No. 751,592. PATENTED FEB. 9, 1904.

T. H. WHITESIDE.

ARTIFICIAL TOOTH CROWN MOUNTING.

APPLICATION FILED MAY 4, 1903.

NO MODEL.

Fig. 1.

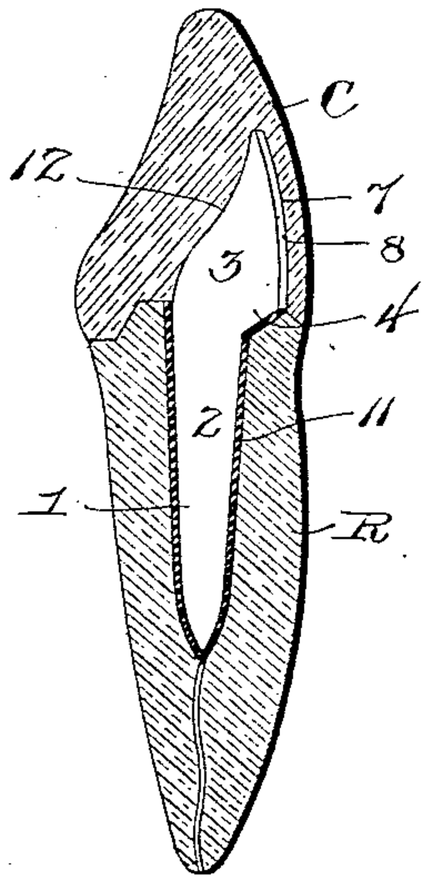


Fig. 2.

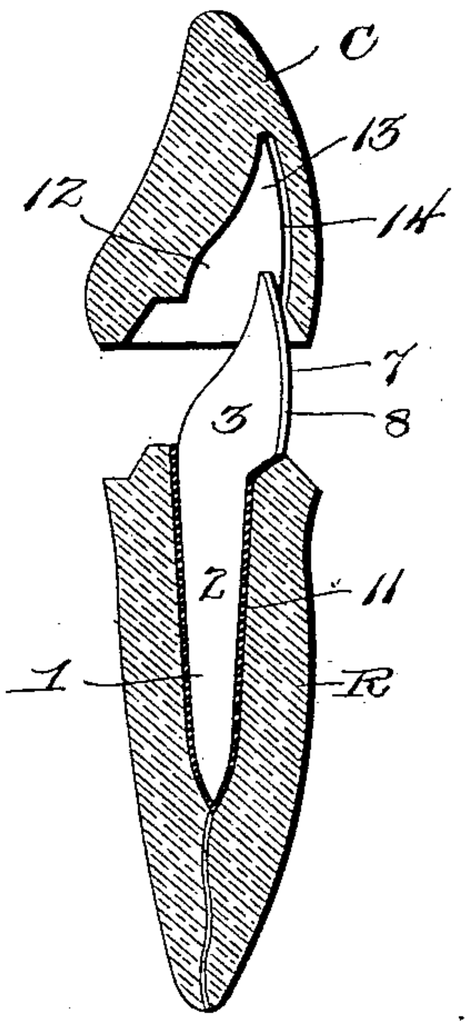


Fig. 3.

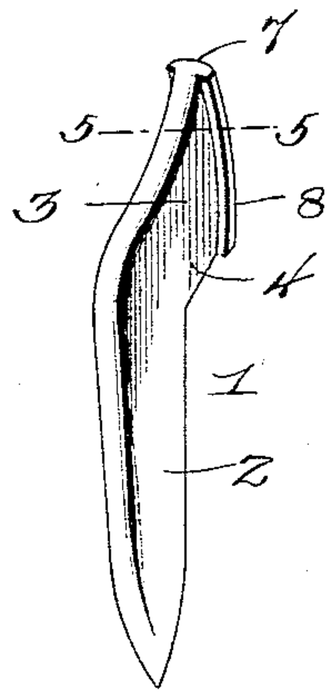


Fig. 5.

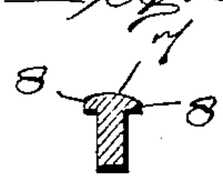
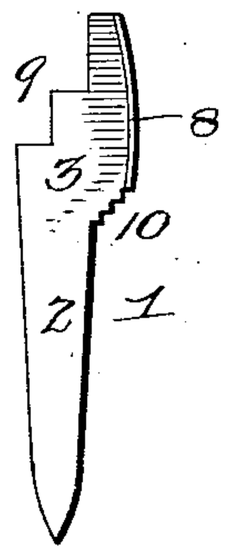


Fig. 4.



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No. 751,592. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

THOMAS H. WHITESIDE, OF YOUNGSTOWN, OHIO.

ARTIFICIAL-TOOTH-CROWN MOUNTING.

SPECIFICATION forming part of Letters Patent No. 751,592, dated February 9, 1904.

Application filed May 4, 1903. Serial No. 155,573. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. WHITESIDE, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented new and useful Improvements in Artificial-Tooth-Crown Mountings, of which the following is a specification.

This invention relates to the mounting of artificial tooth-crowns, and more particularly to the attachment thereof to natural roots remaining in the mouth.

The object primarily in view is to provide a simple and practical form of fastening-pin having means for effectually securing the crown upon the root and so constructed as to distribute the strain in such a way as to secure the greatest strength and stability at the point of union between the crown and root.

In carrying out this object the invention particularly contemplates an advantageous improvement in that type of pin disclosed in the former patent to me, No. 723,102, dated March 17, 1903, in which form of pin means are provided for disposing the crown-engaging portion nearer to the front or labial surface of the crown than to the rear surface, whereby a more extended solid portion of the crown is provided in rear of the fastening-pin than heretofore possible in the older methods of pin-fastenings.

The present improvement secures a construction whereby a more extended support or bearing is provided for the artificial crown along the labial edge of the pin, whereby the porcelain or material of which the crown is made will be supported and sustained on each side of the shank portion of the pin instead of throwing the entire strain immediately upon the rear edge of the pin as in other forms of fastenings. On account of this fact the tooth will not break easily.

A further object of the improvement is to provide an extended bearing along the labial edge of the pin to receive the pressure imposed on the crown and which will also assist materially in preventing the axial or rotative movement of the crown which ordinarily tends to disintegrate the cement and loosen up the fastening.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, which will hereinafter be more fully described, illustrated, and claimed.

The essential feature of the invention is susceptible to some structural modification; but the preferred construction is shown in the accompanying drawings, in which—

Figure 1 is a sectional view of a natural root fitted with an artificial or porcelain crown held in place by the improved fastening-pin forming the subject-matter of the present case. Fig. 2 is a similar view showing the crown separated from the crown-engaging portion of the pin. Fig. 3 is a detail in perspective of the pin in its simplest form. Fig. 4 is a detail view of a modified type of pin involving a shouldered formation at the angle between the anchoring-shank and the crown-engaging portion. Fig. 5 is a detail cross-sectional view of the crown-engaging portion on the line 5 5 of Fig. 3, showing the T-shaped formation thereof to provide the edgewise flanges along the labial edge of the crown-engaging portion.

Like characters of reference designate corresponding parts throughout the several figures of the drawings.

The improvement contemplated by the present invention is confined to the pin formation, and referring particularly to the drawings the pin as an entirety is designated by the numeral 1 and may be made of any material suitable for the purpose, preferably metal. The pin, as shown, essentially consists of a main anchoring-shank 2 and a short supporting-stem 3, constituting the crown-engaging portion. As shown in the drawings of this application and as disclosed also in the former patent aforesaid, this crown-engaging portion is offset to one side of the longitudinal plane of the main shank, whereby the latter and its supporting-stem portion 3 are dis-

posed in approximately or substantially parallel longitudinal planes. This offsetting of the crown-supporting stem is usually effected by forming the body of the pin with a widened laterally-deflected neck portion 4, disposed obliquely to the separate members 2 and 3 of the pin-body.

Ordinarily in the construction of the pin-body the same is preferably of a flattened form throughout to obviate turning of parts, as sometimes occurs in the employment of round pins, and also it is preferable to provide the short crown-supporting stem or crown-engaging portion 3 with a curved outer labial edge 7, conforming substantially to the curvature of the outer or labial surface of the tooth-crown. The construction therefore provides for disposing the crown-supporting stem 3, and particularly the labial edge 7 thereof, in close proximity to the labial surface of the crown, thus leaving an extended solid body of porcelain between the fastening-pin and the rear face of the crown, upon which the strain is usually imposed in an outward direction.

The distinctive feature of the present invention resides in providing the crown-supporting stem or crown-engaging portion 3 with an edgewise bearing-flange 8, disposed longitudinally of the stem or portion 3 at or contiguous to the outer labial edge 7 thereof. In the preferable construction the bearing-flange 8 projects beyond the opposite side faces of the flattened body or shank portion of the pin, and hence provides oppositely-disposed flange portions arranged at opposite sides of the crown-engaging stem and disposed edgewise along the outer labial edge 7 to present a widened bearing or sustaining face, which supports or sustains the porcelain or material of the crown on each side of the flattened body of the pin instead of throwing the entire strain immediately upon the rear edge of the pin, as in other types of pin-fastenings. Besides, the flange projection upon opposite sides of the crown-supporting stem additionally guards against any tendency of the crown to have an axial or rotative movement.

By reason of forming the crown-supporting stem 3 with flange projections upon opposite sides thereof and along the labial edge 7 the said crown-supporting stem 3 is of an approximate T shape in cross-section, as plainly shown in Fig. 5 of the drawings, with the head of the T constituting the portion disposed in proximity to the labial surface of the crown.

The improvement as described is shown in its simplest aspect in Fig. 3 of the drawings; but it is of course understood that the construction is susceptible to modification, such as suggested in Fig. 4 of the drawings. In this figure the pin-body is shown provided with a stepped series of holding-shoulders 9, located in the angle between the main shank 2 and the stem portion 3, and also the pin-body may be provided with a plurality of outer holding-shoulders 10, disposed along the line of the laterally-deflected neck-section 4 at the outer edge thereof with reference to the applied position of the pin. When the shoulders 9 and 10 are employed as a part of the pin formation, the mortises of the root and crown are necessarily correspondingly shaped, as plainly shown in the other patent aforesaid; but it will of course be understood that irrespective of whether the extra holding-shoulders are employed the present invention remains the same—namely, that of the longitudinal flange projections upon the sides of the crown-supporting stem—for the purpose specified.

No special claim is made herein to the manner of using the pin; but, as shown in the drawings, the root R is cored out to provide therein the longitudinal socket 11 for receiving the anchoring-shank 2, which is held therein by cement or other equivalent fastening means. The offset crown-supporting stem 3 and the deflected neck-section 4 of the pin-body project beyond the end of the root and are designed to register in a pin-receiving mortise 12, formed in the bottom of the crown C, and which mortise conforms to the configuration of the portions of the pin projecting beyond the root. In this connection it is only necessary to add that the mortise 12 is formed with the socket portion 13 disposed in proximity to the labial surface of the crown and including a flanged seat or groove 14 for receiving the flange projections 8 of the crown-supporting stem.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In an artificial-tooth-crown mounting, the combination with the crown having a socket disposed in proximity to the labial surface of the crown, of a fastening-pin having an offset crown-engaging stem flanged at its labial edge and received within the socket of the crown.

2. In an artificial-tooth-crown mounting, the combination with the crown having a socket disposed in proximity to the labial surface thereof, of a fastening-pin comprising a body having a main anchoring-shank for engagement with the root, and a crown-supporting stem offset to one side of the longitudinal plane of the shank and provided longitudinally along the labial edge thereof with oppositely-disposed flange projections projecting beyond the faces of the stem.

3. In an artificial-tooth-crown mounting, the combination with the crown having a socket

disposed in proximity to the labial surface thereof, of a fastening-pin comprising a body having a main anchoring-shank for engagement with the root, a crown-supporting stem offset to one side of the longitudinal plane of the shank and provided longitudinally along the labial edge thereof with oppositely-disposed flange projections projecting beyond the faces of the stem, and a stepped series of holding-shoulders along the outer edge of the deflecting neck portion of the pin.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS H. WHITESIDE.

Witnesses:
W. H. WOOLF,
BEULAH NIXON.