

F. O. JAKUES, JR.
 MEANS FOR FORMING TOOTH CROWNS.
 APPLICATION FILED JAN. 12, 1910.

971,274.

Patented Sept. 27, 1910.

Fig. 1.



Fig. 2.

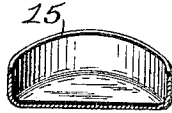


Fig. 3.

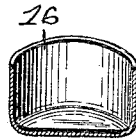


Fig. 4.

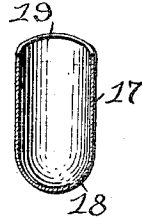


Fig. 5.

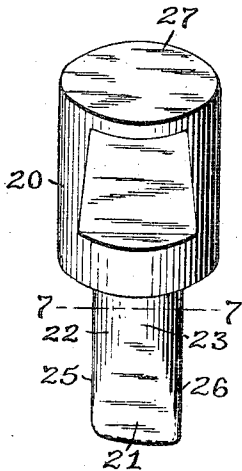


Fig. 6.

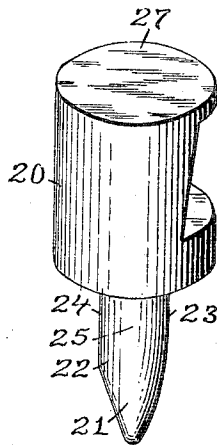


Fig. 7.

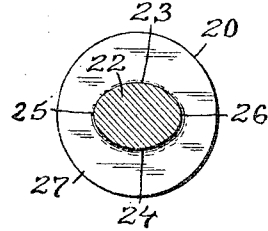


Fig. 8.

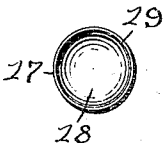


Fig. 9.

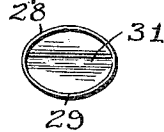


Fig. 10.

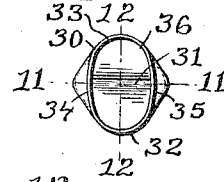


Fig. 11.

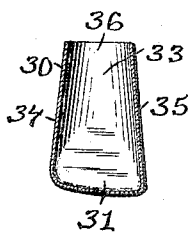
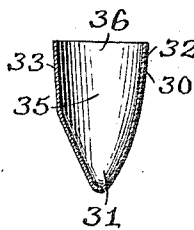


Fig. 12.



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MEANS FOR FORMING TOOTH-CROWNS.

971,274.

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To all whom it may concern:

Be it known that I, FERNANDO OSCAR JAQUES, JR., a citizen of the United States, residing at Cranston, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Means for Forming Tooth-Crowns, of which the following is a specification.

This invention has reference to an improvement in the art of dentistry and more particularly to an improvement in means for forming tooth crowns of gold or other metals.

In forming tooth crowns as usual heretofore, the dentist first takes a cast of the tooth to which the crown is to be applied. The cast is made in plaster in the usual manner and from it as a matrix, a plaster die is made, representing the tooth. The die is then taken and placed half embedded in a plastic material, such as putty, in a frame. The other half of the frame is then filled with plaster, the die being previously varnished, and an impression of one half of the die is obtained. The putty is then removed and plaster substituted in its place which will thus take the impression of the other half of the die. The plaster and the confined die is then removed from the frame and immersed in hot water, so that the varnish will soften and enable the halves of the plaster cast to separate, thus obtaining a cast or matrix. The cast (the die being removed) is filled with a fusible metallic alloy and upon separating the cast a fusible metallic die or former, having the shape of the tooth to be crowned, is obtained. A gold or other metallic shell is now placed over the fusible die and compressed on to the die in any well known way and the fusible die melted out of the crown, thus destroying the die or former. These slow and expensive operations are repeated for each tooth crown formed and the internal die or former, so formed, for each crown, is destroyed.

The object of my invention is to entirely eliminate the above slow and expensive operations or method and to substitute therefor, means for forming a tooth crown having the size, shape and taper of the tooth to be crowned without destroying the internal die or former.

A further object of my invention is to improve the art of dentistry by providing a set or series of permanent non-fusible in-

ternal tooth crown formers, each former being adapted to give the size and tooth shape to the crown, of the tooth to be crowned, without destroying the former and by an additional operation, after the crown is removed from the former, the required taper on the sides is given to the crown.

Another object of my invention is to provide a series of permanent non-fusible tooth crown formers, each former having a tooth shape end and a straight flattened adjacent body portion, the circumference of which equals the circumference at the gum line, of the tooth to be crowned, whereby the crown is easily removed from the former without destroying the former and by an additional operation the required taper on the sides is given to the crown.

Final objects of my invention are to reduce the cost and materially lessen the time heretofore required to form tooth crowns.

My invention consists in the peculiar and novel construction of a permanent non-fusible tooth crown former as will be more fully set forth hereinafter and claimed.

Figures 1. 2. 3. and 4. are enlarged sectional perspective views showing the steps in forming the crown shell, from a sheet metal disk of gold or other metal. Fig. 5. is an enlarged front perspective view of my improved permanent non-fusible tooth crown former. Fig. 6. is a perspective view of the former looking at the side. Fig. 7. is a transverse sectional view of the former taken on line 7. 7. of Fig. 5. showing the flattened or oval shape of the body portion adjacent to the tooth shape end. Fig. 8. is an open end view of the crown shell. Fig. 9. is an open end view of the crown as removed from the former. Fig. 10. is an open end view of the completed crown showing the shape of the same after the final operation. Fig. 11. is a longitudinal sectional view through the completed crown taken edgewise on line 11. 11. of Fig. 10. and Fig. 12. is a longitudinal sectional view, similar to Fig. 11. through the completed crown, taken from front to back, on line 12. 12. of Fig. 10.

In the drawings 14. indicates a disk of gold or other metal, 15. and 16. partly formed crown shells, 17. a completed crown shell having a closed rounded end 18 and an open circular end 19, 20. a permanent non-fusible former having an incisor tooth

shaped end 21. an adjacent oval shape body portion 22, corresponding to the body portion of the tooth to be crowned but flattened at front and back and having a
 5 straight front 23, straight back 24 and straight sides 25, and 26. merging into the tooth shape end and corresponding respectively to the labial, lingual, mesal and distal portions of the tooth to be crowned
 10 and an enlarged shank 27 by which the former is held or operated, all formed integral, as shown in Figs. 5. 6. and 7., 28, a crown having an oval open end 29. as removed from the former, the longer axis of
 15 the oval open end extending from side to side, as shown in Fig. 9., and 30. a completed crown having an incisor tooth shaped end 31, the slightly outwardly flaring front 32 and back 33, the inwardly tapered sides 34.
 20 and 35., and the open oval end 36. the longer axis of which extends from the front to the back of the crown, as shown in Figs. 10. 11. and 12.

A crown shell 17. as shown in Figs. 4. and
 25 8. of the size required for the tooth to be crowned, is placed over the end 21. and body portion 22 of the former 20. and compressed on to the former in any well known way, thus giving to the shell the size and shape of
 30 the former. The shell or nearly completed crown is now easily removed from the former and when so removed has the oval open end 29., the longer axis of the oval extending from side to side, as shown in Fig. 9 and the
 35 circumference of which equals the circumference, at the gum line, of the tooth to be crowned. The completed shape may now be given to the crown by pressure on the longer axis of the open oval end of the crown, as
 40 shown in Fig. 9. to expand the same at front and back and to contract the same on the sides, as shown in Fig. 10, or as it is preferably obtained, (after the open end of the crown is contoured to fit the tooth to be
 45 crowned at the gum line) by forcing the crown over the tooth to be crowned, thereby giving to the crown the exact shape, taper on the sides and shape and circumference of the tooth at the gum line of the tooth to be
 50 crowned without increasing or diminishing the circumference of the open end of the crown. An incisor tooth tapers inwardly on the sides to the gum and outwardly on the front and back to the gum. As the crown is
 55 forced over the tooth the open end of the crown expands on the front and back and

contracts on the sides thereby giving the tapered sides 34. and 35. to the crown as shown in Figs. 10. and 11. to fit the tapered mesal and distal sides of the tooth to be crowned. 60
 The circumference of the flattened or oval body portion 22. of the former, equals in all of the different sizes and shapes, the circumference at the gum line, of the tooth to be crowned, the exact shape of the open end 65
 and the taper on the sides being easily given to the crown, after the crown is removed from the former, as described.

It is evident that a series of permanent non-fusible tooth crown formers embodying 70 my principle of construction could be provided in sets, each set consisting of a plurality of formers having the shape of the tooth to be crowned and varying in size for different size teeth, without materially affecting 75 the spirit of my invention.

Having thus described my invention I claim as new and desire to secure by Letters Patent:—

1. A permanent non-fusible tooth crown 80 former having a tooth shape end and an adjacent body portion oval in cross section with straight front, back and sides merging into the tooth shape end and a shank on the former, all formed integral, said oval body portion 85 having a circumference equaling at the gum line the circumference of the tooth to be crowned, for the purpose as described.

2. A permanent non-fusible tooth crown 90 former having a flat tooth shape end, the width of which equals the width of the end of an incisor tooth to be crowned and an adjacent oval body portion with straight front, back and side and a shank on the former, all 95 formed integral, said oval body portion having a circumference equaling at the gum line, the circumference of the incisor tooth to be crowned, whereby the crown is easily removed from the former, without destroying 100 the former, and by compressing the crown on the longer axis of the oval the required taper is given to the sides of the crown without increasing or diminishing the circumference of the open end of the crown, as described.

In testimony whereof, I have signed my 105 name to this specification in the presence of two subscribing witnesses.

FERNANDO OSCAR JAQUES, JR.

Witnesses:

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 CHAS. H. LUTHER.