

(No Model.)

J. R. PHELPS.
ARTIFICIAL TOOTH CROWN.

No. 512,841.

Patented Jan. 16, 1894.

Fig. 1.

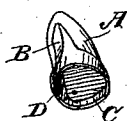


Fig. 2.

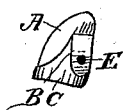


Fig. 3.

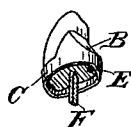


Fig. 4.

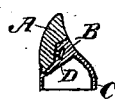


Fig. 9.

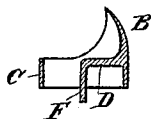


Fig. 10.

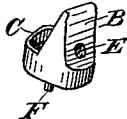


Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

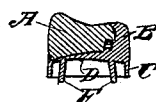


Fig. 11.



Witnesses,
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UNITED STATES PATENT OFFICE.

JAMES R. PHELPS, OF MARYSVILLE, CALIFORNIA.

ARTIFICIAL TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 512,841, dated January 16, 1894.

Application filed August 17, 1893. Serial No. 483,380. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. PHELPS, a citizen of the United States, residing at Marysville, Yuba county, State of California, have invented an Improvement in Artificial Tooth-Crowns and Attachment; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to artificial tooth crowns.

It consists in certain improvements in the manufacture of said crowns with a metal base, band, and backing, and in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a bottom perspective view of the attachment and incisor tooth. Fig. 2 shows the back and opening. Fig. 3 shows the post and opening from below. Fig. 4 is a vertical section. Figs. 5, 6, 7 and 8 are views of molars with the attachment. Fig. 9 is a vertical section of the attachment and post without the tooth. Fig. 10 is a rear perspective showing the opening in back. Fig. 11 is a vertical section showing the extension of the back to form a tip to the tooth crown.

The object of my invention is to provide an improved method of preparing artificial tooth crowns with a metallic backing and base attachments thereto in readiness to be fitted, and in such a manner that the teeth and the metallic attachments may be kept in stock at all times, and ready for application with the minimum amount of fitting.

In the manufacture of artificial teeth, it has hitherto been the custom to form the porcelain tooth crowns with pins projecting therefrom, which pins are set into the material of which the tooth crown is made while in a plastic condition, and secured when the material is baked, leaving the ends of the pin slightly projecting. To the ends of these pins is fixed a metallic backing extending downwardly toward the base of the tooth crown, and forming a post. A band is fitted over the root to which the tooth is to be applied, and the tooth is fitted into the band while the post or pin is made to fit into a prepared cavity in the root. All this work is specially done and fitted in each particular case, and

occupies a great deal of time, both of the surgeon and patient.

By my invention I construct the backing, band, and base and secure them to the porcelain or artificial tooth crown by the single operation of casting, leaving the band of such form that it is easily fitted in any particular case to the root to which it is to be applied by swaging or otherwise, and the operation of fitting such tooth crowns is very easily effected.

The particular crown A which is to be fitted is placed in a plaster-of-paris, metal, or other suitable matrix previously formed which is of the shape of the crown and the proposed backing, base and band. The tooth crown is fitted into that part of the cavity in the molds prepared for it, and the metal is then poured into the mold and flowing around that part prepared to form the back, base and band, fills the molds and attaches itself firmly to the pins which project from the back at the tooth crown, or in the undercuts in the crown, thus forming the backing, base and band in a single operation. The post by which the tooth crown is secured to the root is placed in the mold before the casting takes place, and the post is firmly secured when the molten metal is poured into the mold. The bands which project downwardly are adapted to surround the root to which the crown is to be applied. In some cases it is desirable to form these backings with an opening extending up through the top and rear portion behind the tooth crown or front so that when the crown is secured to the root by means of the cement filling, the crown being pressed down, the band fitting outside and around the root, any surplus amount will pass up through this opening, thus allowing the crown to fit down to its proper position upon the root, where it is secured when the cement filling has become set. I also make in one piece the backing, band and base, without attaching the crown thereto, either by casting or swaging, and with or without the post, in readiness for the attachment of the tooth crown, either by amalgam, cement or soldering, so that these parts may also be kept in stock, and in readiness to be put together for any required use, as shown in Figs. 9 and 10. The construction

above described enables a dentist to keep these intermediate connecting metallic parts in stock in the same manner as the tooth crowns are kept, and they are selected and fitted accurately to the root, and the desired form of tooth crown is fitted and secured to the backing, with but little time or labor.

I am aware that tooth crowns have been made of the artificial porcelain or tooth material having concavities in the under surface for the purpose of containing a filling of cement, and holes made through the top of these porcelain crowns for the escape of the cement, but the concavities are not in the form of a band to fit around the root of the tooth, but the edges of the artificial crown simply fit upon the top of the remaining root and do not surround it. I am also aware that a band has been made and fitted around the tooth root, an artificial tooth fitted into the band, with a post running downward, said post set into the prepared nerve chamber of the tooth root, allowing the artificial tooth to fit down within the band, the whole being secured together, and in place by means of cements or amalgams, but the band is made separate and apart from the artificial tooth and post and requires a great amount of adjustment which

is seldom so perfect as to prevent the upper edge of the band from standing off from the artificial tooth, presenting a clumsy appearance and providing a receptacle for the lodgment of foreign substances or secretions. I am also aware that the post has been made for attachment to artificial crowns, but without any band attachment to fit down around the root of the natural tooth. I do not claim either of these constructions, but

What I claim as new, and desire to secure by Letters Patent, is—

1. As an article of manufacture, an artificial tooth crown consisting of a metal base, band and backing cast in one piece and upon and around the tooth crown in a single operation.

2. As an improvement in artificial tooth crown attachments, a metallic base, band and backing cast in one piece said base having an integral post.

In witness whereof I have hereunto set my hand.

JAMES R. PHELPS.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.