a grinder. The angle-crown A''', Fig. 5, is reversible, and thus adapted for either side of the mouth, as required.

My plain back crown, A'''', Fig. 7, has a loop of sheet metal, B'', perforated at O to let the cement into the locking notches or threads of the post, and also to afford the cement a locking grasp on the socket B'', especially when for occlusion it may be necessary to cut away much of the socket.

In adjusting either of my crowns inward the post may be scarfed to lie flat against the plain back. The post may be of any suitable size, form, or metal, and its outer end may be split for bending down over the loop. The post may also be a straight screw with a square-shouldered head to engage the loop and removably lock the crown on the root, leaving the head for that purpose uncovered by the cement. Any sort of filling—gold or cement or amalgam—may be employed for the investment, and when amalgam is used I prefer a post of platinum.

I also make a plain back crown provided with four long plain or headed platinum pins, so arranged that they may be bent around the post as loop-socket equivalents of the loops B B', Figs. 1 and 2.

My crowns may also be made with the addition of artificial gums for occasional use. My crowns may be mounted on plates of all kinds by the devices herein shown, and by others well known.

I do not claim grooved and looped crowns like A' and A'', Figs. 3 and 4; nor do I claim a plain back crown with a single wire loop, the same being old and used in plastic plate-work; yet those crowns, all and singular, when combined with a post and root as hereinbefore specified, come within the scope of my invention.

I claim as my invention—

1. An artificial tooth-crown having a plain back in which are secured two wire loops or their equivalents, whereby said loops, in conjunction with said plain back, form a socket for the reception of an anchoring-post and prevent lateral movement of the crown thereon, substantially as described.

2. The combination of an artificial tooth-crown having a plain back, in which are fixed flexible metal loops or their equivalents, with a notched or threaded post fitted therein, whereby the loop-fastenings may be bent or clinched upon said post, and thereby securely lock the crown thereon, substantially as described.

3. In combination, the following elements, to wit: I, a natural-tooth root in the mouth, prepared to receive an artificial crown; II, a metal notched or threaded post screwed or otherwise fixed firmly in the root; III, a porcelain tooth-crown having a plain back in which is fixed a wire loop socket that will clasp the notched or threaded post when tightly bent upon said post to hold said crown firmly on said post, and closely against said root, substantially as described.

4. In combination, the following elements, to wit: I, a natural-tooth root in the mouth, prepared to receive an artificial crown; II, a metal notched or threaded post screwed or otherwise fixed firmly in the root; III, a porcelain tooth-crown having a plain back in which is fixed a wire-loop socket that will clasp the notched or threaded post when tightly bent upon said post to hold said crown firmly on said post and closely against said root; and, IV, an investment of amalgam or its equivalent to form a contoured locking abutment and backing, substantially as described.

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

WOODBURY STORER HOW.

Witnesses:
F. R. McCORMICK,
A. W. McCORMICK.