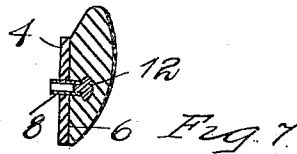
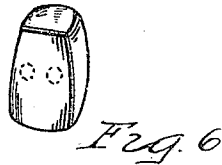
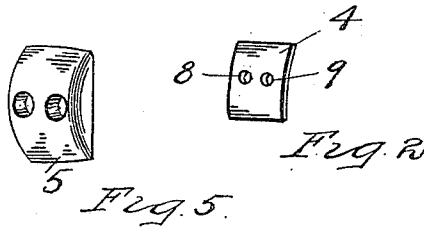
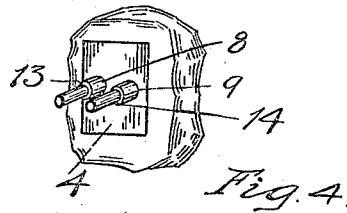
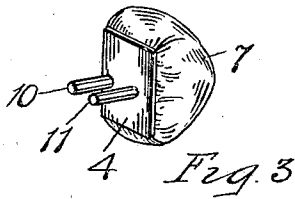
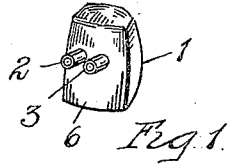


W. A. BURNS.
DENTIST'S BRIDGEWORK.
APPLICATION FILED JUNE 15, 1908.

952,229.

Patented Mar. 15, 1910.



Witnesses

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WALTER A. BURNS, OF ST. THOMAS, ONTARIO, CANADA.

DENTIST'S BRIDGEWORK.

952,229.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed June 15, 1908. Serial No. 439,093.

To all whom it may concern:

Be it known that I, WALTER A. BURNS, a subject of the King of Great Britain, residing at St. Thomas, county of Elgin, Province of Ontario, and Dominion of Canada, have invented a certain new and useful Improvement in Dentist's Bridgework, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to dentist's bridge-work.

It has for its object an improved artificial tooth crown, and method or means of fitting the crown to a bridge and securing it to the bridge after it has been properly fitted.

In the drawings:—Figure 1, shows the crown or artificial tooth. Fig. 2, shows an incomplete backing member. Fig. 3, shows an incomplete backing member attached to wax and provided with tube cores around which to construct tubes. Fig. 4, shows the incomplete bridge invested with a heat resisting material. Fig. 5, shows the appearance of the backing after it has been completed. Fig. 6, shows the same backing member with the porcelain part of the tooth attached thereto. Fig. 7, is a cross section of porcelain crown, pin, and incomplete backing member.

In carrying out the process and embodying the invention in its completed form, I use an artificial crown of porcelain or some porcelain-like material, having a pin or a plurality of pins projecting from that face which is to be secured to the backing member; this pin is hollow for at least a portion of its length, so that it may be secured to the backing member by inserting the pin through a suitably prepared hole in the backing member, and expanding the end of the hollowed pin into a countersunk enlargement at the end of the hole through the backing member, after which the pin is trimmed and the hollow end of the pin and the countersink in the backing member are filled by a plug of gold, which finishes and completes the attachment of the crown to the backing member so securely that it is substantially permanent, and at the same time so lightly that it may be at any time easily

removed by cutting out the plug of gold and trimming off the expanded end of the pin.

In the drawings, 1 indicates a crown or tooth member preferably made of porcelain, and made to imitate as closely as possible a natural tooth; this is provided with pins 2 and 3, the ends of which are embedded in the porcelain, and baked therein. The pins 2 and 3 are either hollow entirely from end to end, or each is a short tube secured to a head that is buried in and baked in the porcelain. Part, or a large part at least of the pin from the outer end toward the crown member is hollow. This is secured to a backing plate 4. Preparatory to so securing it, however, the backing plate is built up by soldering gold onto a thin sheet, which is primarily made with a socket to fit against the face 6 of the crown. A plate of gold is first pierced with holes 8 and 9 to engage over the pins 2 and 3, after which the plate is hammered and molded to fit properly against the face of the crown member. That face of the plate, which, in the completed structure, is to be most remote from the crown member, is next covered with a thick ball 7 of wax, and through the holes 8 and 9 in the plate short pieces of plumbago 10, 11, are inserted in the wax; these pieces of plumbago are equal in diameter to the exterior diameter of the pins 2 and 3. That face of the backing member which is to be brought into contact with the face of the crown is next invested with some heat-resisting material that can be put in place in the form of a cement, and which will serve to hold the plate during the next step. The projecting end of each plumbago core is surrounded with a thin tube of platinum, making small tubular envelopes around each plumbago core. The backing member is built up next with solder to the desired shape and thickness. The object of using the platinum tubes is to cause the solder to lie close to the tube, and produce a structure with piercings or holes through it that will engage closely around the pins 2 and 3. I have found experimentally that it is extremely difficult to cause the solder to lie up closely enough to the plumbago cores to produce the desired result, although it may be done with considerable care and patience, but the hard solder or gold alloy will easily and readily lie up close to the platinum tube,

and the structure is easily and quickly finished in good shape. The ends of the holes are slightly countersunk, and the crown member may now be placed against the backing member, the ends of the tubes 2 and 3 slightly expanded, trimmed off if necessary, the opening in the hollow pins filled with a gold plug, which may be easily welded in place in the ordinary way of welding a gold filling.

What I claim is:—

A crown, provided with a tubular pin having an end embedded in said crown and

an end projecting therefrom, a backing plate provided with a hole adapted to engage the pin; a tube in extension of said hole and provided with an expanded bore at the end remote from said hole, a solder filling surrounding said tube and adherent to said backing plate, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

WALTER A. BURNS.

Witnesses:

JENNIE C. McKELLAR,
R. W. DANCE.