No. 640,551. Patented Jan. 2, 1900.

C. A. FONES.

ARTIFICIAL TOOTH CROWN.

(Application filed Oct. 6, 1899.)

(No Model.)

Fig. 1.

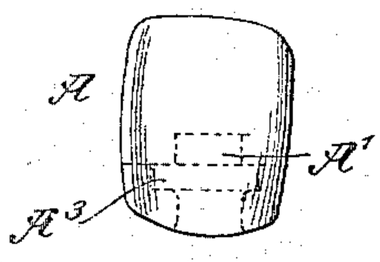


Fig. 2.

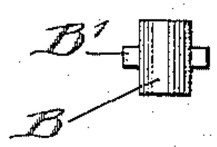


Fig. 3.

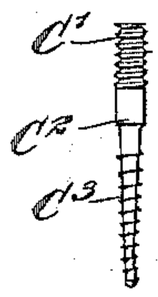


Fig. 4.

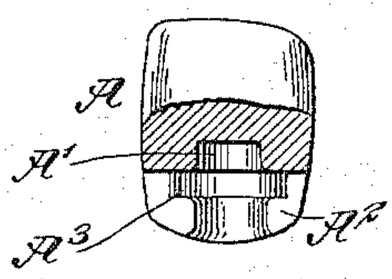


Fig. 5.

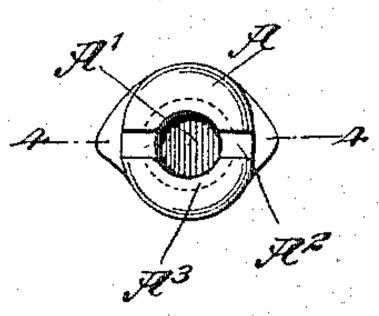


Fig. 6.

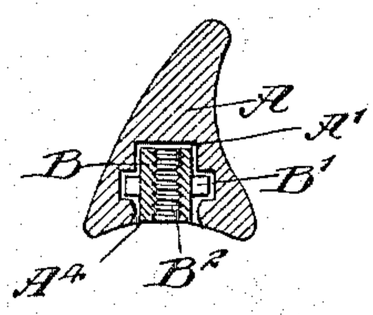


Fig. 7.

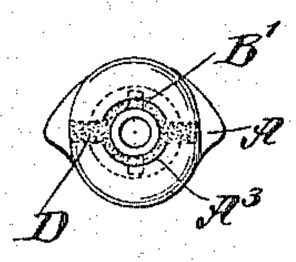
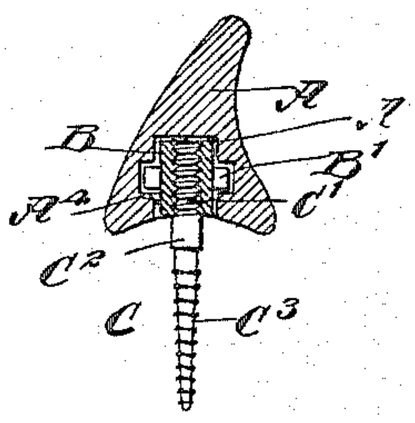


Fig. 8.



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ARTIFICIAL TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 640,551, dated January 2, 1900.

Application filed October 6, 1899. Serial No. 732,794. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. FONES, of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Artificial Tooth-Crown, of which the following is a full, clear, and exact description.

My invention relates to artificial tooth-crowns and to means for connecting them with the natural root, and has for its object to provide a simple and very strong construction for the above-indicated purpose.

To this end I make use of a tooth-crown and connecting means constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an exterior view of the improved tooth-crown. Fig. 2 is an elevation of a sleeve which forms one member of the connecting means. Fig. 3 is a similar view of the lock-screw which forms the other member of the connecting means. Fig. 4 is an elevation of the crown proper with parts in section on line 4 4 of Fig. 5. Fig. 5 is a plan of the crown. Figs. 6 and 7 are a sectional elevation and a plan, respectively, of the crown with the sleeve inserted therein; and Fig. 8 is a sectional elevation of the crown, sleeve, and lock-screw in their proper relative positions.

As will be seen from the drawings, the device comprises three separate parts—viz., the crown proper, Figs. 1, 4, and 5, the connecting-sleeve, Fig. 2, and the locking member or lock-screw, Fig. 3.

The crown proper, A, is of any approved shape externally and is provided at its base or lower end with a central recess, the deepest or innermost portion of which, A′, is substantially cylindrical and forms a pocket. Immediately underneath this pocket the crown has a transverse slot A^2, the width of which is smaller than the diameter of the pocket A′ and which extends from the lower end of the pocket to the base of the crown. Directly adjacent to the pocket A′ two segmental grooves A^3, connectric with the pocket, are formed in the inner wall of the recess of the crown, said grooves communicating with the slot A^2, as shown.

The connecting-sleeve B is cylindrical and may be smooth or rough on the outside and is provided approximately midway between its ends with lugs B′, projecting outward radially. Interiorly the sleeve B has a screw-thread B^2, Fig. 6. The diameter of the sleeve is approximately equal to that of the pocket A′ and its length to the depth of the crown-recess, while the position of the grooves A^3 relatively to the ends of said recess corresponds to that of the lugs B′ relatively to the ends of the sleeve B.

The locking member or lock-screw C has an end portion C′ screw-threaded to fit the thread B^2, a square or angular center portion C^2, and a tapering screw-threaded portion C^3, which may be termed an "attaching" portion, since it is intended to be screwed into the natural root, and thus to attach the artificial crown to the root.

The recess of the crown A is preferably of larger diameter at its outer or lower end than the corresponding portion of the sleeve B, so as to leave a clearance A^4 between both. (See Figs. 6 and 8.)

The device is used in the following manner: The natural root is treated as usual, and the sleeve B is connected with the crown A by passing the lugs B′ into the slot A^2 and then turning the sleeve to cause the lugs to enter the segmental grooves A^3. (See Figs. 6, 7, and 8.) The slot A^2, clearance A^4, and grooves A^3 are then filled with a suitable composition or cement D, which upon hardening (which may be effected by baking) forms a solid mass and connects the crown A and sleeve B as strongly with each other as if they were made of a single piece. The tapered end C^3 of the lock-screw C is then inserted into the natural root, and the crown A, with the sleeve B, is screwed upon the upper end C′ of the lock-screw C. The parts are thus firmly connected.

It will be observed that the construction described allows the parts of the device to be accurately adjusted and forms an artificial tooth-crown of exceptional strength. It is

practically impossible that any longitudinal strain should separate the crown from the sleeve or from the lock-screw.

Another advantage of my improved construction is that it requires no platinum and is therefore relatively cheap.

While I have shown two lugs B′ and two grooves A^3, it will be understood that one of them although probably less efficient might still afford a construction strong enough for practical purposes.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with the tooth-crown having a central depression or pocket, a transverse slot below the same, and an undercut segmental groove communicating with said slot, of a connecting device having an end portion adapted to enter said pocket and a laterally-projected lug adapted to enter said slot and groove.

2. The combination with the tooth-crown having a transverse slot at its base and an undercut segmental groove communicating with said slot, of a connecting device, comprising a sleeve adapted to enter the crown and provided with a laterally-projected lug adapted to enter said slot and groove, the sleeve being screw-threaded internally, and a locking member constructed to fit into said sleeve with one end, and adapted, at its other end, for attachment to a natural root.

3. The combination with the tooth-crown having a central depression or pocket, a transverse slot below the same, and an undercut segmental groove communicating with said slot, of a connecting device comprising a sleeve, the end of which is adapted to enter said pocket, the sleeve having an internal screw-thread and an outwardly-projected lug adapted to enter the slot and groove of the crown, and a lock-screw one end of which is tapered to connect it with a natural root, while the other end is constructed to fit into said sleeve.

4. As a means for attaching artificial tooth-crowns to natural roots, a sleeve screw-threaded internally and provided exteriorly with a lug, and a locking member constructed to fit into said sleeve with one end, and adapted, at its other end, for attachment to a natural root.

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