No. 723,102. PATENTED MAR. 17, 1903.

T. H. WHITESIDE.

ARTIFICIAL TOOTH.

APPLICATION FILED NOV. 26, 1902.

NO MODEL.

Fig. 1.

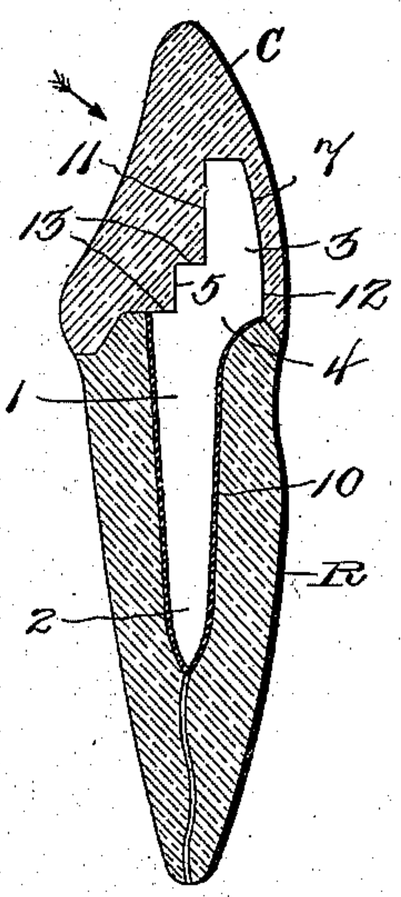


Fig. 2.

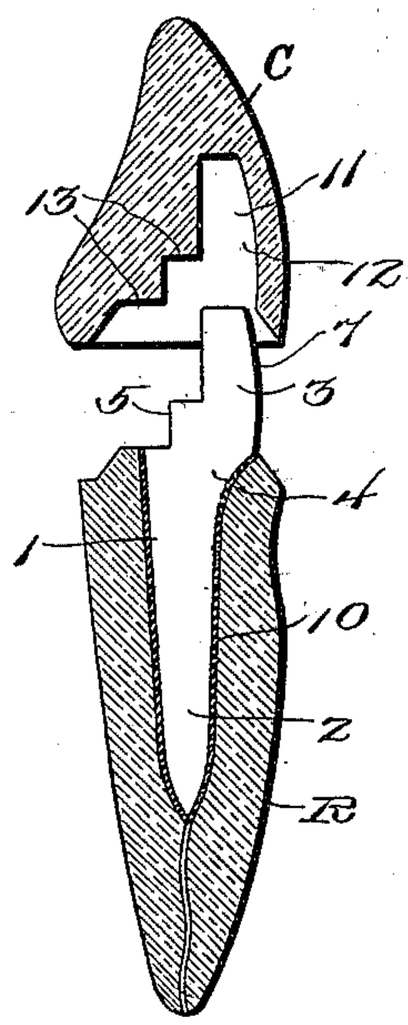


Fig. 3.

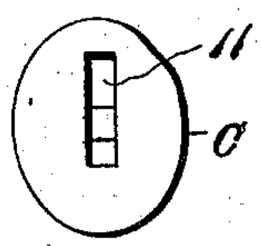


Fig. 4.

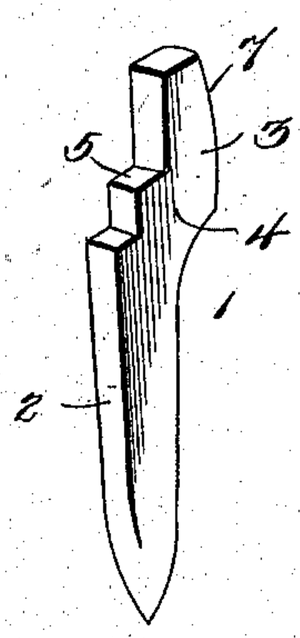


Fig. 5.

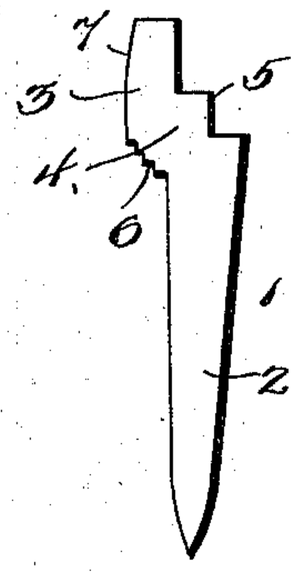
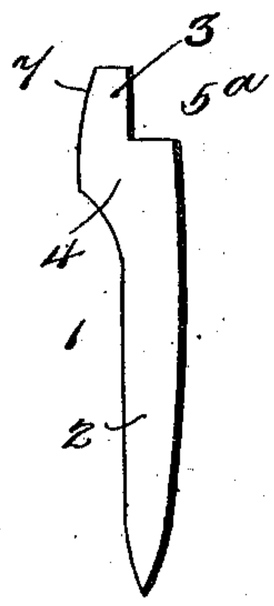


Fig. 6.



Witnesses
G. L. Roy
O. E. Wallenstein

Inventor
Thomas H. Whiteside
by H. C. Carman
Attorneys

UNITED STATES PATENT OFFICE.

THOMAS H. WHITESIDE, OF YOUNGSTOWN, OHIO.

ARTIFICIAL TOOTH.

SPECIFICATION forming part of Letters Patent No. 723,102, dated March 17, 1903.

Application filed November 26, 1902. Serial No. 132,894. (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 certain new and useful Improvements in Artificial-Tooth-Crown Mountings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to dentistry, and particularly to the attachment of artificial crowns to natural roots remaining in the mouth or in the construction of artificial dentures.

To this end the invention primarily has in view an improved mounting for artificial tooth-crowns involving the employment of a peculiar and practical form of fastening-pin comprising means for effectually securing the crown upon the root, while at the same time preserving the maximum strength of the crown, whereby the possibility of breakage incident to the strain usually imposed thereon is reduced to a minimum.

A further object of the invention is to provide a fastening-pin for the crown so constructed as to properly distribute the strain placed upon it and providing the greatest strength and stability at the point of union between the crown and root, and hence at the point where the greatest strain usually occurs. Also the novel form of pin provides means for disposing its crown-engaging portion nearer to the front or labial surface of the crown than to the rear surface, thus providing for a more extended solid portion of the crown in rear of the fastening-pin than heretofore possible in connection with the older methods of pin-fastenings for artificial tooth-crowns.

In other methods of mounting artificial tooth-crowns involving the employment of a fastening-pin it is customary to extend the pin centrally through the base of the crown, thereby disposing the end of the pin within the crown in very close proximity to the rear surface or face thereof. This necessarily very greatly weakens the crown and causes the same to frequently break through the comparatively thin section between the rear surface and the pin thereof. The present invention aims to overcome these objections to the old methods of pin-fastenings for artificial tooth-crowns and also contemplates a construction designed to prevent axial or rotative movement of the crown, which movement 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 be hereinafter more fully described, illustrated, and claimed.

The essential feature of the invention involved in the peculiar complementary formation of the fastening-pin and of the crown is necessarily susceptible to some modification without departing from the spirit or scope of the invention; but the preferred embodiments of the latter are shown in the accompanying drawings, in which—

Figure 1 is a sectional view of a natural root fitted with an artificial or porcelain crown fastened in a position through the medium of the improved fastening-pin. Fig. 2 is a similar view showing the artificial crown separated from the pin to illustrate how a broken crown can be removed and replaced without disturbing the anchoring of the pin in the root. Fig. 3 is a bottom or basal plan view of the artificial crown. Figs. 4, 5, and 6 are detail views illustrative of slightly-modified forms of the pin.

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

As indicated, the essential feature of the invention resides in the employment of a fastening-pin embodying the advantages pointed out. In the drawings this fastening-pin is designated in its entirety by the numeral 1 and is made of any metal suitable for the purpose. It is preferably formed of a single integral piece and essentially consists of a main anchoring-shank 2 and a short supporting-stem 3, constituting the crown-engaging portion, which is offset to one side of the longitudinal plane of the main shank, whereby the shank and its supporting-stem portion 3 are disposed in approximately or substantially parallel longitudinal planes.

The offsetting of the crown-supporting stem or crown-engaging portion 3 to one side of the longitudinal plane of the main shank 2 is preferably provided for by forming the body of the pin with a widened laterally-deflected neck-section 4, located at the juncture between the main shank and its stem portion 3 and disposed obliquely to these members of the pin-body.

At what may be properly termed with reference to its applied position the "rear" edge thereof the pin-body is provided in the angle between the main shank 2 and the stem portion 3 with a stepped series of holding-shoulders 5, although in the carrying out of the invention a single holding-shoulder 5ª in the same location may be employed, as suggested in Fig. 6 of the drawings. Also it may be found desirable to provide the pin-body at its outer edge with reference to its applied position, along the line of the laterally-deflected neck-section 4, with one or a plurality of outer holding-shoulders 6. Where a plurality of such shoulders are employed, the same are preferably in stepped order, as shown in Fig. 5 of the drawings. Also in the construction of the pin-body it is preferable to provide the short crown-supporting stem 3 with a curved outer edge 7, conforming in general curvature to the outer or labial surface of the tooth-crown disposed in proximity thereto, as shown in Figs. 1 and 2 of the drawings.

In employing the improved fastening-pin 1 the root R is cored out to provide therein a longitudinally-disposed socket 10 for receiving the anchoring-shank 2 of the pin, and for this purpose the said shank may be serrated or roughened to provide a better hold for the cementing material. With reference to the root the laterally-deflected neck-section 4 and the offset supporting-stem 3 of the pin-body project beyond the end of the root and are designed to register in a pin-receiving mortise 11, formed in the bottom of the crown C, with or without a metal base baked therein, and conforming to the configuration of the projecting end of the fastening-pin—that is, the mortise 11 is formed with a stem-socket 12, disposed in proximity to the labial or front surface of the crown and with a series of shoulders 13, leading from the rear of the socket 12 and interlocking with the inner holding-shoulders 5 of the pin-body.

When the mortise 11 of the crown is brought into register with the projecting end of the pin-body and cemented thereon, a stable and strong fastening is effected between the root and the crown. Besides, the supporting-stem 3 for the crown is disposed closely 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 always imposed in an outward direction. The arrow in Fig. 1 indicates the direction in which strain is generally placed upon the crown of the tooth. This is withstood by the extended rear solid portion of the crown and the widened neck 4.

In the use of the modification shown in Fig. 5 the outer holding-shoulders 6 interlock with corresponding shoulders formed in the contiguous portions of the root and the crown, therefore acting as an additional locking means for holding the parts together.

The pin-body is of a flattened form, and hence obviates turning of parts, as sometimes occurs with the employment of round pins.

From the foregoing it is thought that the construction, use, and many advantages of the herein-described tooth-crown mounting will be readily apparent without further description, and it will also be understood that 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 of the crown having a shouldered mortise formed with a stem-socket disposed at one side of the longitudinal center of the crown in proximity to the labial surface of the latter, and a fastening-pin having a main anchoring-shank for engagement with the root, and a widened shouldered crown-supporting stem offset to one side of the longitudinal plane of the shank and engaging the said socket of the crown.

2. In an artificial-tooth-crown mounting, the combination with the crown having a shouldered mortise with a stem-socket disposed in proximity to the labial surface of the crown, and a fastening-pin consisting of a body having a main anchoring-shank for engagement with the root, a short crown-supporting stem offset to one side of the longitudinal plane of the shank, and a stepped series of inner holding-shoulders located at the inner edge of the pin-body in the angle between the shank and the supporting-stem, the latter engaging with the said socket portion of the mortise in proximity to the labial surface of the crown.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS H. WHITESIDE.

Witnesses:

HENRY E. COOPER,

G. S. ROY.