

(No Model.)

C. C. BEEBE.
ARTIFICIAL TOOTH CROWN.

No. 512,856.

Patented Jan. 16, 1894.

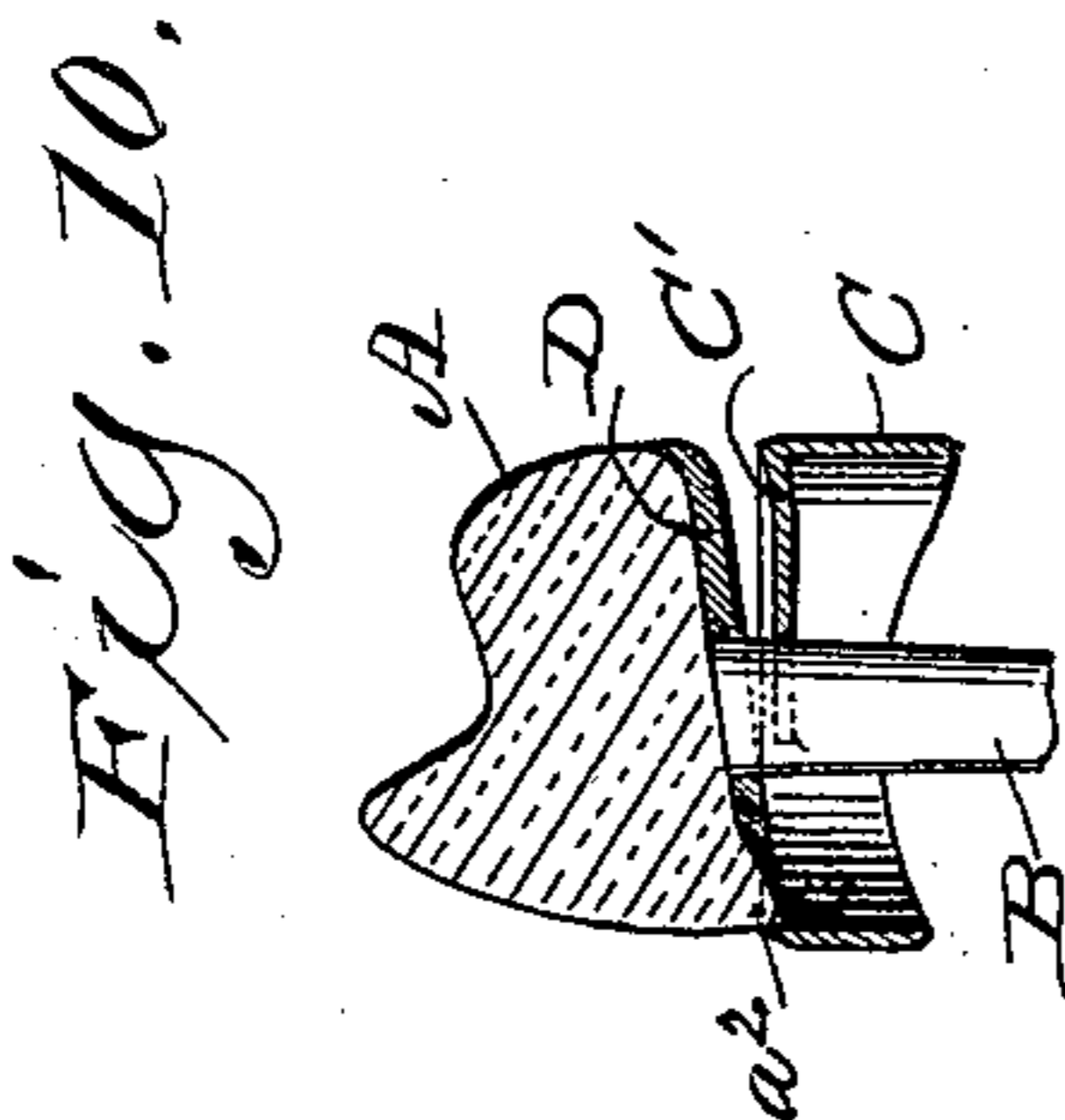
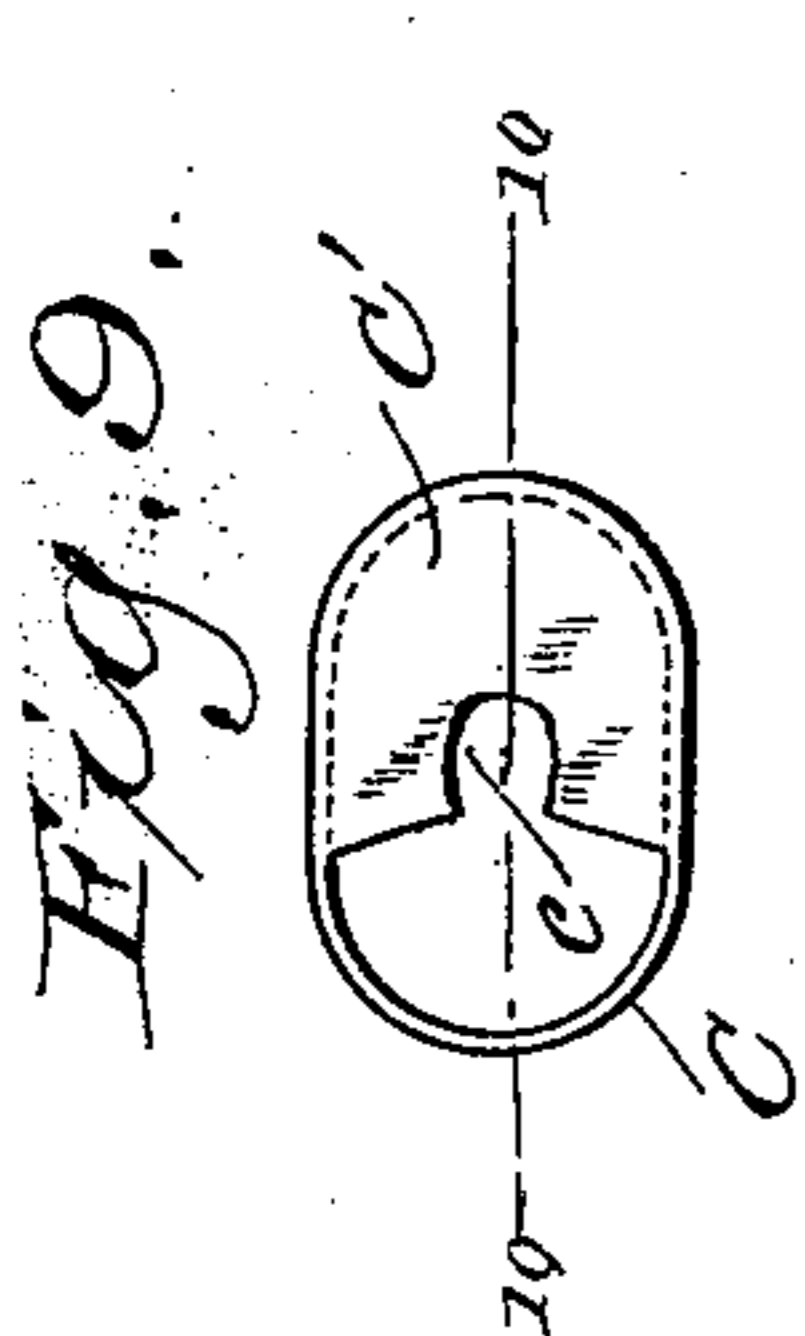


Fig. 11.

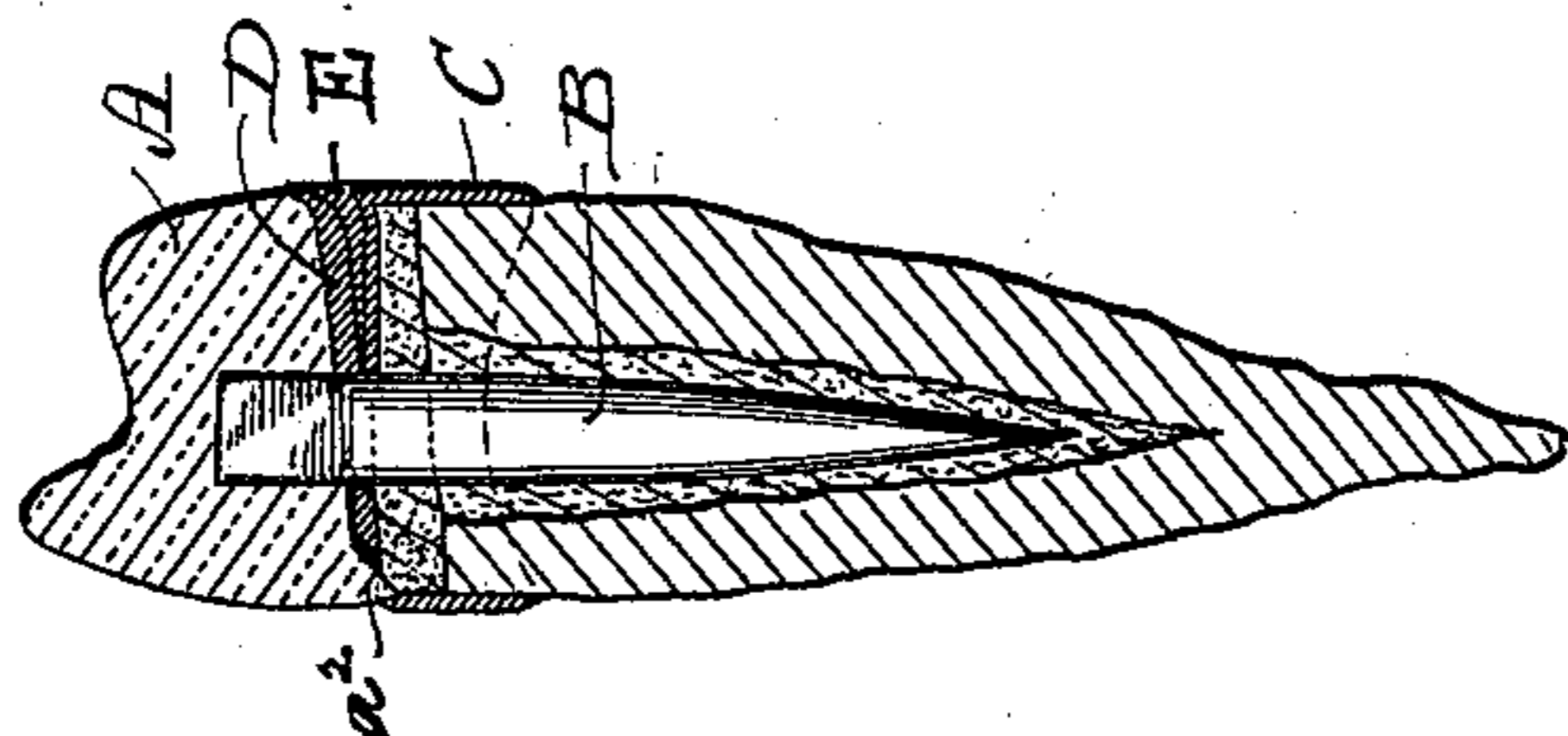


Fig. 12.

Fig. 8.

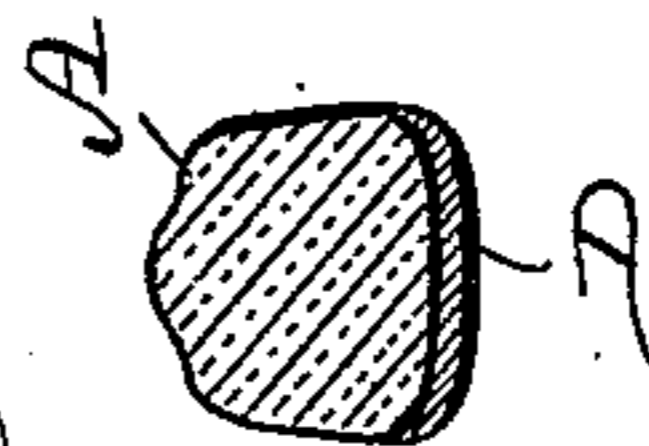


Fig. 2.

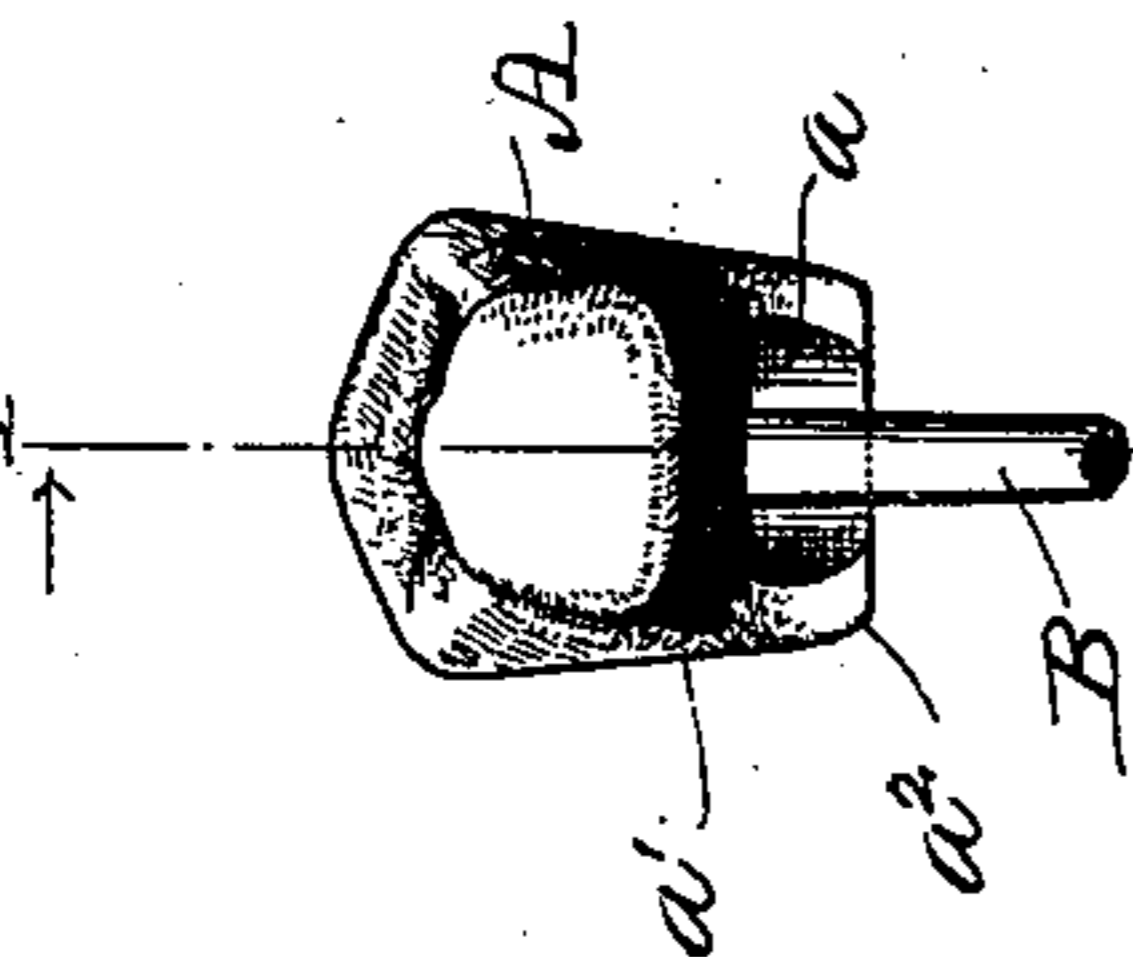


Fig. 4.

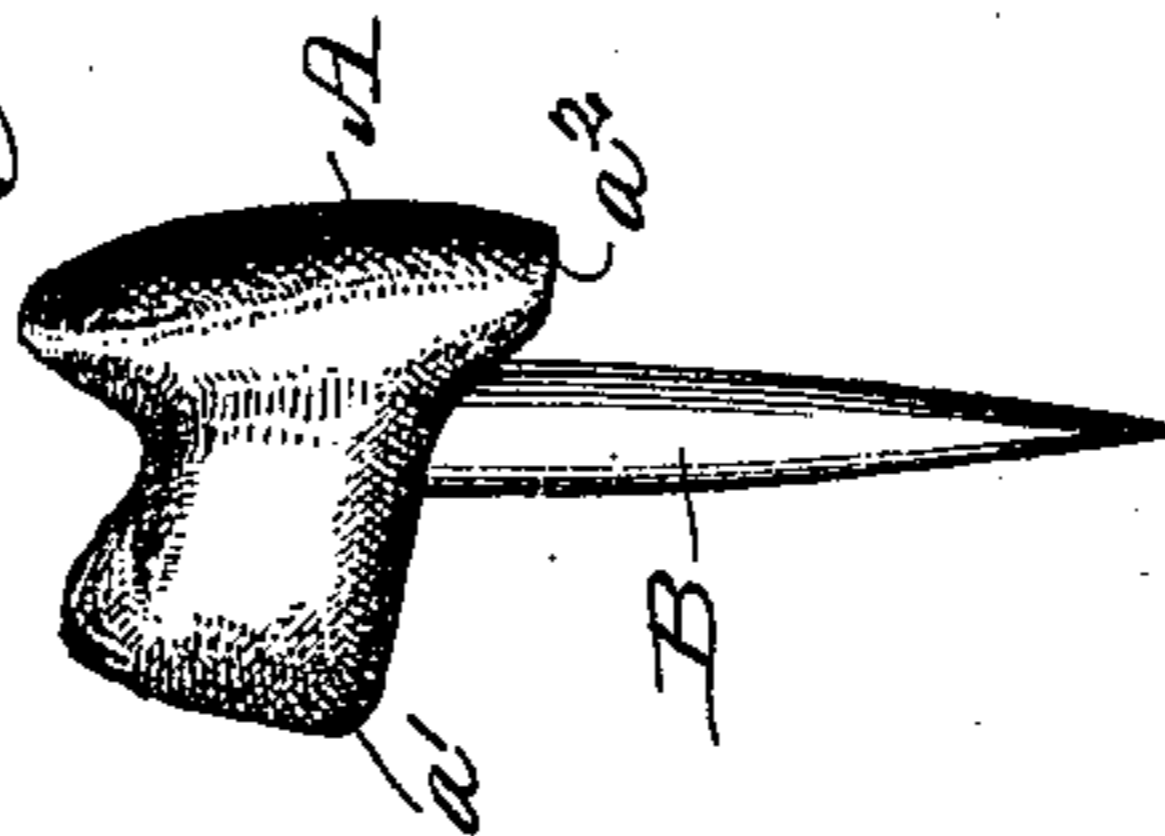


Fig. 7.

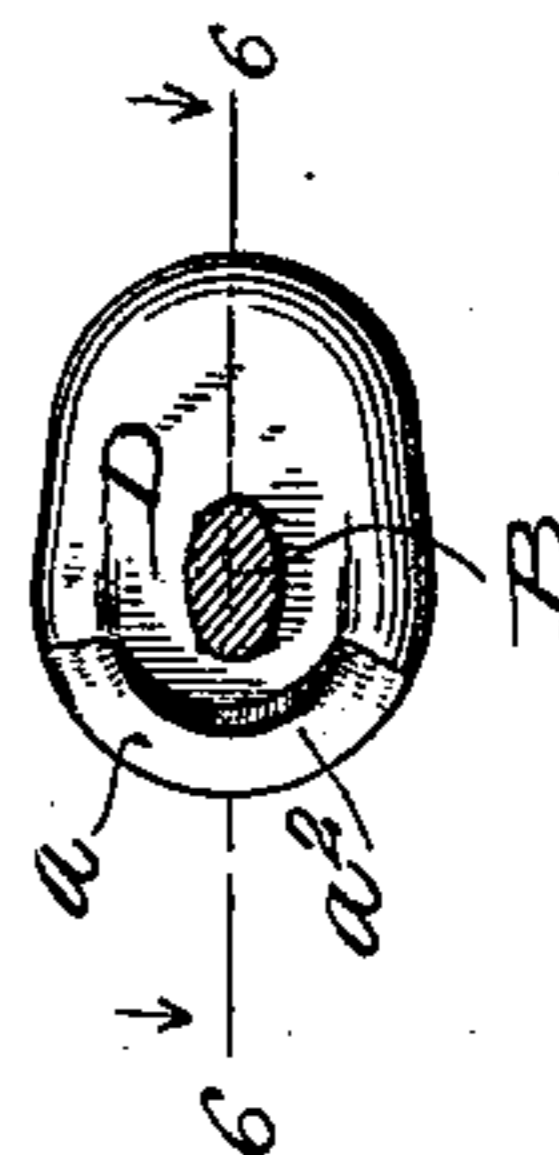


Fig. 1.

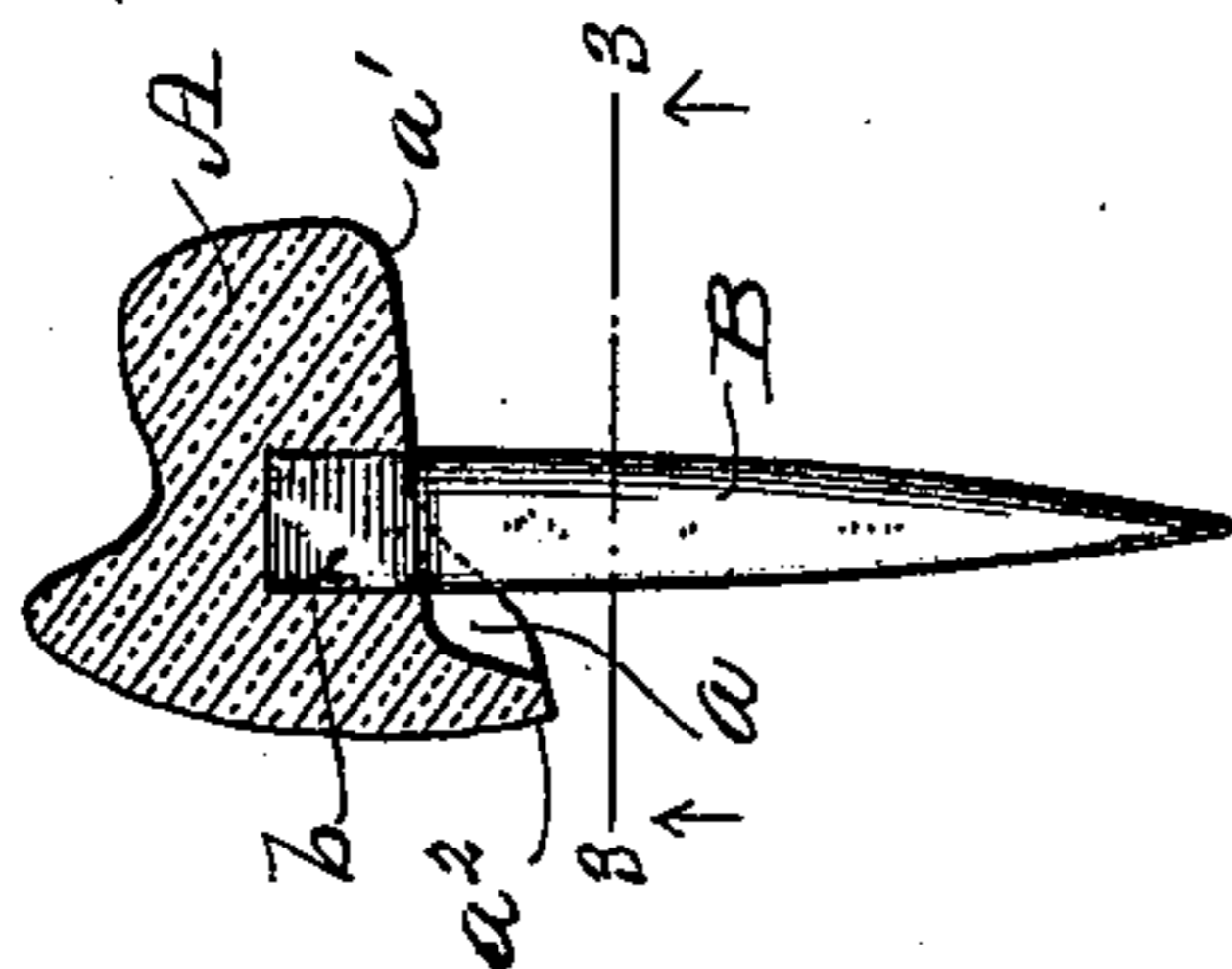


Fig. 3.

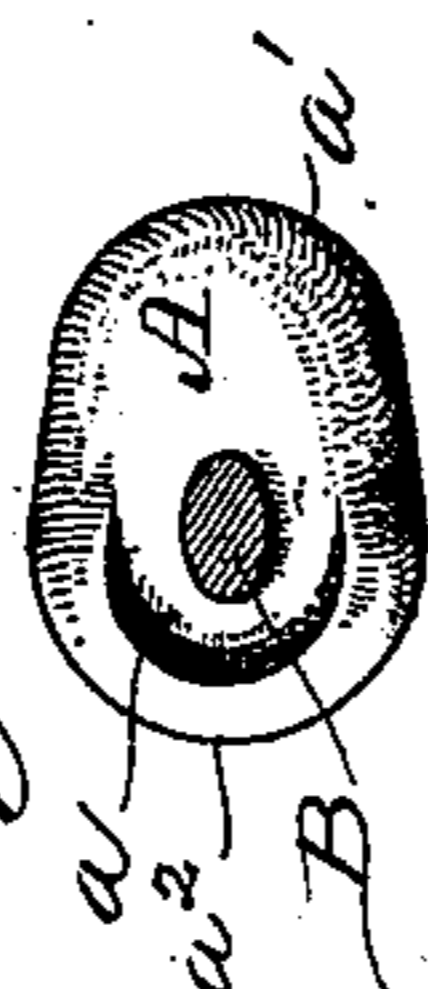
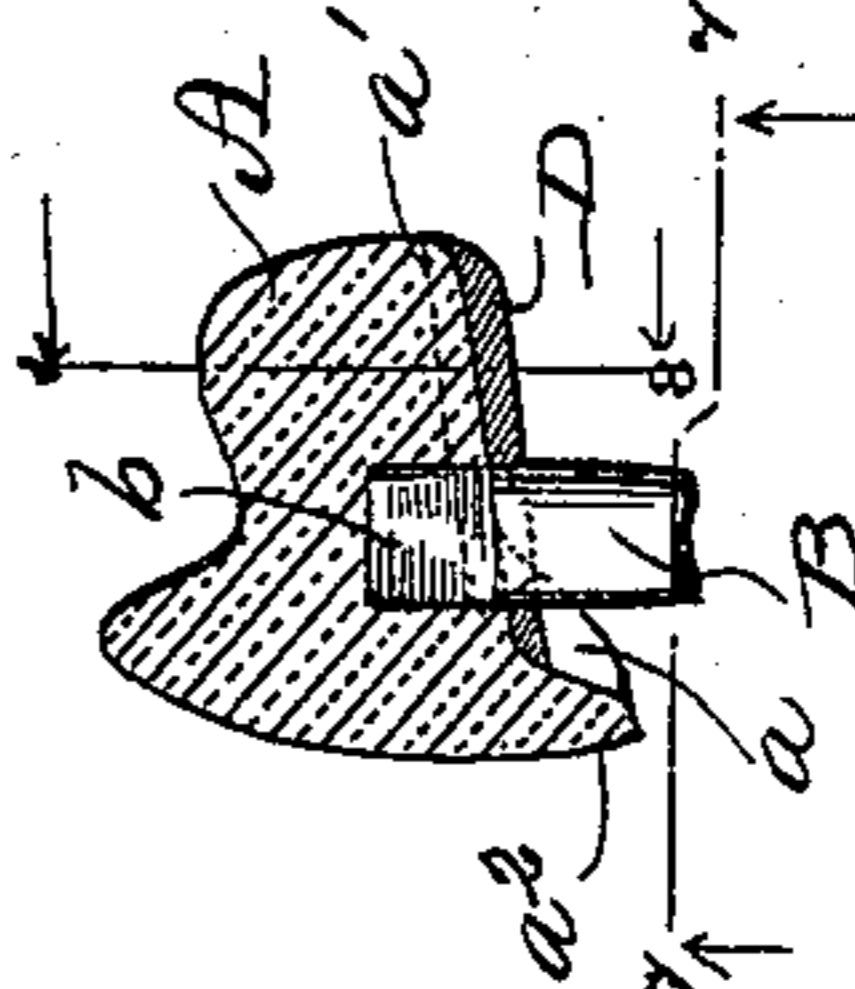


Fig. 6.



Witnesses
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Fig. 13.



Fig. 5.

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UNITED STATES PATENT OFFICE.

COLDWELL C. BEEBE, OF RACINE, WISCONSIN.

ARTIFICIAL TOOTH-CROWN.

SPECIFICATION forming part of Letters Patent No. 512,856, dated January 16, 1894.

Application filed November 7, 1892. Serial No. 451,184. (No specimens.)

To all whom it may concern:

Be it known that I, COLDWELL C. BEEBE, a citizen of the United States, and a resident of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Artificial Tooth-Crowns; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in artificial teeth crowns, and consists in the matters hereinafter described and pointed out in the appended claims.

In the accompanying drawings illustrating my invention: Figure 1 is a vertical sectional view of a tooth crown constructed in accordance with my invention, said section being taken on line 1—1 of Fig. 2. Fig. 2 is a rear elevation of the same. Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 1. Fig. 4 is a side elevation of the same. Fig. 5 is a similar view showing the manner of applying a layer or covering of metal to the lower surface of the crown. Fig. 6 is a vertical sectional view of the same taken on line 6—6 of Fig. 7. Fig. 7 is a cross sectional view of the same taken on line 7—7 of Fig. 6. Fig. 8 is a vertical cross sectional view of the same taken on line 8—8 of Fig. 6. Fig. 9 is a top plan view of the metallic fitting which is applied to the root of the tooth, and to which the artificial crown is secured preparatory to securing it to the root. Fig. 10 is a vertical sectional view illustrating the manner of adapting the crown to the metallic fitting preparatory to permanently securing it thereto. Fig. 11 is a vertical sectional view of a natural root with my improved crown secured thereto. Fig. 12 is a side elevation of the same. Fig. 13 is a detail elevation of one of the pins employed in securing my improved form of tooth crowns to the roots.

In said drawings:—A represents the tooth crown body which is preferably made of porcelain and of substantially the size and shape of a natural crown and constructed with the forward part *a* of its under surface concave and the rear part *a'* of the same convex as will be presently explained.

A vertical pin B, is embedded at its upper end in the porcelain crown body A as shown and extends downwardly therefrom and is

adapted for insertion in the root to which the crown is to be applied. The end of this pin B which is embedded in the porcelain crown body, is conveniently made angular in cross section, as shown at *b*, the projecting portion of said pin being preferably oval in cross section as shown.

I construct the crown body A with a depending flange or rib *a*² as shown, at the front side thereof, which flange or rib is arranged to extend considerably below the line of the base of the crown body for a purpose to be presently described.

The crown bodies are, of course, made in a variety of shapes and sizes to correspond with the various shapes and sizes of crowns of natural teeth.

In applying my improved form of tooth crown to the root of a tooth, I first dress off the top of the root and then construct a band C, which I fit snugly around the upper end of the same, and construct a partial floor or cover C' over the rear portion of the said band, said floor or cover being arranged to extend somewhat forward of the center of the band C, but the front part of said ring being left open as shown. A notch *c* is cut in the front edge of the half floor or cover C', for the reception of the pin B, which projects downward from the crown body A. I select a crown body of suitable size and shape, and apply a layer D of gold or other suitable metal to the under side of the same, firmly burnish- ing said layer into the concave part *a* of said under surface, and around the pin B, and burnish said layer over the convex rear and side edges *a'* of the under side of the body A, as illustrated more particularly in Figs. 5 to 8, inclusive. I grind off the lower part of the depending flange or rib *a*² on the front of the tooth body until said flange will project just inside of the front part of the band C when the crown is adjusted in position to articulate with an opposed tooth of the other jaw. After the flange *a*² has been properly ground and the crown articulated, with the opposed tooth, I remove the band C from the root, and adjust the crown body in position thereon as shown in Fig. 10, more particularly, and then fill in all the intervening space between the metal layer D and the half floor C' of the band C, as shown at E, Fig. 11, and around the pin B,

thereby solidly uniting the metal layer D and the pin B to the metal band C and its floor C'. I now fill the nerve cavity and cover the top of the root with dental cement, and then
 5 secure the crown permanently to the root by pressing the same down into position with the pin B extending down into the nerve cavity and the band C fitting closely around the top of the root. The top will now present the
 10 appearance shown in Figs. 11 and 12, of the drawings.

By my improvement I am enabled to provide a very strong, neat and durable tooth crown which is firmly secured to the root of
 15 the tooth.

The particular construction of the pin B with the angular end which is embedded in the porcelain crown body, enables me to very firmly secure the pin to the crown body,
 20 while by the construction of said pin with its projecting portion flattened or oval in cross section, said pin is caused to very securely engage with the cement filling in which it is embedded when the crown is secured upon
 25 the root, and all liability of the pin turning in its socket is obviated.

Where, in the foregoing description, I have made use of such relative terms as "downward" for example (with regard to the pro-
 30 jection of the pin B) it will be understood that this is solely with a view to explaining the drawings as shown, and that with the teeth of the upper jaw, this word would necessarily be changed from "downward" to
 35 "upward," the various parts always sustaining the same relative positions, irrespective of actual location. Again, when I use platinum for the layer, instead of gold, in place of burnishing the metal to place, I would
 40 simply unite the platinum and porcelain by baking or fusing, in the manufacture of the crown body A.

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

1. The combination with an artificial tooth crown provided with a base convex at its rear edge and concave at its forward part and having a depending flange immediately in front
 50 of said concave part, of a metallic band adapted to fit around the upper end of the root of a tooth and provided with a partial floor or covering over its rear portion, but having its forward portion open for the reception of said
 55 depending flange or rib upon the crown body, substantially as set forth.

2. The combination with an artificial tooth crown provided with a base convex at its rear and concave at its forward part and with a
 60 depending flange or rib immediately in front

of said concave part, of a metal pin embedded at one end in the crown body and arranged to extend below the same, and a metal band adapted to fit around the upper end of the
 65 root of a tooth, and provided with a partial floor or covering over its rear portion, said floor or covering being cut away or notched at its forward edge for the reception of said pin, but the forward part of said band being
 70 left open for the reception of said depending flange or rib on the crown body, substantially as set forth.

3. The combination with an artificial tooth crown provided with a base convex at its rear and concave at its forward part and with a
 75 depending flange or rib immediately in front of said concave part, of a metal pin embedded at one end in the crown body and arranged to extend below the same, a layer or coating of metal fitted to said base and around said
 80 pin, a metal band adapted to fit around the upper end of the root of a tooth and provided with a partial floor or covering over its rear part said floor or cover being cut away or notched at its front edge for the reception of
 85 said pin and the front part of said band being left open for the reception of the depending flange on said crown body, and a filling of solder between said layer or coating of metal on the base of the crown body and the
 90 partial floor or cover of the band, substantially as set forth.

4. The herein described method of applying artificial tooth crowns to natural roots, consisting in forming a crown body from por-
 95 celain or analogous material, with a base convex at its rear and concave at its forward part, and with a metal pin embedded at one end therein and extending below said base then fitting a layer or coating of metal to said
 100 base and around said pin, then constructing a band of metal to fit around the upper end of the root of the tooth, and with a partial floor or covering over its rear part and open at its front part, then fitting the crown body
 105 to said band with the forward edge of its base extending into said opening, and finally permanently uniting the metal layer on the base of the crown body, and said metal band and partial floor, by a filling of solder, substan-
 110 tially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Racine, in the county of Racine and State of Wisconsin, in the presence of two witnesses.

COLDWELL C. BEEBE.

Witnesses:

H. G. UNDERWOOD,
 HATTIE M. LEACH.