

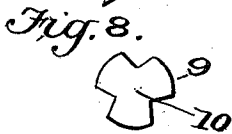
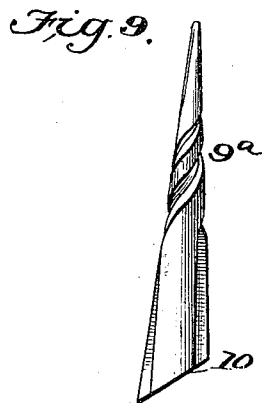
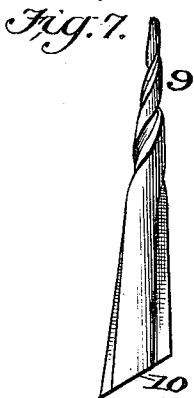
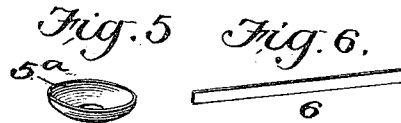
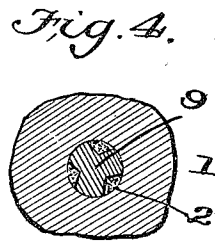
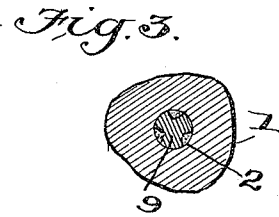
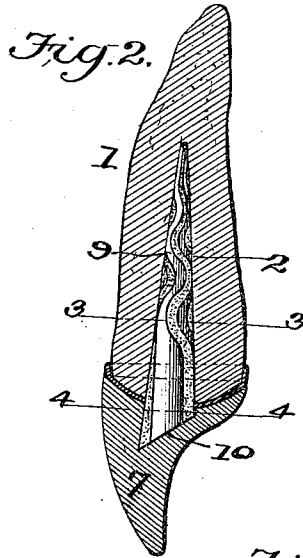
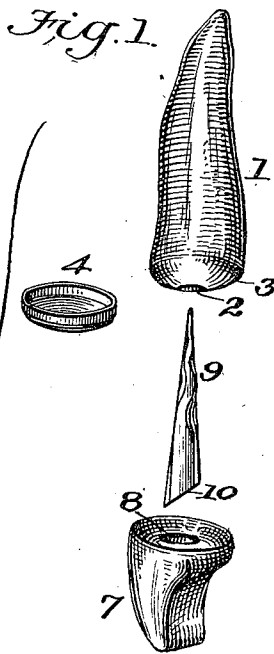
No. 659,196.

A. P. JOHNSON.
DENTISTRY.

Patented Oct. 2, 1900.

(No Model.)

(Application filed Aug. 10, 1900.)



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UNITED STATES PATENT OFFICE.

AUGUST P. JOHNSON, OF ADA, MINNESOTA.

DENTISTRY.

SPECIFICATION forming part of Letters Patent No. 659,196, dated October 2, 1900.

Application filed August 10, 1900. Serial No. 26,500. (No model.)

To all whom it may concern:

Be it known that I, AUGUST P. JOHNSON, of Ada, in the county of Norman and State of Minnesota, have invented a new and useful Improvement in Dentistry, of which the following is a specification.

My invention is an improvement in the construction and attachment of pivot-teeth, whereby various important advantages are attained.

The construction, arrangement, and combination of parts are as hereinafter described, and shown in accompanying drawings, in which—

Figure 1 is a perspective view, including the root of a natural tooth, an artificial tooth, a post or anchor for the latter, and a cap. Fig. 2 is an inclosed longitudinal section showing the aforesaid parts connected as in use. Figs. 3 and 4 are cross-sections on lines 3 3 and 4 4, respectively, of Fig. 2. Fig. 5 is a perspective view of a modified cap. Fig. 6 is a perspective view of a band which in practice is secured to the cap shown in Fig. 5. Fig. 7 is a side view of an anchor, post, or pivot. Fig. 8 is an end view of the anchor or post shown in Fig. 7. Fig. 9 shows a modification of the twist.

In Figs. 1 and 2 the natural root 1 is shown bored longitudinally, the bore 2 being tapered and also circular in cross-section at every point. The base 3 of the root 1 is ground conoidal or symmetrically rounded, and the gold cap 4 to be applied thereto has a like shape. The cap 4 has the usual band or flange constructed integrally; but in Fig. 5 I show a plain or flangeless cap 5^a, the same having a simple concavo-convex form. A band 6 (see Fig. 6) is to be fitted to the root by the operator and then soldered to the edge of the cap 5^a. This method is particularly applicable and advantageous when the end of the root is of abnormal shape. The porcelain artificial tooth or crown 7 has a conoidal or symmetrically rounded cavity 8, which corresponds exactly to the cap 4 or 5^a, and will hence fit thereon, however adjusted, on the base 3 of root 1. This conical construction of the cap 4 or 5^a and the cavity 8 of crown 7 has the great advantage that the cap will always fit closely and accurately in the crown, and the end of the root 1 can always be ground to

make a like fit and tight joint, leaving a minimum quantity of cement between the crown and root to dissolve out, yet sufficient is present to attain the result of greater security of connection or attachment of the crown. The anchor or post is baked or fused into the all-porcelain crown in the process of manufacture, and thus both are sold as one article. The cap is made and may be sold separate or unattached, and it is to be fitted on the end 3 of the root before being applied to the crown and anchor and is soldered to the anchor when the crown is ready to be secured to the root. Thus the gold cap, being in the first instance free or unattached to the post and crown 7, may be accurately adjusted and fitted to the root-base 2 and is then applied to the post and in the cavity of the crown and secured by soldering it to the former. The whole appliance—the crown, post, and cap—is then applied to the root 1 and forced into place, a small quantity of cement being first placed in the cap, so that a thin layer of such material will be between the cap and root-base 2. The hole in the cap may be enlarged by the dentist when required to allow any shifting or adjustment of the crown and cap relative to each other.

It is apparent that the conoidal shape and the symmetrical relation of the parts described enables the crown to be set at an angle to the root, instead of in alinement with it, without affecting the accuracy of fit or joint and that the cap and crown being made and furnished to the operator in such form much time is saved to the latter, while a further advantage is attained by using a porcelain crown having no metal back, since such crown is less liable to crack or be defaced by use, is much stronger, and its artificiality is not exposed, as in the case of crowns whose metal back is often disclosed by translucency of the face portion. It has thus all the advantages of the well-known Richmond crown without any of its disadvantages.

The anchor or post has the following peculiarities of construction and attachment and relation to other parts. It is tapered and grooved on three sides throughout its length, and two-thirds of its distal portion or the portion occupying two-thirds of the length of

bore 2 in the root 1 is twisted for the purpose of affording a very secure hold in the latter.

In Figs. 1, 2, and 7 the upper portion 9 of the post is shown twisted, and in Fig. 9 the central portion 9^a is twisted. Thus in each case the lower portion of the post retains its regular shape or form. It is held firmly in the cementing material and cannot turn or rotate, as other screws have done. The notches 10 or circumferential recesses with which posts are often provided greatly weaken them, whereas my post is greatly strengthened by the shape described. The bore 2 in the root is circular in any cross-section above the lower 15 end. A round hole can be drilled in a tooth-root 1 with greater ease and in a shorter time and with less danger of perforating the side of the root, whose walls are left strong. At any point above the base a cross-section of the post is described upon a circle, so that it 20 will always fit the bore 2 accurately. In other words, all the points on its surface in any cross-section that come in contact with the bore are equidistant from the center of the 25 post.

The base of the post is slanted or beveled at 10, so that the operator may grind off a considerable portion of the back of the crown without exposing the adjacent corner of the 30 post. Such grinding is required in the case

of "short bites" or where the lower incisors infringe on the inner side of the upper ones.

What I claim is—

1. The improved dental attachment comprising the crown or artificial tooth having a 35 symmetrical conoidal depression or cavity, the post or anchor baked in said crown and fixed in the center of said cavity, the convex metal cap, made separately or independently of the crown and post and having a central 40 opening adapted to receive the post and allow adjustment therein, its convexity being symmetrical and having the same degree of curvature as the said cavity, whereby it is adapted to fit in the same, whatever be the adjust- 45 ment of the crown, as and for the purpose shown and described.

2. An anchor or post for artificial tooth-crowns which is tapered, twisted, and also grooved longitudinally, substantially as 50 shown and described.

3. An anchor or post for artificial tooth-crowns which is grooved throughout its length, and tapered and twisted in its distal portion, substantially as shown and described. 55

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Witnesses:

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