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T. C. HANSEN

1,465,472

METHOD OF MAKING CROWNS AND FORMS THEREFOR

Filed April 6, 1922

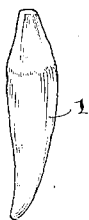


Fig. 1.

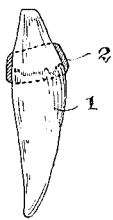


Fig. 2.

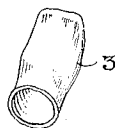


Fig. 3.

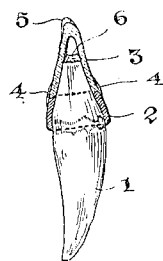


Fig. 4.

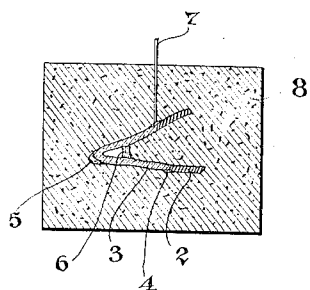


Fig. 5.

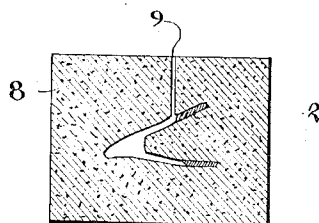


Fig. 6.

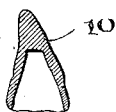


Fig. 7.

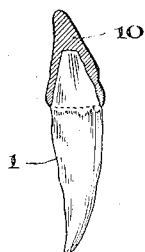


Fig. 8.

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UNITED STATES PATENT OFFICE.

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METHOD OF MAKING CROWNS AND FORMS THEREFOR.

Application filed April 6, 1922. Serial No. 550,154.

To all whom it may concern:

Be it known that I, THOMAS C. HANSEN, a citizen of the United States, residing at Caney, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in Methods of Making Crowns and Forms Therefor, of which the following is a full, clear, and exact description.

This invention relates to a form to be used in connection with the casting of crowns for teeth and also to a process for the preparation of a complete pattern for such crowns, and has for its object to provide a crown form which is highly volatile and one which will leave practically no residue.

Another object of the invention is to provide a process whereby the gold band which is usually fitted around the prepared root may be welded to the top portion of the crown.

Another object of the invention is to improve generally the process by which the crown pattern is prepared before the casting operation takes place.

Other objects and advantages of the invention will be apparent from the following description when taken in connection with the accompanying drawing, in which:

Figure 1 is a side elevation of a tooth for which a crown is to be made.

Figure 2 is a similar view with a gold band fitted thereto.

Figure 3 is a perspective view of a hydrocarbon form to be used in the process.

Figure 4 is a sectional view through the band and hydrocarbon form.

Figure 5 is a sectional view, showing the completed pattern after the molding material has been formed into the mold.

Figure 6 is a view similar to Figure 5, showing the mold after the same has been heated.

Figure 7 is a sectional view through the completed crown, and

Figure 8 shows the crown applied to the tooth.

Referring to the drawing more in detail, the numeral 1 designates a tooth which has been prepared for a crown. After being thus prepared, a 36 gauge, 24 carat band 2 is fitted over the prepared root in order to get a proper adaptation therefor without causing

irritation to the gums. A form 3, of celluloid or similar material, is then fitted over the tooth and secured to the band 2 by casting wax, as indicated at 4.

These forms are to be made in a number of shapes and sizes, both with and without cusps, to conform as nearly as possible to the configuration of the normal teeth, but, of course, will not suit every case. In order to get the exact configuration desired, or in order to strengthen a particular part of the crown, or for the purpose of perfecting the occlusal surface casting wax may be added to the form 3 at any point desired, as indicated by the numeral 5. It should also be stated that the celluloid forms are made relatively thin and are, therefore, flexible to such degree that their shape may be changed somewhat when being fitted to the band 2.

The pattern before being placed in the mold may have a portion of casting wax 6 or a lining applied on the interior thereof, in order to provide sufficient thickness at the top of the crown.

A pin 7 is then inserted into the pattern and the latter is lifted from the prepared root and inserted in a mold. The molding material 8 is then poured into the mold and allowed to harden, as indicated in Figure 5. The mold is then heated, thus volatilizing the casting wax and celluloid form; the gases escaping through the passage 9 made by the pin 7. The molten gold or other casting material is now forced into the mold through the passage 9 and welds itself to the band 2, and otherwise takes the shape of the mold cavity. The mold is then broken open and the completed crown 10 removed.

From the foregoing description it will be seen that I have provided a volatile form to be used in forming patterns for crowns and the like and also a very simple process for preparing the complete pattern for casting a crown. Furthermore, the finished crown will have a definite seat on the tooth and will not permit a variation to defeat the requirements of a perfect crown.

In accordance with the patent statutes, I have described what I now believe to be the best embodiment of the invention, but I do not wish to be understood thereby as limiting myself or the scope of the invention, as many changes and modifications may be made

without departing from the spirit of the invention; all such I aim to include in the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. An article to be used in preparing crowns, comprising a hollow form of combustible material of substantially the exterior configuration of the normal tooth.
- 10 2. An article to be used in preparing crowns comprising a hollow celluloid form of substantially the exterior configuration of the normal tooth.
- 15 3. A process of forming patterns for crowns including fitting a band to the prepared root, and securing a hollow form of substantially the shape of the tooth to be crowned to the band.
- 20 4. A process of forming patterns for crowns including fitting a metal band to the prepared root, and applying a hollow form of volatile material of substantially the shape of the tooth to be crowned to the band by casting wax.
5. A process of forming patterns for

crowns including fitting a metal band to the prepared root, applying a hollow form of substantially the shape of the tooth to be crowned, shaping the lower edge of the form to the band, and securing the band and form together by casting wax. 30

6. A process of forming patterns for crowns comprising fitting a metal band around the prepared root, applying a hollow form of volatile material of substantially the shape of the tooth to be crowned, shaping the lower edge of the form to the band, securing the band and form together by casting wax, and adding casting wax to the form at other points desired. 35 40

7. A process of forming crowns for teeth including fitting a metallic band to the prepared root, applying a hollow form of volatile material to the band, inserting the pattern thus formed in a mold, pouring in the molding material, heating the mold to volatilize the hollow form, and filling the mold cavity with material to form the crown. 45

THOMAS C. HANSEN.