

No. 717,094.

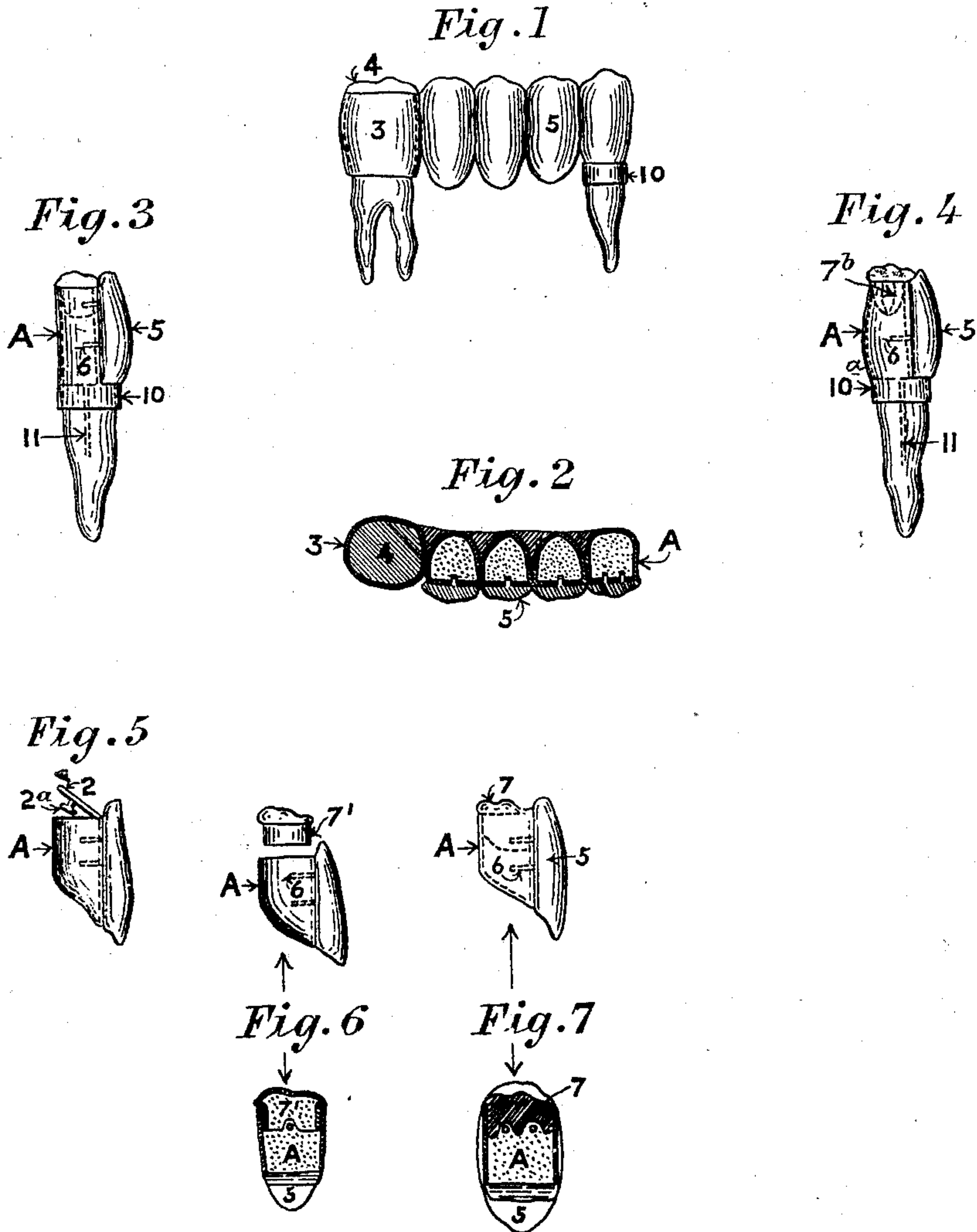
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B. W. HAINES.

BOX TOOTH CROWN AND ADJUSTABLE FACING.

(Application filed June 26, 1902.)

(No Model.)



Witnesses,

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# UNITED STATES PATENT OFFICE.

BYRON W. HAINES, OF SAN FRANCISCO, CALIFORNIA.

## BOX-TOOTH CROWN AND ADJUSTABLE FACING.

SPECIFICATION forming part of Letters Patent No. 717,094, dated December 30, 1902.

Application filed June 26, 1902. Serial No. 113,254. (No model.)

*To all whom it may concern:*

Be it known that I, BYRON W. HAINES, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Box-Tooth Crowns and Adjustable Facings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in pivot-teeth and dental bridgework.

The invention consists of the parts and the constructions and combination of parts which I will hereinafter describe and claim.

Figure 1 shows front elevation of bridge, exaggerated size. Fig. 2 shows sectional plan of bridge, exaggerated size. Fig. 3 shows box for single artificial tooth. Fig. 4 shows box for single artificial tooth with compressible cap. Fig. 5 shows box with lid and anchor knob. Fig. 6 shows side and sectional views of box with telescopic cap. Fig. 7 shows side and sectional views of box with removable porcelain block.

A represents a metal box which may be open at the top or may have a lid 2 integral with the straight front wall of the box. In the latter case the lid may be provided with a projecting knob 2<sup>a</sup> on its lower side, the purpose of which will be explained shortly. In bridgework two or more of these boxes, corresponding to as many missing teeth, are soldered together side by side and secured to the usual crowns 3, which are adapted to fit over the abutments 4. Small holes are drilled in the outer sides of the boxes, and the porcelain facings 5, simulating the missing teeth and having the metal pins 6 embedded in them, are secured to the boxes by inserting the pins through the holes and clenching them inside the box. The boxes may then be partly filled with vulcanite, gutta-percha, cement, or the like, and the top covered with a suitable occluding-surface 7, as gold or alloy, or, as in Fig. 7, this surface may be a removable porcelain block, or, as in Fig. 6, a separate telescoping metal cap or crown 7', fitting snug within the box, may be pressed down therein and anchored in the cement. Where the boxes are formed with the lid portion 2, the latter when folded down forms the occluding-surface, and the knob 2<sup>a</sup>, sinking into the cement or amalgam, anchors

and holds the lid fast, or a rubber filling can be vulcanized about the knob or pin before the box or bridge is inserted into the patient's mouth. Likewise a removable gold swage-cap may be inserted into vulcanite.

The same device is applicable in any of its forms where only a single artificial tooth is needed and there is a root remaining. In such cases the under side of the box is provided with a cap or crown 10, having the pins 11 and adapted to be secured to the root in the usual manner, Figs. 3 and 4. Fig. 1 shows a box of this character entering into the bridge construction and forming the forward abutment.

In Fig. 4 is shown a form of box adapted to receive a metal cap 7<sup>b</sup>, whose shank portion is slotted or otherwise rendered compressible, so that ordinarily some degree of pressure is necessary to insert the shank through the contracted rim of the box. The under side of the box is formed with a cap or crown 10<sup>a</sup>, fitting the root to be built upon. When the cap is placed in position on the box, which latter has previously been filled with cement, the cement penetrates into all the interstices of the contractible portion of the shank, so that on setting the cap is firmly anchored in the box or socket.

While I am aware that in bridgework it is not new to embed the pins of porcelain facings in cement, I claim an improvement in that each of my boxes corresponds to an individual tooth-space, and in case any one facing is broken off or needs adjusting only its particular box need be opened and cleaned. This can be done without disturbing in any way the remainder of the facings.

When any of the removable occluding-surfaces, such as shown in Figs. 3, 4, 6, and 7, are used, the edges of the box are crimped in around the block or cap and burnished to form a smooth tight joint with the latter.

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

1. In a device of the character described, a receptacle closed at the bottom and open at the top, and corresponding to a tooth-space and adapted to contain cement or the like, and a cover or crown piece adapted to close said open top of the receptacle and form a



grinding or biting surface said cover or crown piece anchored in said cement.

2. In a device of the character described, a receptacle closed at the bottom and open at 5 the top, and corresponding to a tooth-space, a cover closing the open top of the receptacle and forming a grinding or biting surface, means anchoring the cover to the interior of the receptacle and a facing fitting the front 10 of the receptacle and anchored thereto.

3. In a device of the character described the combination of a receptacle having a cap or crown on its under side which is adapted to fit over a root, a facing secured thereto

and a cover fitting said receptacle and forming the occluding-surface. 15

4. A new article of manufacture consisting of a box or receptacle open at the top and corresponding to a tooth-space and a facing secured thereto, said receptacle having means 20 on its under side by which it may be secured to a root.

In witness whereof I have hereunto set my hand.

BYRON W. HAINES.

Witnesses:

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W. T. HESS.