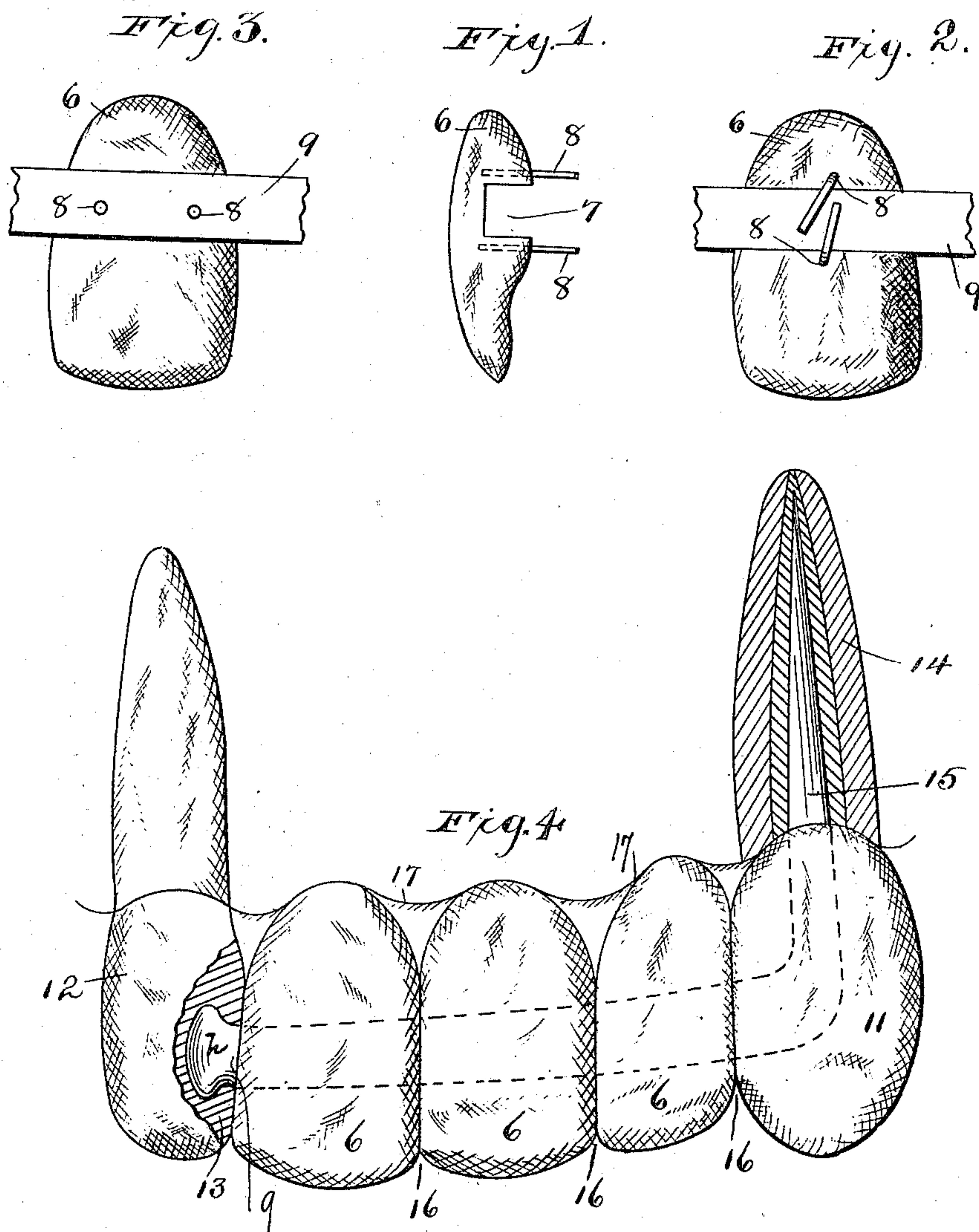


(No Model.)

E. P. BROWN.
ARTIFICIAL DENTURE.

No. 542,436.

Patented July 9, 1895.



Witnesses:

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UNITED STATES PATENT OFFICE.

ELEAZER PARMLY BROWN, OF FLUSHING, NEW YORK.

ARTIFICIAL DENTURE.

SPECIFICATION forming part of Letters Patent No. 542,436, dated July 9, 1895.

Application filed March 5, 1887. Serial No. 229,888. (No model.)

To all whom it may concern:

Be it known that I, ELEAZER PARMLY BROWN, a citizen of the United States, and a resident of Flushing, in the county of Queens and State of New York, have invented certain new and useful Improvements in Artificial Dentures, technically known as "Bridge-work," of which the following is a specification.

My invention relates to artificial dentures, and particularly to what is known as "bridge-work," wherein the artificial teeth are so constructed as to be adapted to be secured to the natural teeth or to other artificial teeth in the mouth.

The object of the invention is to provide an artificial denture of the character mentioned which shall possess great strength, a natural appearance, and perfect cleanliness when in the mouth, and which shall also be easily manufactured.

My invention consists, broadly, of two or more artificial teeth supported on a metal bar with the teeth fused together and adapted for attachment to natural teeth or roots.

In the accompanying drawings, forming a part of this specification, and wherein like features are indicated by like figures and letters of reference in the several views, Figure 1 is a side elevation of a plate-tooth having a groove or slot formed on its posterior portion to receive the metal bar, presently mentioned, and also showing the metal pins which are adapted to be bent over said bar. Fig. 2 is an elevation showing the posterior surface of the tooth with the metal bar within the groove or slot and held therein by having the metal pins bent over upon it. Fig. 3 is an elevation showing the posterior surface of a plate-tooth in which no groove or slot is made, the metal bar being secured to the surface of the tooth by the pins in the tooth passing through holes drilled in the bar and being riveted in place; and Fig. 4 is a front elevation, partly in section, showing a completed bridge comprising a series of artificial teeth having a metal bar baked centrally therethrough, the contiguous surfaces of the several teeth of the series being fused together and the metal bar at one end being attached to a natural tooth by the filling thereof, while the other end of said bar is let into a natural root in the mouth after

passing through a porcelain crown over said root.

Referring to the drawings, 6 indicates a plate-tooth of porcelain. In Fig. 1 this tooth is shown provided on its posterior surface with a horizontally-arranged groove or slot 7 and also with pins 8 fixed in the tooth material at the top and bottom of said groove or slot. The purpose of the groove or slot 7 is to receive a metal bar 9, preferably of platinum or platino-iridium, which has a cross-section corresponding to the depth of slot 7, so that when the bar is in place its surface will be flush with the surface of the tooth material. This bar 9 is held firmly in its place, while the tooth material or body which covers the said bar and pins and gives the proper contour to the posterior of the tooth is applied by bending the pins 8 over it, as shown in Fig. 2, the ends of the bar extending at each side of the tooth, as seen in the drawings.

In Fig. 3 is shown a modified plan of attaching the metal bar 9 to the plate-tooth where the tooth is not thick or deep enough to permit the grinding of a slot or groove therein to receive said bar. In this example the pins 8 are firmly secured in the tooth, which is not provided with the groove or slot 7, and holes are drilled in the metal bar 9 to receive the pins which are riveted to the bar, thus securely holding the tooth and bar together.

In some cases it will be found sufficiently secure to attach the bar to the plate-tooth without grooves or slots by simply bending the pins 8 over upon the bar.

Fig. 4 shows my completed invention as well as its modes of attachment, said view illustrating a completed bridge embracing several teeth fused together. The teeth 6 of the required size and conformation are combined with the bar 9 in the same way as a single tooth is combined therewith and completed in the same manner, the bar being baked in the teeth. One end of the bar 9 is headed, as at *h*, and this head is embedded in the gold filling 13 in a cavity of the natural tooth 12. The opposite pointed end 15 of said bar is bent at substantially right angles to the concealed body of said bar and is passed through the porcelain crown 11, as shown, and then entered into the nerve-canal of the natural root 14 in the form of a root-pin, as shown in

this view. The porcelain teeth 6 and crown 11 of the bridge are, as shown in the drawings, fused to one another on their contiguous surfaces, as indicated by 16. This fusing is effected in the process of baking, the several teeth being united to a certain extent to one another by the fusing in baking of the tooth material placed between them. This adds great strength to the bridge structure and effectually prevents the metal bar 9 from being reached on either side by food which otherwise might find access to the bar between the teeth.

In the bridgework shown in Fig. 4 it will be seen that the porcelain teeth are adapted to press tightly against the gum 17, thereby furnishing a firm support for the structure.

By my invention I am enabled to produce bridgework comprising two or more teeth natural in appearance, since when the metal bar 9 is baked invisibly through the structure and fastened to the contiguous teeth in the manner explained no metal is in view on either the outside or the inside of the arch of the teeth when the head is thrown back in laughing, for example. The construction is also absolutely cleanly, since there is no metal to come in contact with the fluids of the mouth. While the secretions will not adhere to the glassy surface of fused porcelain, they will, as is well known, readily adhere to any metal surface however highly polished. It is also

obvious that great strength is attained by the metal bar within the artificial denture, as the strain on the teeth is thereby distributed equally to all parts of the teeth and their liability of breaking away from their bearings (always present when the teeth are soldered to gold backing) is thus wholly eliminated. It will also be seen that the teeth comprising my bridge are adapted to rest firmly on the ridge of the gum, which is feasible in a porcelain bridge, since the glassy surface which such a bridge affords will not retain food impurities as will a bridge of metal.

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

1. An artificial denture or bridge consisting of two or more porcelain teeth supported on a metal bar, and having the contiguous surfaces of the teeth fused together, substantially as set forth.

2. An artificial denture or bridge consisting of two or more porcelain teeth having a metal bar passing laterally through them, and baked therein to conceal its surfaces, the contiguous surfaces of the several teeth fused together, substantially as set forth.

E. PARMLY BROWN.

Witnesses:

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