

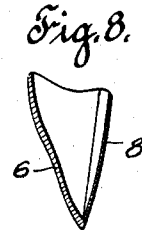
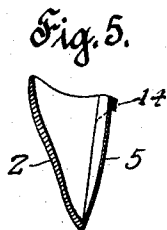
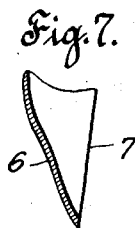
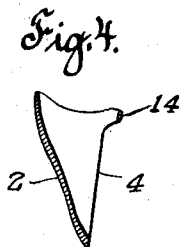
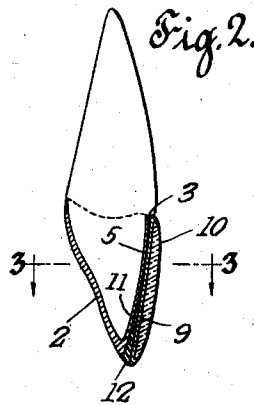
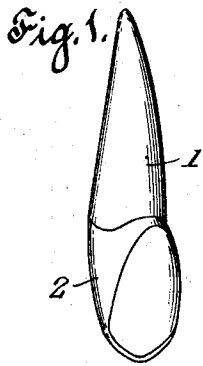
Nov. 25, 1930.

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1,782,552

PORCELAIN FACED CROWN

Filed Oct. 20, 1928



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UNITED STATES PATENT OFFICE

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PORCELAIN-FACED CROWN

Application filed October 20, 1928. Serial No. 313,668.

My invention relates to a porcelain faced crown.

It is the general object of the invention to provide a porcelain faced crown which will possess great strength and rigidity, to the end that the porcelain facing will not readily become separated from the crown.

It is a more specific object to provide a porcelain faced crown which will have a plurality of thicknesses of metal interposed between a prepared tooth and a porcelain facing.

It is another object to provide a porcelain faced crown having a substantially reinforced edge frame extending about the side and incisal edges of the porcelain facing.

Other objects will be apparent upon a reading of the specification.

Briefly stated, the invention in its preferred form includes a swaged two-piece or cast crown having a wall which may be relatively thin extending over the labial side of a prepared tooth. A metal backing plate for a porcelain facing is secured to the labial side of the crown, preferably by soldering and so that a relatively thickened marginal body of solder is formed along the side and incisal edges of the labial side of the crown. It is preferred to provide a reinforcing body of hard metal, such as clasp metal at the incisal edge of the crown.

In the drawings, which show for illustrative purposes only, preferred forms of the invention—

Fig. 1 is a perspective view of a prepared tooth having an improved porcelain faced crown in place;

Fig. 2 is a central vertical sectional view of the crown shown in Fig. 1;

Fig. 3 is a sectional view taken substantially in the plane of line 3—3 of Fig. 2;

Figs. 4 and 5 are central vertical sectional views illustrating steps in the manufacture of the crown shown in the previous figures.

Figs. 6, 7 and 8 are similar views showing a slightly modified form of construction.

In said drawings, 1 indicates conventionally a tooth which is to be crowned. The tooth is preferably prepared to receive a gold or other crown 2, which substantially fits the

prepared tooth and abuts against a shoulder 3. The construction of the porcelain faced crown may best be described in connection with the preferred methods of manufacture. In forming the crown I may first make a swaged seamless crown or band of gold or other suitable metal which may be cut away at the front or labial side below the upper edge as indicated at 4, in Fig. 4, thus leaving in effect at the upper front edge a band 14. I may then cover the open labial side of the crown with a thinner facing or front wall of gold or other metal which has previously been burnished to the form of the labial side of the prepared tooth. If desired I may make a cast crown such as indicated at 6, in Fig. 6, and cut away the labial face as indicated at 7, in Fig. 7. A relatively thin metal labial facing 8 corresponding to the facing 5 may then be soldered in place on the cast crown or band. There are other methods of forming the prepared crown such as swaging or casting the same and grinding or otherwise removing a part of the metal at the labial side, so as to form a relatively thin metal facing. It may not always be necessary to form the facing very thin, but it is preferable to have a thin facing in order that it may be made to conform closely to the prepared tooth surface.

A gold or other thin metal backing is then prepared for the porcelain veneer facing 10. The veneer facing 10 is preferably ground out at the rear side to some extent so as to not be forced outwardly by coming in contact with the central portion of the labial side of the crown. The thin metal backing 9 is preferably burnished to the facing 10, and slight lips are provided around the peripheral edges of the backing plate 9, so as to hold the veneer face 10 in place as is the usual method of holding the veneer faces.

The porcelain face 10 and its backing plate 9 may be substantially larger than the crown 2 which preferably fits a prepared tooth rather snugly, and the space between the labial side of the crown and the backing plate 9 may be filled with solder 11 or the like, so as to form an integral construction. If desired, a body of hard metal such as clasp metal may be

placed along the incisal edge of the crown and soldered in place in the finished integral crown construction. After the soldering has been completed the porcelain veneer facing 10 is set in place and the edges of the soft metal backing 9 are burnished over in the usual manner to hold the veneer facing 10 in place.

It will be seen that by means of the construction shown, the labial side of the crown is formed of two distinct thicknesses of metal, namely, the face such as 5, the backing plate 9, and in addition the solder between serves to further thicken and strengthen the labial wall of the crown. The relatively thick body of solder which may extend completely around the side and incisal edges of the labial side of the crown further strengthens the structure around the edges and provides an exceedingly rigid foundation or framework for holding the porcelain facing about its marginal edges. The clasp metal incisal edge 12 when provided is also advantageous in strengthening the entire construction and resisting wear. It has been found in practice that there is little likelihood of the veneer facings popping out, and this I believe to be due to the extremely rigid construction of the crown as heretofore described.

While the invention has been described in considerable detail, I do not wish to be strictly limited to the forms shown, nor to the particular methods herein disclosed, for changes may be made within the scope of the invention as defined in the appended claims.

I claim:

1. A tooth crown comprising a metal crown body shaped to substantially fit on the rear and side walls of the prepared exposed end of a tooth the side and rear walls of the crown being of substantially the same thickness, a front wall of thinner metal secured at its edges to the edges of the side walls, a porcelain facing, a backing plate secured to the rear side of said facing, and a layer of solder between the relatively thin front wall of the crown and the rear wall of said backing plate.

2. A tooth crown comprising a metal crown body shaped to fit on the rear and side walls of the prepared exposed end of a tooth, the side and rear walls being of substantially the same thickness, an integral band connecting the sides of the crown body at the top front edges thereof, a front wall secured at its edges to the side walls and the band of said crown body, said front wall being of thinner metal than the balance of the crown body, a porcelain facing, a backing plate secured to the rear side thereof, and a layer of solder between the relatively thin front wall of the crown body and the rear wall of said backing plate.

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