No. 641,930.

Patented Jan. 23, 1900.

R. BREWSTER.

ARTIFICIAL TOOTH.

(Application filed July 29, 1899.)

(No Model.)

Fig. 1.

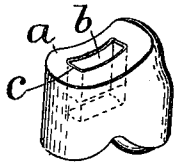


Fig. 2.

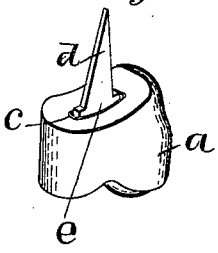


Fig. 3.

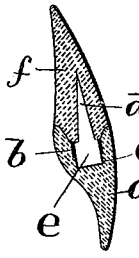


Fig. 4.

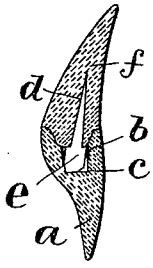


Fig. 5.

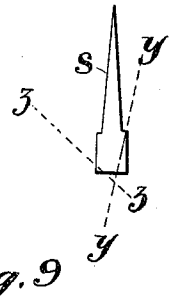


Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.

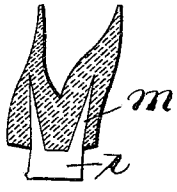


Fig. 10.

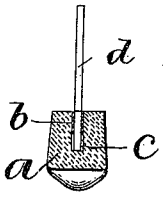


Fig. 11.



Witnesses
Geo. E. Fuchs.
Chas. R. Wright Jr.

Inventor
R. Brewster,
by A. S. Pattison,
Attorney

NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT BREWSTER, OF CHICAGO, ILLINOIS.

ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 641,930, dated January 23, 1900.

Application filed July 29, 1899. Serial No. 725,468. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BREWSTER, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Artificial Teeth, of which the following is a specification.

My invention relates to improvements in artificial teeth, and pertains to a construction for conveniently and readily attaching a crown to a root, in which is combined an elongated slot or recess in the base of the crown, which extends in a direction from front to back thereof, (labial to lingual aspect,) said elongated recess having a metallic lining and a flat plate or pin fitting snugly the sides of the said recess, but capable of edgewise movement, all of which will be fully described hereinafter and particularly pointed out in the claims.

The object of my invention is to enable a dentist to more accurately, conveniently, and permanently connect a crown to a tooth-root and to immovably attach the same at any angle necessary to suit any variety of shape found in natural roots.

Heretofore many constructions have been designed with the end in view of connecting a crown to a natural-tooth root; but so far as I am aware none of these previous constructions have shown the crown of the tooth provided with an elongated metallic-lined recess or slit extending from front to back of the tooth, combined with a pin which is flat or elongated in cross-section and of a thickness to fit snugly the sides of the said elongated recess and capable of edgewise oscillation therein for attaching the crown evenly and perfectly to natural roots at the various angles they are found and to unite the flat pin to the crown by soldering the flat sides of the pin and the adjacent walls of the metallic lining or band of the elongated slit in the tooth-crown. Those previous constructions bearing the nearest analogy to mine have consisted in providing the crown of the tooth with a round hole, which in some instances has been extended entirely through the crown of the tooth and which also in some instances has been provided with a metallic lining, into which either an ordinary wire or pin has been soldered or screwed. The difficulty with this construction is that in order to adapt the crown to natural roots extending at various angles it is necessary to bend the pin, and the bending of a stout pin at a point immediately below the base of a tooth makes it practically impossible to make an accurate fit between the tooth and the root. This construction differs widely from my invention, as will appear hereinafter. Also tooth-crowns have been provided with oval holes, (not elongated slits running from front to the back of the tooth,) and these oval holes have been provided with cross-holes for use with rubber or other plastic material, and which also differs radically from my invention.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a tooth-crown, showing my form of the metallic-lined elongated slit therein. Fig. 2 is a similar view showing my improved flat pin in position therein. Fig. 3 is a sectional view of an upper-incisor tooth-crown and root, showing my invention applied thereto. Fig. 4 is a similar view showing my invention applied to a distorted natural root. Fig. 5 is a detached view of one form of my pin. Figs. 6, 7, and 8 are detached views of other forms of my pin. Fig. 9 is a sectional view of a molar-root, showing my invention adapted for use in connection therewith. Fig. 10 is a cross-sectional view of a tooth-crown, showing my invention applied thereto. Fig. 11 is a detached view of the flat pin used in connection with molars, showing it constructed for attachment to natural roots which extend at abnormal angles.

Referring now to Figs. 1 and 2, *a* is a tooth-crown which is provided with an elongated recess or slit *b* in the base thereof and which extends from front to back of the said tooth, for a purpose which will be presently described. This elongated slit is provided with a metallic lining *c*, which is baked therein for the purpose of permanently connecting the same within the said slit. This metallic lining may be in the form of a band of any desired width, as indicated in Figs. 1 to 4, inclusive, and also in Fig. 10, for the purpose of effecting a saving in the quantity of metal

required, as a band of the width here shown is found to be of sufficient strength to immovably and permanently connect the flat pin *d* when the band and the pin are united by soldering.

In Fig. 3 my invention is shown applied to a root which is in its proper natural position and in which instance a flat pin of the construction shown in Fig. 5 is used.

In Fig. 4 I show my invention for connecting a crown to a root which is distorted from its natural proper position and in which event the head *e* of the flat pin has its corners cut away, as illustrated, for adapting the pin to be oscillated to one side in the elongated slit to enable the pin to assume the proper angle to extend into the distorted root *f*, Fig. 4.

In Fig. 9 I show a flat pin *i* with two projecting prongs *m* to fit into the two canals of a molar-root, the pin in other respects being constructed the same as that shown in Figs. 1 to 8, inclusive, for fitting into a correspondingly-elongated recess or slit in the tooth-crown.

In Fig. 11 I show the pin *i* with its corner cut away for adapting it to assume an angle in the tooth-crown to fit into distorted molar-roots, as will be readily understood.

The flat pins *d* and *i* are made of a width to fit snugly against the side walls of the metallic lining or band *b* in the elongated slit of the tooth-crown, but preferably (though not absolutely necessary) permitting some loose endwise movement in the said slot to permit a slight endwise movement or reciprocation of the pin in the said opening to enable the pin to adapt itself to slight variations in the angle of the root to which the crown is to be applied. When the crown is to be applied to a root at an angle at which the slight edgewise movement of the pin will not be sufficient, then it is only necessary for the dentist to file away one or both of the lower corners or edges of the head *e* of the pin sufficiently to permit the pin to be moved endwise to the desired angle. From the above description it will be seen that a dentist can readily adjust this flat pin in the elongated opening to the desired angle for making an accurate fit of the base of the tooth against the root by simply filing the corners or edges of the head of the pin and without any bending of the pin. Owing to the elongated slit and the correspondingly-shaped flat pin fitting against the side walls thereof, I provide a broad uniting surface or surfaces for the pin to the crown of the tooth by soldering, which produces a much stronger connection between the crown and the pin than is possible with a round pin and requires but a very small quantity of solder to effect the union.

The flat pins can be furnished to the dentist in blank form, if desired, the dentist to then file the pin to the desired shape necessary to fit the crown accurately to the root. However, I prefer to provide variously-shaped pins with variously-shaped heads, some of which are illustrated in Figs. 5 to 8 and in Fig. 11, so that the dentist can select the pin which will either enable him to accurately fit the crown to the root or which will need but a slight touch of the file to permit it to be moved to that angle which will accomplish the accurate fitting of the crown to the root.

A construction such as that herein shown and described will be of great convenience to dentists in enabling them to accurately and quickly fit a crown to a root, and when it is fitted into position and soldered a solid, firm, and immovable connection between the root and the crown is effected.

It will be readily understood that I have not herein attempted to show all of the angles and shapes of the head and the leg *s* of the pin which it may be necessary to provide, but have only shown a sufficient number to enable the construction and method of applying my invention to be understood.

Referring now to Fig. 5, if one edge of the head of the pin is cut as indicated by dotted lines Y Y and the other corner cut as indicated by the dotted lines Z Z one edge of the head of the pin will fit all along one end of the metallic band *b* in the elongated opening, and as the pin touches the band at both of its sides a thoroughly firm attachment will result between the crown and the pin when solder is applied.

Another advantage of my improved attachment and tooth-crown is that the strain upon the pin is edgewise, and as the pin is flat and of considerable width it is capable of withstanding a great deal more strain than it is possible for a round pin to resist. This, together with the additional soldering-surface provided by the sides of the flat pin of the elongated slit, is of considerable importance in the art of constructing and attaching tooth-crowns to roots.

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

1. An improved tooth-crown having an elongated recess or slit extending from front to back thereof, a metallic lining for said slit, and a flat-headed pin situated in the said slit and adapted to be united to the said lining, substantially as described.

2. An improved tooth-crown having an elongated slit extending from front to back thereof, and an edgewise-movable flat-headed pin situated within the slit and engaging the side walls thereof, whereby the pin may be moved edgewise to the proper angle for fitting the root of the tooth to which it is applied, substantially as described.

3. An improved tooth-crown having an elongated recess or slit in the base thereof extending from front to back, a metallic lining in said slit and united to the porcelain of the crown, in combination with a flat pin having a head of less size than said slit, and with its

edge removed to permit the pin to extend at an abnormal angle in respect to the tooth, substantially as described.

4. An improved tooth-crown having an elongated metal-lined slit extending from front to back thereof, and an edgewise-movable flat-headed pin, the head of the pin having two integral pointed legs, the head of the pin situated within the slit and engaging the side walls thereof, whereby the pin may be moved edgewise to the proper angle for fitting the legs of the head to the root of the tooth to which it is applied.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ROBERT BREWSTER.

Witnesses:
CHARLES LONGBRIDGE,
HERBERT CLARK.