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W. H. MOSLEY.
PORCELAIN CROWN FOR TEETH.

APPLICATION FILED SEPT. 25, 1902.

NO MODEL.

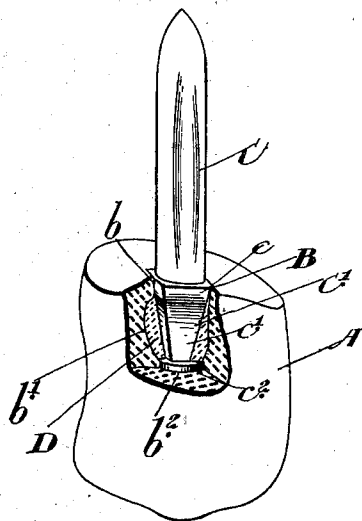


Fig. 1.

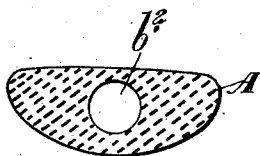


Fig. 2.

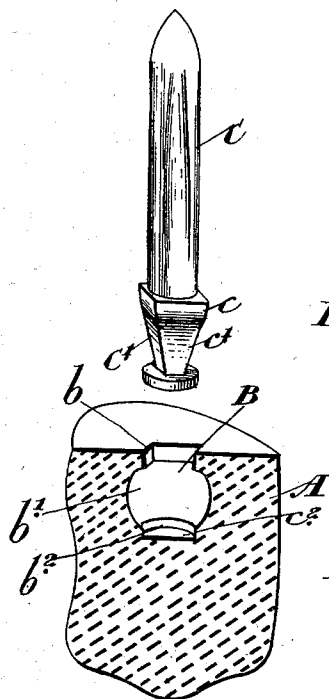


Fig. 3.

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

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PORCELAIN CROWN FOR TEETH.

SPECIFICATION forming part of Letters Patent No. 731,594, dated June 23, 1903.

Application filed September 25, 1902. Serial No. 124,816. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAROLD MOSLEY, of the town of Midland, in the county of Simcoe, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Porcelain Crowns for Teeth, of which the following is a specification.

My invention relates to improvements in porcelain crowns for teeth; and the object of the invention is to devise a post and means for fixing it in the cavity in the crown made to receive the same which will insure the crown being properly set upon the base-tooth by the dentist and which will avoid any danger of wobbling or twisting of the post in the crown and cement in the cavity therein when such post is placed in position and in which there will be no liability of the post being so set as to leave the cement exposed to the action of the saliva in the mouth; and it consists, essentially, of a crown having, preferably, a polygonal opening in the base of the crown, an undercut cavity extending inwardly therefrom and having a reduced inner portion, and a post having the portion thereof fitting within the cavity tapered to accurately fit the flat-sided opening at the outside, and an end button designed to fit into the reduced recess of the undercut cavity of the inner end, such undercut cavity being filled with cement and the parts being otherwise arranged and constructed in detail, as hereinafter more particularly explained.

Figure 1 is a perspective view of a crown of a tooth, showing it partially broken away and in section to exhibit the post and the mode of fixing the same within the cavity in the crown. Fig. 2 is a sectional plan. Fig. 3 is a detail of the post. Fig. 4 is a sectional perspective view of the crown, showing the formation of the cavity.

In the drawings like letters of reference indicate corresponding parts in each figure.

In the formation of pins or posts to fit the crown heretofore there has been used, among other modes of fastening, a pin with a central flange or collar and a reduced lower portion with annular enlargements. In such construction and in other constructions the inner portion of the post fitted loosely in the cement, which of course has been previously

poured into the receiving-cavity in the crown. Careless dentists in boring holes in the tooth to receive the crown would frequently bore such holes obliquely instead of vertically or axially. Consequently when the outer end of the post was fitted into the tooth in order to bring the base of the crown down flat upon the base-tooth the post as it entered up in the cement would on account of the flexibility of the cement before being set allow of the inner end of the post or that portion of the post in the cavity of the crown to move or wobble to such an extent that the crown although fitted to the top of the tooth would have the post thereof not on a line or axial to the base or base-tooth. From experience it will be readily comprehended that a crown so placed and connected by a post improperly set would necessarily be uncomfortable. It is quite a common practice in posts as at present made to extend the post deep into the porcelain crown, which has the effect of materially weakening it at the thin tapering edge of the crown. Another defect which it has been found necessary to overcome was that the crown would have a tendency when connected to the base-tooth by posts as formerly constructed to twist, and thereby change the contour of the crown, so that it would not conform properly with the form of the base-tooth. It is with the object of avoiding these defects and producing a tooth which will insure good work by the dentist, as well as a solid and rigid connection of the crown to the base-tooth, that my invention is particularly designed.

It has of course been a common practice to make a post in the porcelain, and with this my invention has nothing to do, but is adapted for use where the post is cemented in the crown.

A is the crown, which is made of porcelain.

B is a cavity, which is suitably formed in the porcelain and is provided with a polygonal entrance-orifice *b*, an undercut inner cavity *b'*, and a reduced extension to such cavity *b*².

C is a post, the portion which fits in the cavity in the base-tooth being of the usual form.

C' is a tapered inner portion of the post, which is preferably rectangular in form or polygonal. In practice I preferably make the

tapered portion of two tapers—viz., the portion c and portion c' . The polygonal orifice is also preferably tapered to fit the taper c . c^2 is a button or disk-shaped head, preferably flat, which forms an enlargement at the inner end of the tapered portion c' .

In placing my post in position a sufficient quantity of cement is poured into the cavity and the post then forced down, so that the button end c^2 fits within the recess b^2 , and the tapered portion c fits within the tapered orifice b , which is polygonal, as has been described. It will now be seen that the post is held within the tapered orifice b from twisting by the flat-sided taper c and is prevented from wobbling or canting, tilting or getting out of plumb by means of the head or button c^2 , which fits within the reduced end b^2 of the cavity b' . As the post is forced in, of course the cement D is necessarily forced around the tapered inner portion of the post, thereby securely locking it by means of the head c^2 , and the cement D extending between such head and the undercut of the cavity and around the tapered portion c' . It will thus be seen that the utility of the cement is merely to prevent the post from being drawn out; but the rigidity of the post within the crown is entirely independent of the cement and that all strain of the post is taken by the sides of the orifice B and the wall of the reduced extension b' of the cavity.

An important desideratum in my construction also resides in the fact that by my construction of post the inner portion formed as I have described avoids any unnecessary depth to the cavity in which the post is held and, in fact, I find from practice enables me to very much reduce the depth of the cavity as at present commonly made to receive the post, and this, too, without in any measure detracting from the strength of the connection of the post to the crown, but rather enhancing it.

What I claim as my invention is—

1. In porcelain crowns, the combination with the crown having a tapered orifice to receive the post provided with an undercut cavity extending inwardly therefrom and a reduced portion at the bottom of the cavity, of a post having a tapered portion of polygonal cross-section designed to extend into the orifice and an enlarged head or button on the end thereof designed to fit the reduced end of the cavity and a cement filling extending around the tapered portion of the post to the outside of the inner head of the post as and for the purpose specified.

2. In porcelain crowns, the combination with the crown having a tapered polygonal orifice to receive the post provided with an undercut cavity extending inwardly therefrom and a reduced portion at the bottom of the cavity, of a post having a tapered polygonal portion designed to extend into the orifice and an enlarged head or button designed to fit the reduced end of the cavity, and a cement filling extending around the tapered portion of the post to the outside of the inner head of the post as and for the purpose specified.

3. In porcelain crowns, the combination with the crown having a tapered flat-sided orifice to receive the post provided with an undercut cavity extending inwardly therefrom and a reduced portion at the bottom of the cavity, of a post having a flat-sided tapered portion, the outer end of which is of a less taper than the inner end and is designed to fit into the correspondingly-tapered orifice and an enlarged head or button designed to fit the reduced end of the cavity, and a cement filling extending around the tapered portion of the post to the outside of the inner head of the post as and for the purpose specified.

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Witnesses:

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