

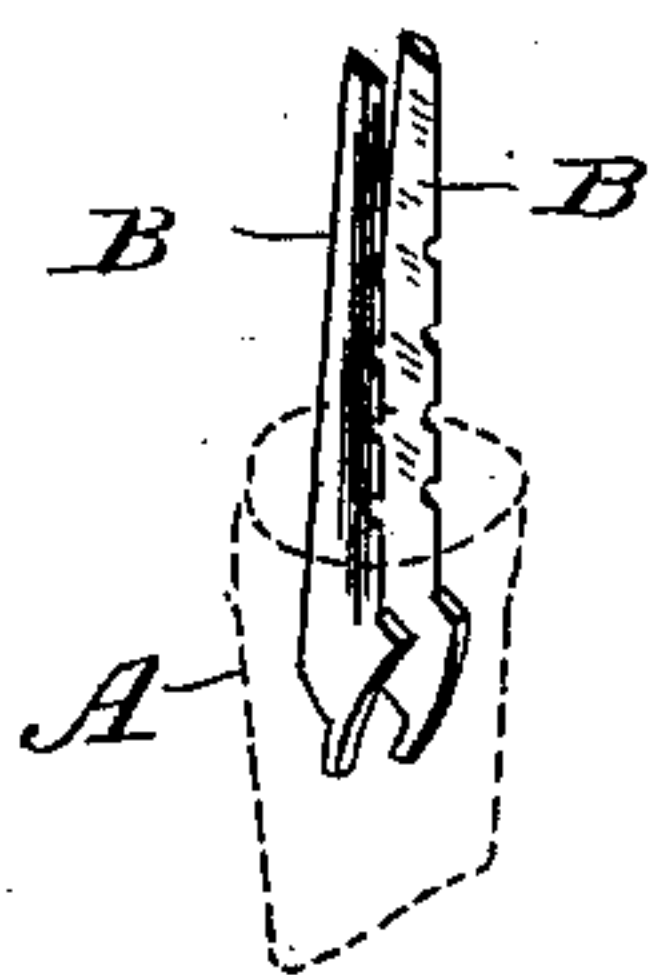
(No Model.)

W. H. GATES.  
ARTIFICIAL TOOTH CROWN.

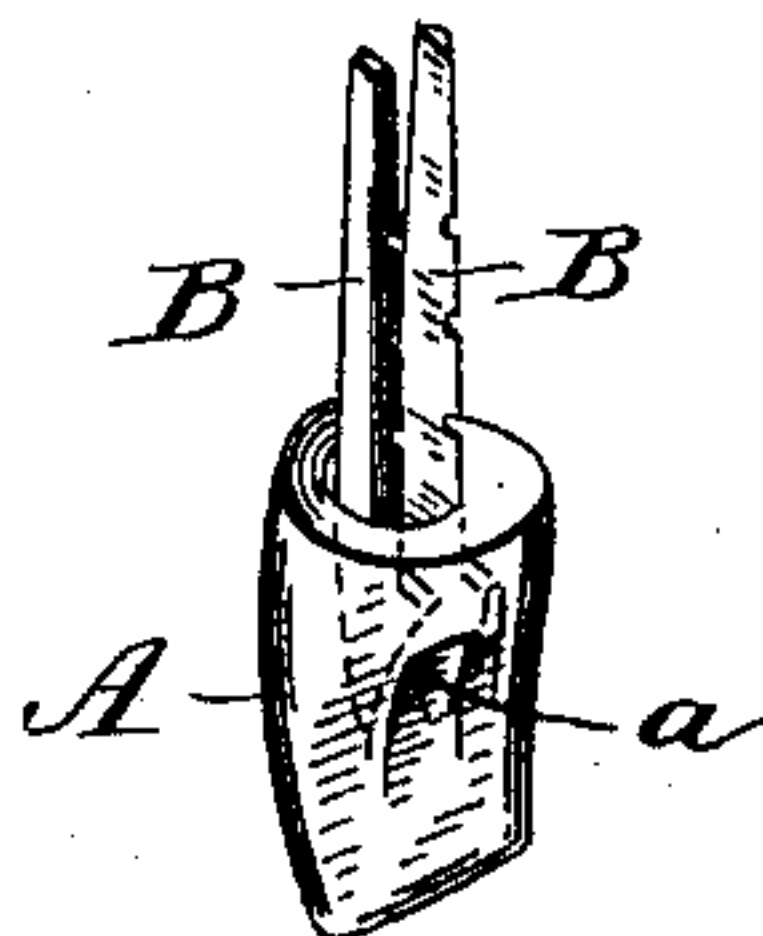
No. 371,053.

Patented Oct. 4, 1887.

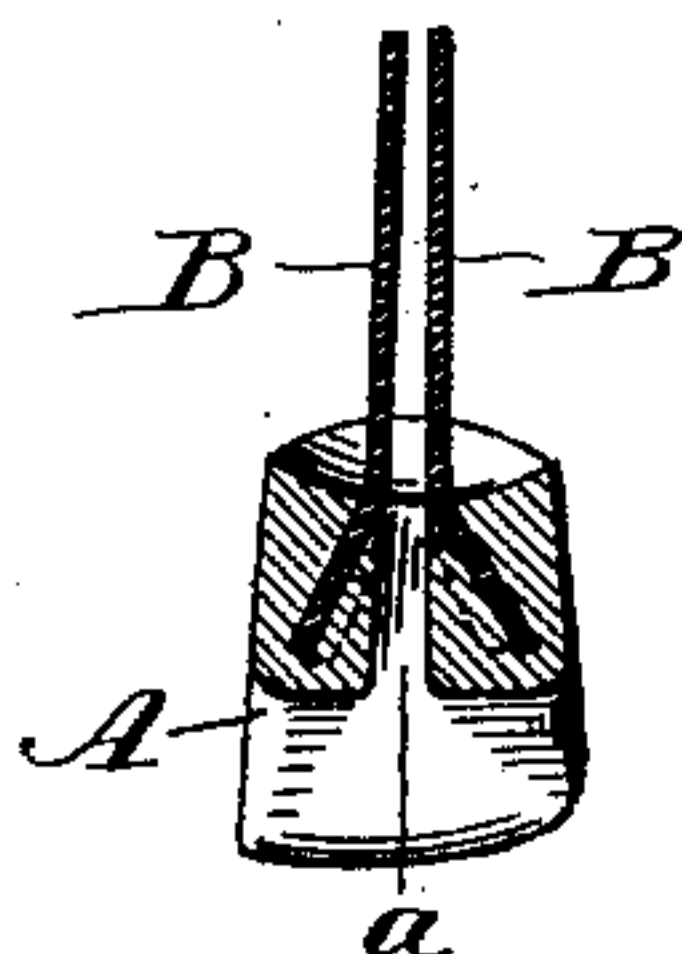
*Fig. 2.*



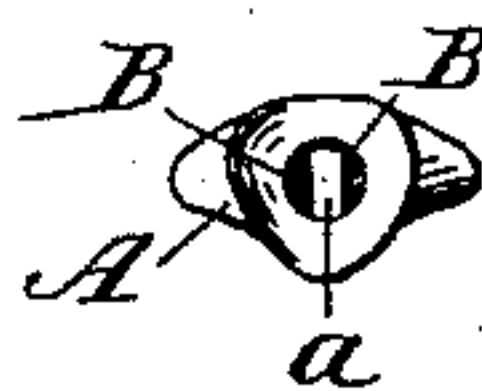
*Fig. 1.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*

*Ella Dick*  
*Marvin A. Curtis*

*Inventor:*

*William H. Gates*  
*by Marcellus Bailey*  
*his attorney*

# UNITED STATES PATENT OFFICE.

WILLIAM H. GATES, OF PHILADELPHIA, PENNSYLVANIA.

## ARTIFICIAL TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 371,053, dated October 4, 1887.

Application filed January 21, 1887. Serial No. 224,996. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. GATES, of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Artificial Tooth-Crowns, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a tooth-crown embodying my invention. Fig. 2 is a perspective view of the divided post, with the crown represented in dotted lines. Fig. 3 is a longitudinal transverse section in the plane of the hole or passage through the crown. Fig. 4 is a plan view of the crown, looking at its base.

The tooth-crown A is made of porcelain or like material, as usual. Through it is a hole or passage, *a*. Baked into the porcelain are two sections, B B, of a metal post. These sections have preferably a plano-convex cross-section, as seen in Fig. 4. They are placed one on each side of the perforation or hole in the crown, with their faces opposite to each other, the two being separated by a space which, when the crown is in place on the root, is to be filled with amalgam, which latter, together with the sections B B, makes up a composite post to insure the strong support and attachment of the crown. The post-sections, when the crown is fitted to the root, are intended to pass into and along the sides of the enlarged pulp-canal in the root, and they are then centrally supplemented by firmly-packed amalgam introduced through the opening *a* into the space between the post-sections. The sections may be notched or roughened on their edges or faces, (as seen, for example, in Fig. 2,) to insure their more perfect union with the amalgam in which they are to be embedded.

The improvement just described is in the line of the invention patented to me on June 29, 1875, and is intended to more perfectly realize the object there had in view—viz., to afford access through the crown to the root, so as to insure the best results in mounting. In the device therein shown, however, the crown and post were separate, and the ab-

sence in the process of setting of convenient steadying-points for both the crown and the post has limited materially the adoption of that plan. Under my present plan, however, the post-sections, (which are burned or baked in the crown,) passing down into and along the sides of the enlarged pulp-canal in the root, furnish the necessary steadying-points for the crown during the setting operation, and by filling the space between the sections with tightly-packed amalgam there results a composite post by which the crown is supported and held most strongly.

Another advantage attending my present improvement is that it affords means of overcoming a mechanical difficulty in the use of amalgam. The difficulty resides in restoring its due proportions after it has been softened to excess, to admit of the crown and post being properly embedded therein. There results from this operation an excess of mercury that can only be partially forced away by the crown itself, and this leaves the amalgam insecure, slow to set, and liable to stain the root. All of the objections, however, can in my improved crown be removed by introducing therethrough dry amalgam, which, absorbing the mercury, quickly restores a firm condition and enables the operation to be completed with facility and in the most thorough manner.

Having described my improvement and the manner in which the same is or may be carried into effect, what I claim herein as new and of my own invention is as follows:

An artificial tooth-crown formed with a filling passage or opening and provided with post-sections baked into or made integral with the crown, to the space between which sections access may be had through said passage, as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 18th day of January, A. D. 1887.

WM. H. GATES.

Witnesses:

J. S. PHILLIPS,  
EWELL A. DICK.