

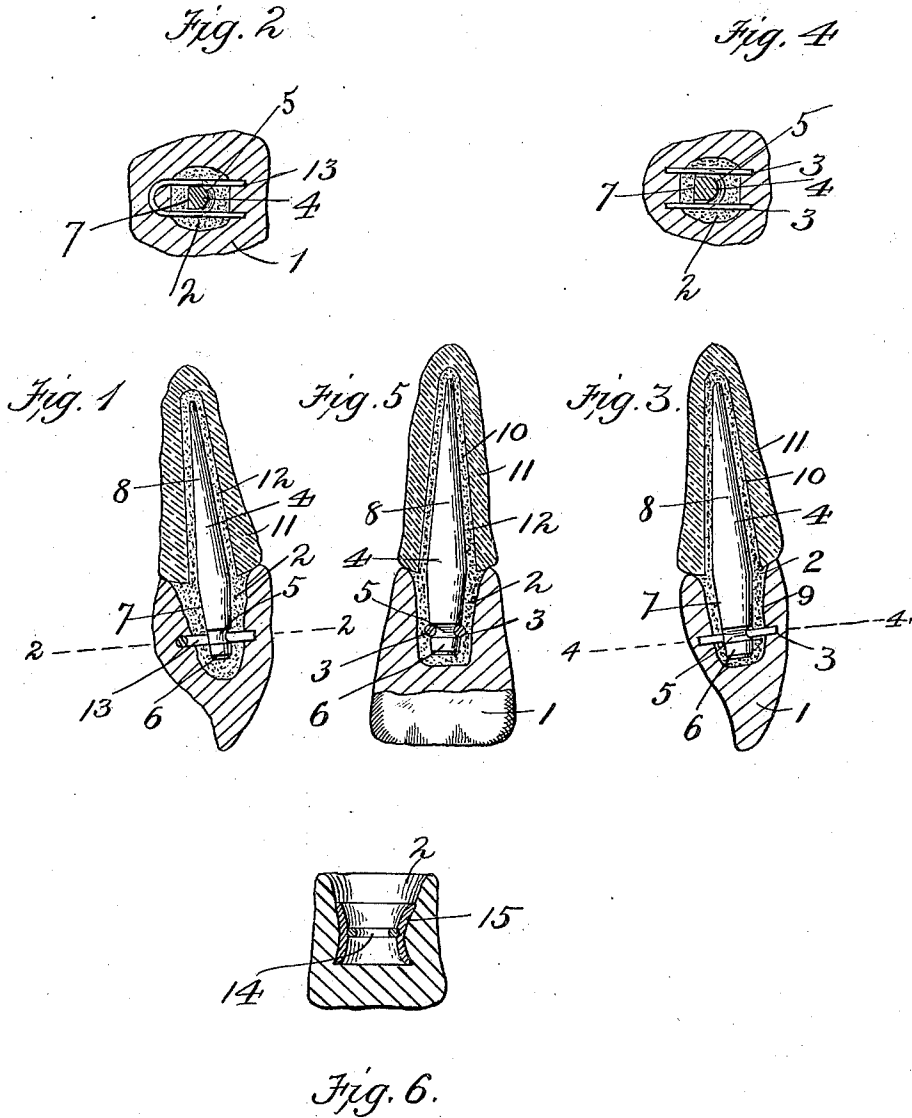
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Patented Dec. 10, 1901.

W. B. MILLER.
PORCELAIN TOOTH CROWN.

(Application filed Apr. 1, 1901.)

(No Model.)



Witnesses:
Frank L. Ouraud
H. G. Radcliffe

Inventor:
W. B. Miller,
By Law & Suggs Co.,
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM B. MILLER, OF ALTOONA, PENNSYLVANIA.

PORCELAIN TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 688,661, dated December 10, 1901.

Application filed April 1, 1901. Serial No. 53,901. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MILLER, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented new and useful Improvements in Porcelain Tooth-Crowns, of which the following is a specification.

My invention relates to porcelain tooth-crowns, and has for its object to provide an improved method and means for attaching a crown of this character which will be inexpensive and at the same time simpler in its construction, stronger, more durable, and efficient than others now on the market or in public use.

In the drawings which accompany this specification and of which they form a part I illustrate three methods of carrying out my invention.

In the drawings, Figure 1 is a longitudinal section through a tooth with one form of my device attached. Fig. 2 is a transverse section of the same on the line 2 2, Fig. 1. Fig. 3 is a longitudinal section through a tooth with a second form of my device attached thereto. Fig. 4 is a transverse section of the same on the line 4 4, Fig. 3. Fig. 5 is a longitudinal section at right angles to the retaining-pins. Fig. 6 is a vertical section showing a second modified form.

Like numerals of reference denote like parts wherever they occur in the drawings.

The numeral 1 designates a porcelain tooth-crown of the ordinary form. This crown 1 has a cavity 2 formed therein which extends about two-thirds of the way through the crown. Embedded in the crown 1, on each side of the cavity 2 and extending transversely thereof, are two metallic or platinum pins 3, Fig. 4. These pins 3 are placed in position in the porcelain when it is in a soft plastic state and the porcelain then baked. The pins 3 are substantially parallel, and their extremes are embedded far enough to render their removal impossible without breaking the crown 1. A pin 4 is provided, having a groove 5 therein near one end, thereby forming a head 6, a flat side 7, beveled toward the head, and a tapering portion 8. The tapering portion 8 comprises about two-thirds of the length of the pin 4 and the beveled portion the remaining third. This pin 4 may be made of any

metal and is inserted in the crown and attached as follows: The cavity 2 is first filled with cement. The pin 4 is grasped by the point 8 and turned, with the beveled or flat portion 7 facing one of the pins 3, and then inserted between the pins 3 up to the groove 5. Having been brought to this position, the pin 4 is then turned one-fourth of a revolution, when the pins 3 will engage the groove 5 and the pin 4 locked in position. The cement will harden, which, in combination with the locking device, will hold the pin 4 rigidly in position. The flattened or beveled portion of the pin after the cement has once hardened will prevent the rotation of the pin. The reverse or pointed end 8 of the pin 4 can now be inserted in a cavity 10, formed in a root 11, which is first filled with cement. The cavity 2 in the porcelain tooth-crown being larger than the pin 4 and of inverted-bell shape admits of adjustability either anteriorly or posteriorly to the proper alinement of the root of the natural tooth as to the adjoining teeth, this being an essential feature in facilitating the adjustment of all porcelain tooth-crowns, insuring proper alinement without bending of the pin proper, thus completing what I designate as a "detachable adjustable lock-pin tooth-crown."

A modified form of my device is shown in Figs. 1 and 2, a platinum staple 13 being substituted for the pin 3. A further modification is shown in Fig. 6, wherein a platinum or other metallic form 15, having an inside ledge or rim 14 on the inner surface, is fused in the body of the tooth proper, the projecting ledge or rim engaging in the corresponding groove of the pin. The pin 4 can be used with these forms in substantially the same way as in the other forms of my device.

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

1. In an artificial tooth the combination with a tooth-crown having a recess therein, of a pin having a transversely-grooved head flattened on one side, and means mounted in said recess for engaging the groove in said head, which means is disengaged by rotating the said pin, substantially as described.

2. In a device of the class described, the combination with a porcelain tooth-crown

5 having a recess therein, metallic pins extending transversely said recess and embedded at their ends in the porcelain, a pin having a tapering portion and a flattened transversely-grooved head, said groove being set to engage the said pins and cement filled in around the head of said pin.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses:

WILLIAM B. MILLER.

Witnesses:

J. B. KEEFER,
W. D. COUCH.