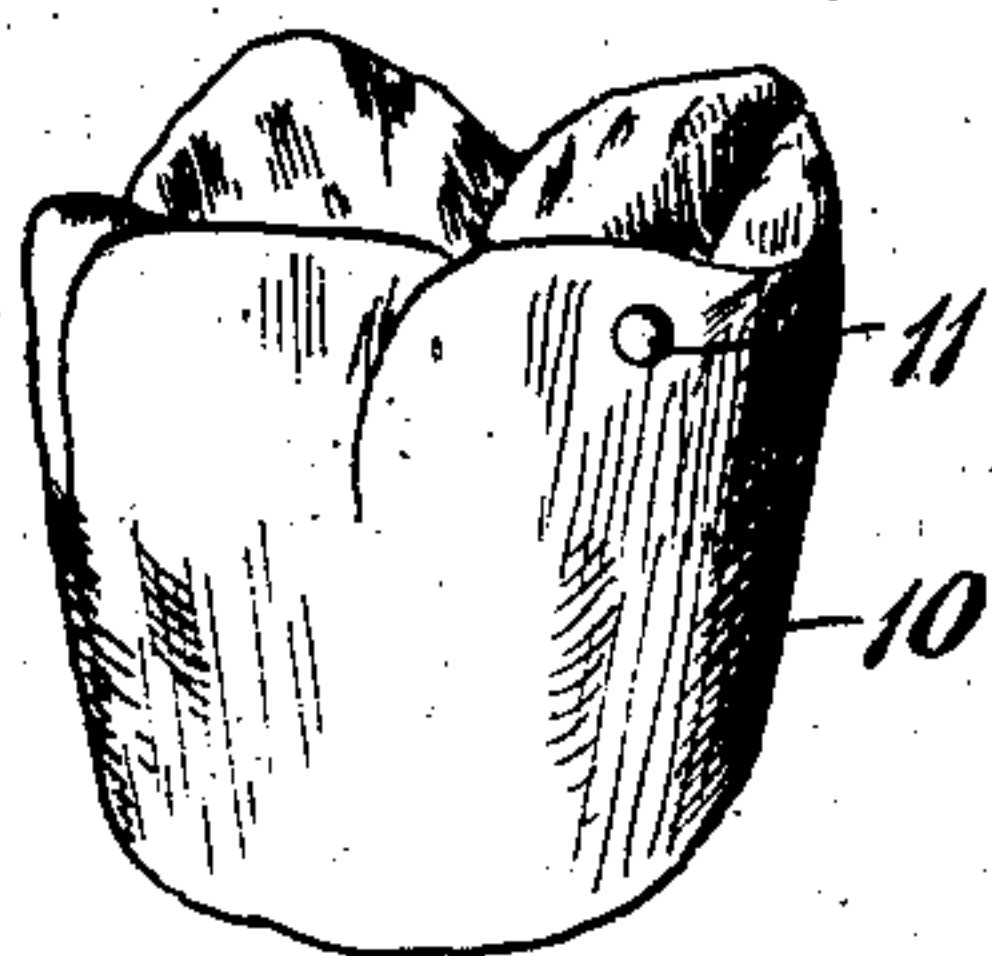


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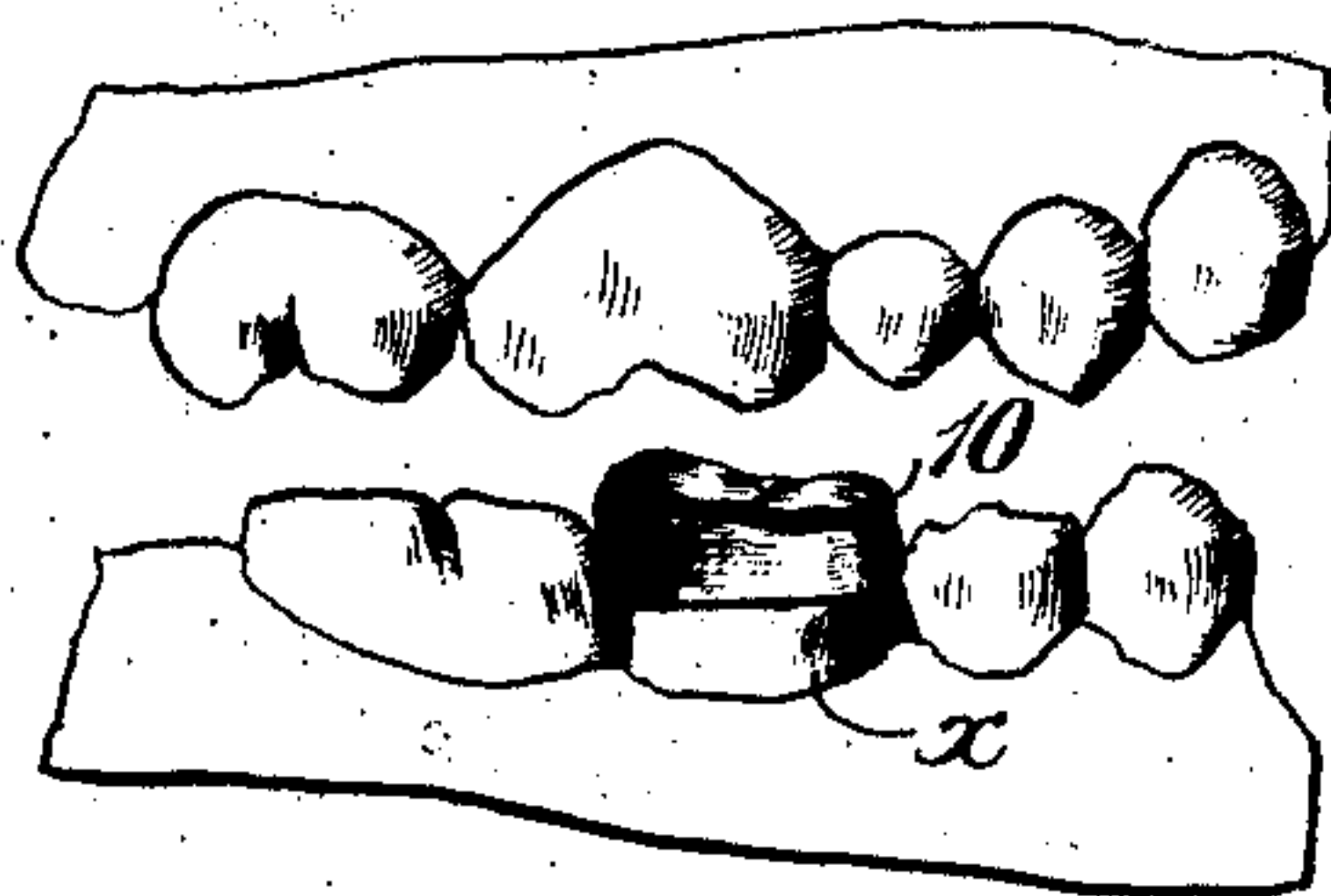
PATENTED MAY 21, 1907.

C. F. LAUDERDALE.  
TOOTH CROWN MODEL.  
APPLICATION FILED MAR. 7, 1906.

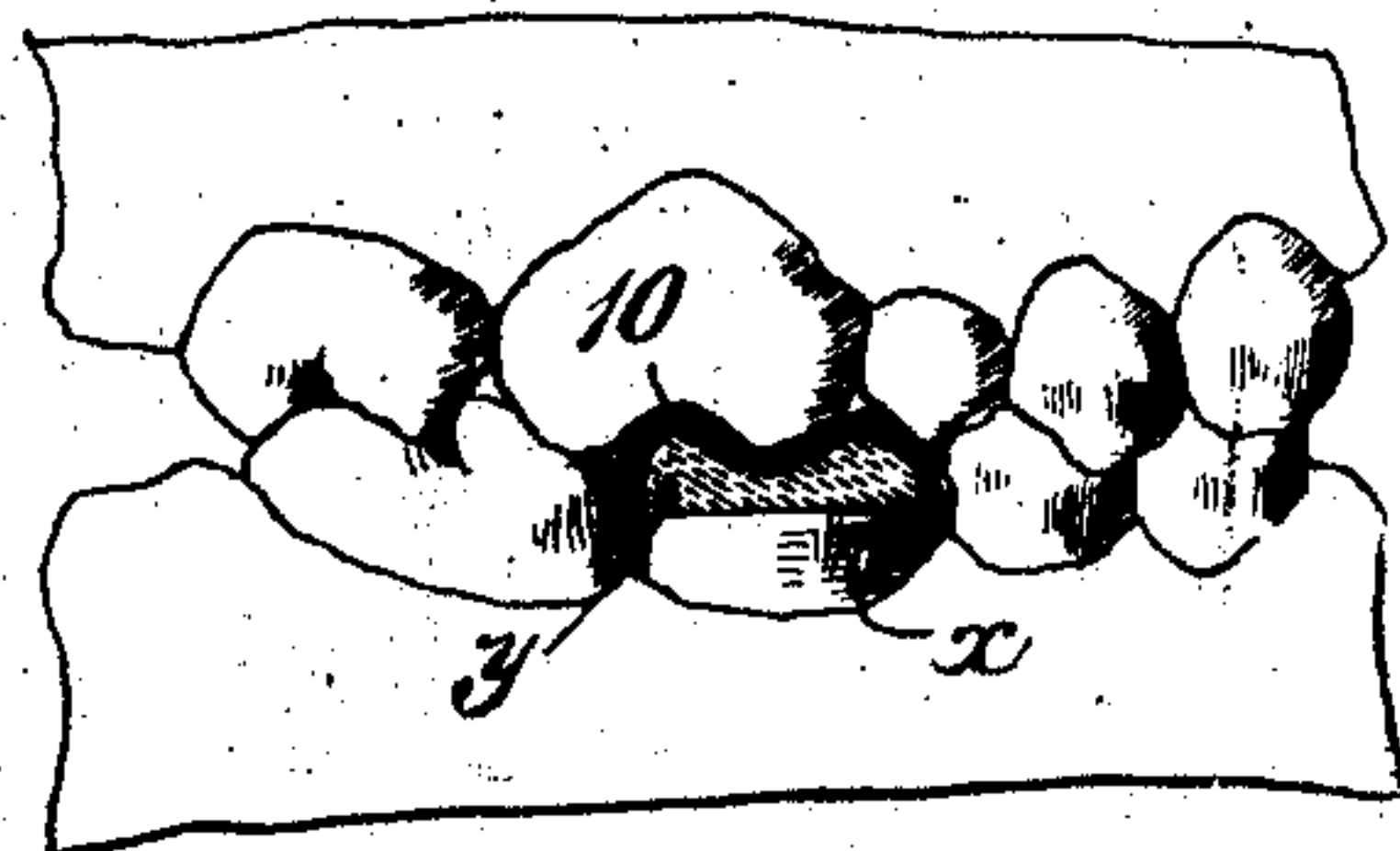
*Fig. 1.*



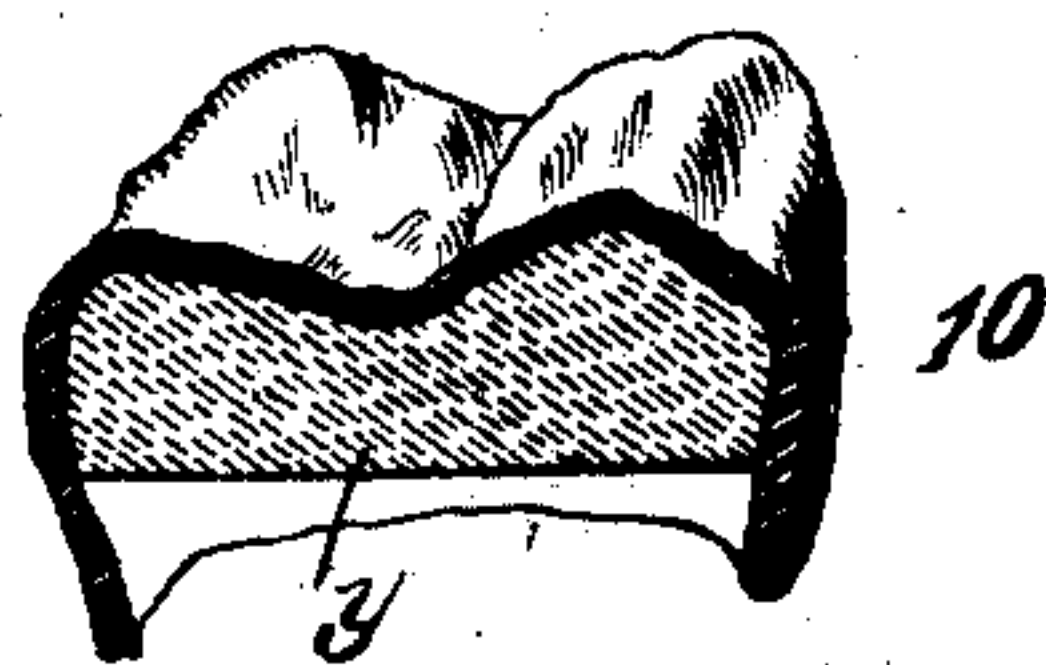
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



WITNESSES:

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

CHAPIN F. LAUDERDALE, OF MILWAUKEE, WISCONSIN

## TOOTH-CROWN MODEL.

No. 853,984.

Specification of Letters Patent.

Patented May 21, 1907.

Application filed March 7, 1906. Serial No. 304,785.

*To all whom it may concern.*

Be it known that I, CHAPIN F. LAUDERDALE, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Tooth-Crown Model, of which the following is a specification.

The principal object of the present invention is to provide a tooth crown model made of an elastic or yieldable material which will permit ready adaptation to the shape of the root to which it is to be applied, the approximating teeth and the antagonizing teeth, this crown model being subsequently used in the formation of a seamless metal crown of any suitable material.

A further object of the invention is to provide a flexible crown model which is in the form of a hollow shell to permit ready adaptation to the adjacent teeth, and which may be positively held in the shape determined by contact with the adjacent teeth by means of a plastic material which is inserted within the crown, and serves when set or hardened to hold the latter in any form to which it may be adjusted.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of the buccal face of a crown model made in accordance with the invention. Fig. 2 is a sectional view of the same as applied to the root of a tooth, and before the closing of the jaws to secure correct shaping of the crown model. Fig. 3 is a view similar to Fig. 2 showing the jaws closed, the crown model properly shaped, and the filling of plastic material inserted for the purpose of holding a model in its correct form. Fig. 4 is a sectional perspective view of the complete crown model which is subsequently used for the formation of a metal crown.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In carrying out the present invention, crown models 10 are made of a number of shapes and sizes corresponding approximately to the shapes of the different teeth of the upper and lower jaws, that illustrated in the present instance conforming to one of the inferior molars. These models are formed of rubber or other suitable flexible elastic material and are in the form of thin shells, the thickness of the shells being approximately equal to the thickness of the metal subsequently used in the formation of the permanent crown. The models are made of considerable length, so that the lower edge may be trimmed off to follow the line of the gums, and in the outer face of the model is formed an opening 11 by which a filling of some plastic material may be subsequently introduced.

In carrying out the invention, the root of the tooth to be crowned is ground or shaped in the usual manner, after which a crown model which conforms generally to the particular style of tooth, is trimmed down in order that its open end may be made to conform to the gum line and to the height of the approximating teeth. The crown model is fitted to the root and adjusted until it is approximately correct, as shown in Fig. 2, the jaws being kept open until all the preliminary adjustment has been effected, after which the jaws are closed for the purpose of shaping the model to secure correct occlusion with antagonizing teeth and proper contact with approximating teeth, and as the crown model is formed of yieldable material, and is approximately of the finished or natural shape, it will readily adapt itself to the occluding surface of an antagonizing tooth or teeth. When this adjustment is secured, the jaws are held closed as shown in Fig. 3, and then a quantity of plastic material *y* is (preferably an oxyphosphate of zinc cement) inserted through the opening 11 and allowed to set or harden. This material clings to the inner wall of the elastic shell and holds the same in the position to which it is adjusted, and at the same time makes a correct impression of the upper surface of the root of the tooth to which the crown is to be applied. The finished model or pattern is then removed and the metal crown is formed by any of the ordinary processes, it being preferable, of course, to form one piece or seamless crowns.

In practice, a variety of crown models are employed to conform approximately to the general style or shape of the teeth, and these



are made of sufficient length and elasticity to readily adapt themselves to a variety of sizes and peculiarities.

In practice it may be sufficient to employ  
 5 one form for the incisors, a second form for the canine, a third for the bicuspid, and a fourth for the molars, although these may be added to in accordance with the known differences in the type of molars, bicuspid, and  
 10 the like.

The claims in the present case have been limited to the article, no claims for the method being included in the present application.

15 I claim:—

1. As a new article of manufacture, a tooth

crown model formed of a hollow cap of flexible non-metallic material.

2. As a new article of manufacture, a tooth crown model formed of a hollow cap of soft  
 20 rubber.

3. A tooth crown model formed of a cap of flexible material arranged to fit over a root to be crowned, and provided with an opening for the insertion of a plastic material.  
 25

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHAPIN F. LAUDERDALE.

Witnesses:

CHAS. E. ARNOLD,

W. L. CHENEY.