

No. 760,295.

PATENTED MAY 17, 1904.

W. E. ALLEN.

PROCESS OF OBTAINING CORRECT DENTAL IMPRESSIONS.

APPLICATION FILED SEPT. 21, 1903.

NO MODEL.

Fig. 1.

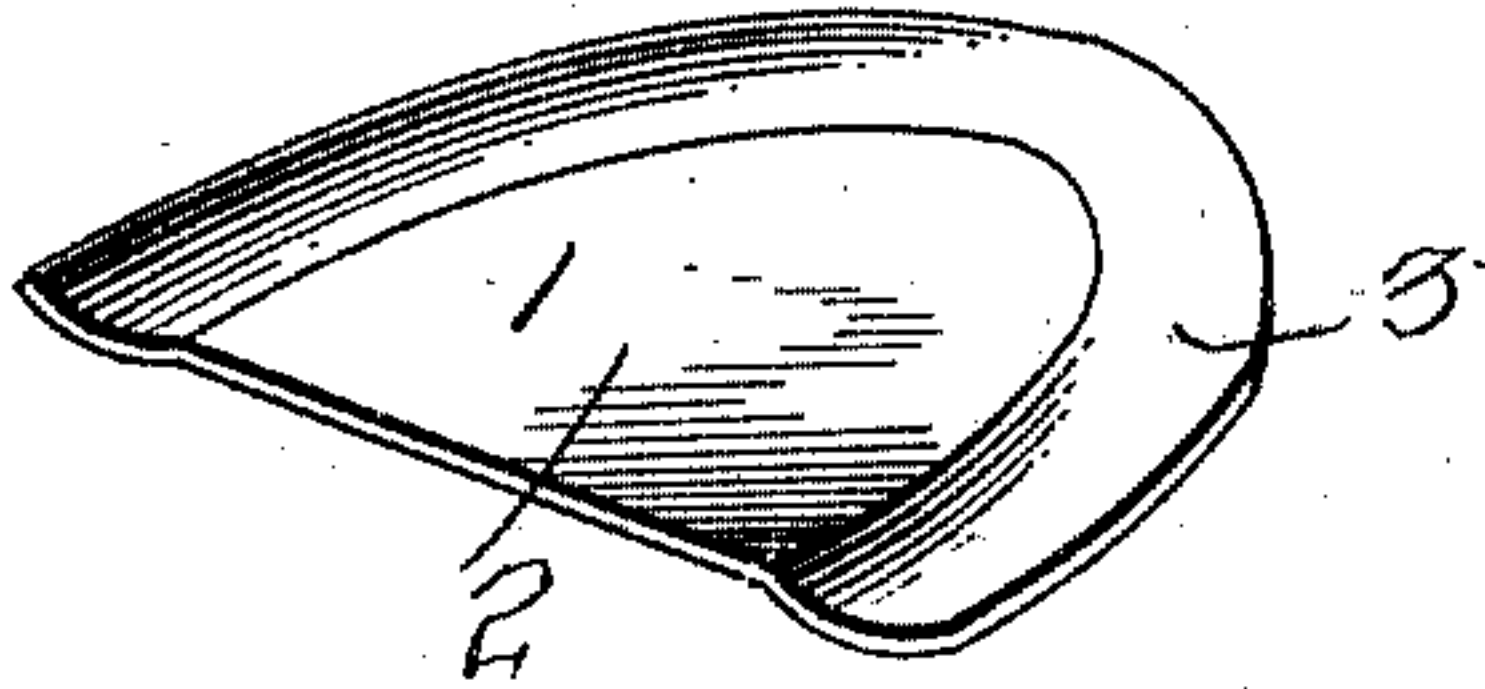


Fig. 2.

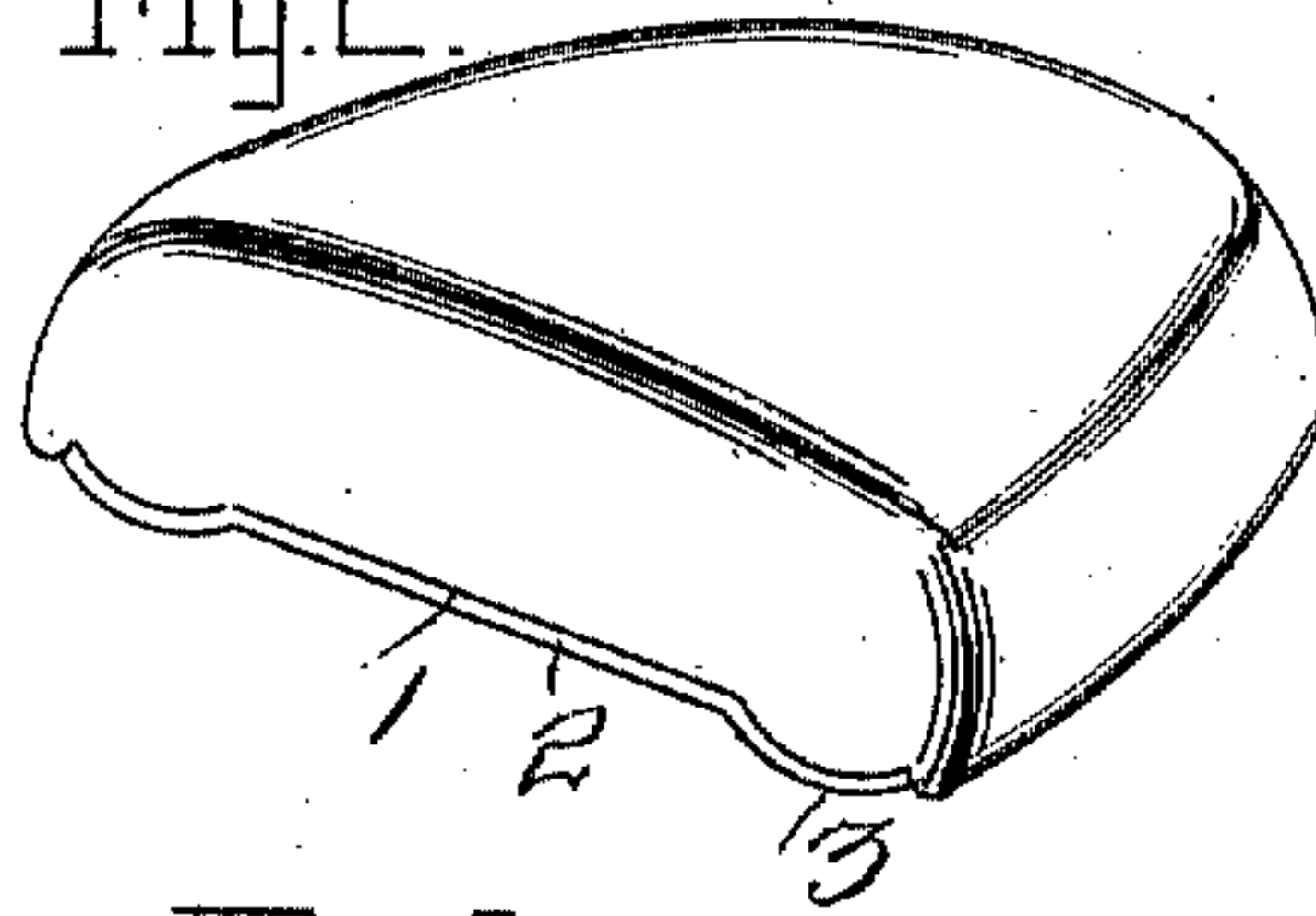


Fig. 3.

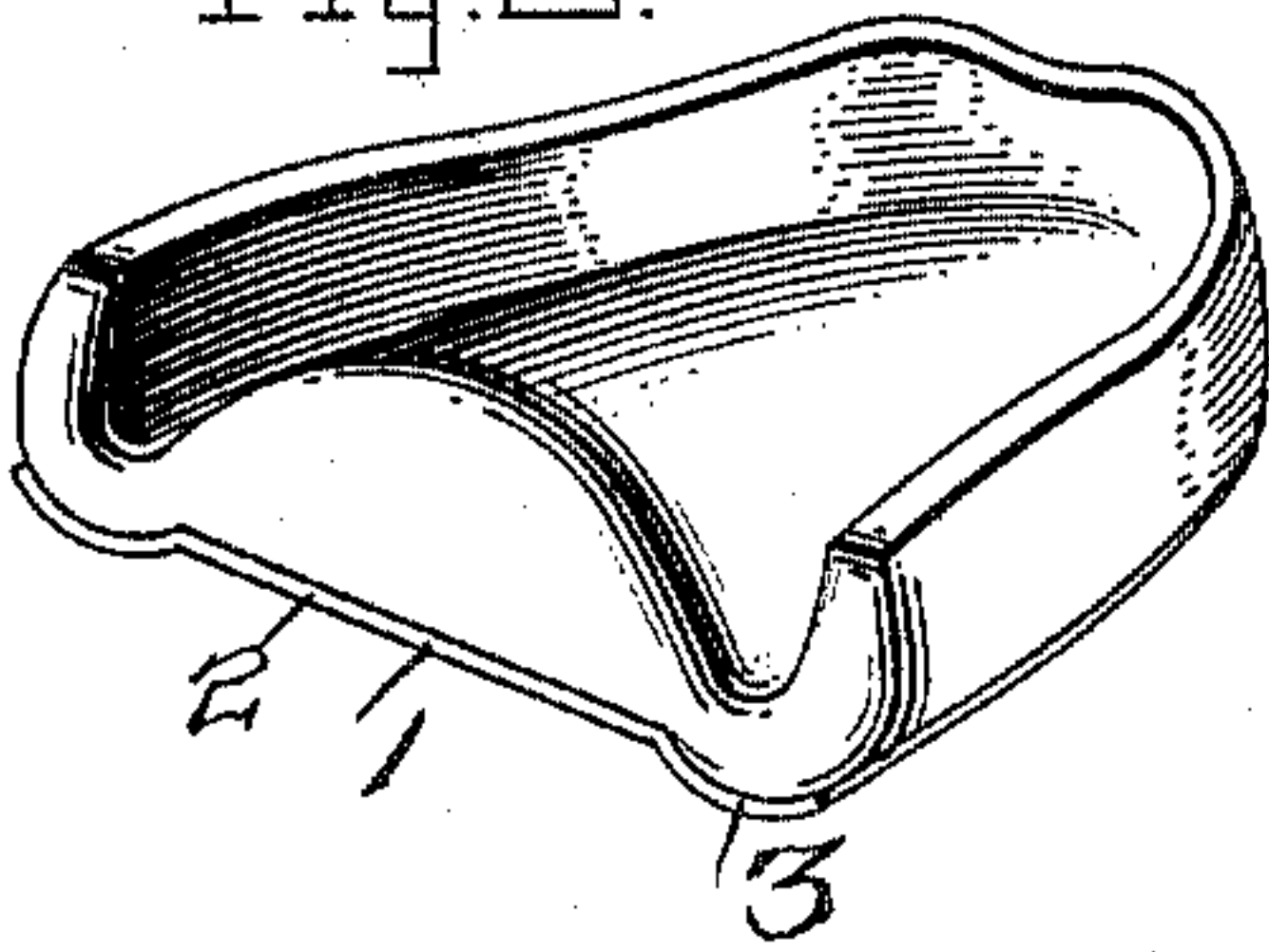


Fig. 4.

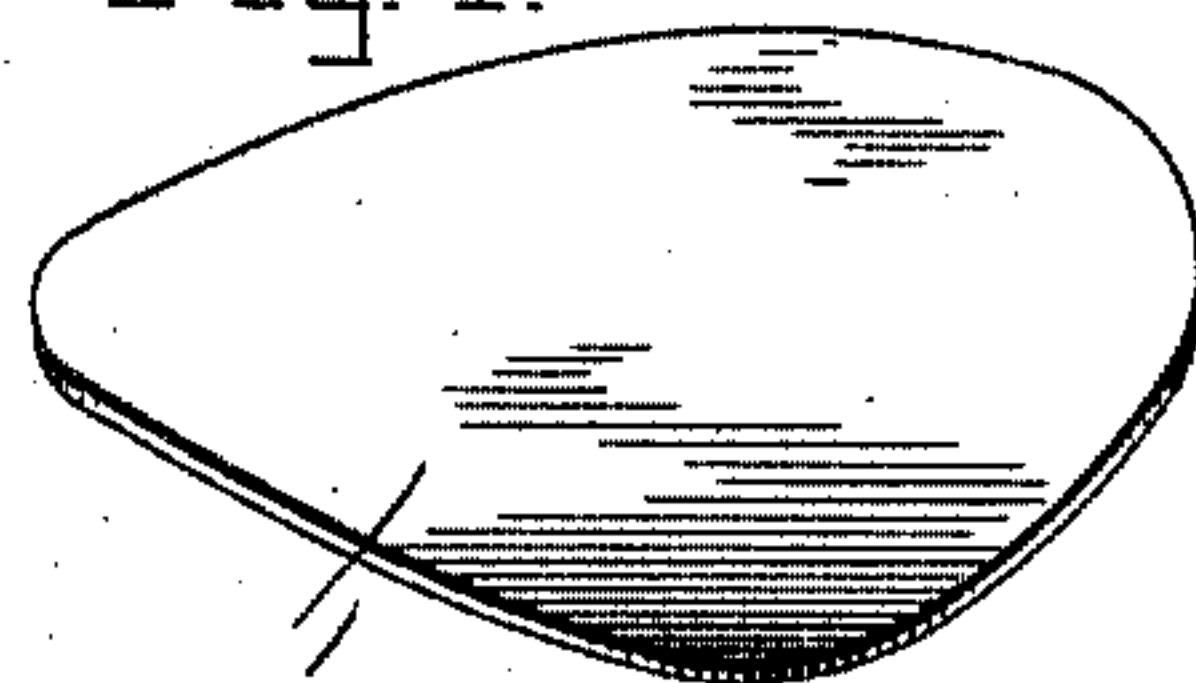


Fig. 5.

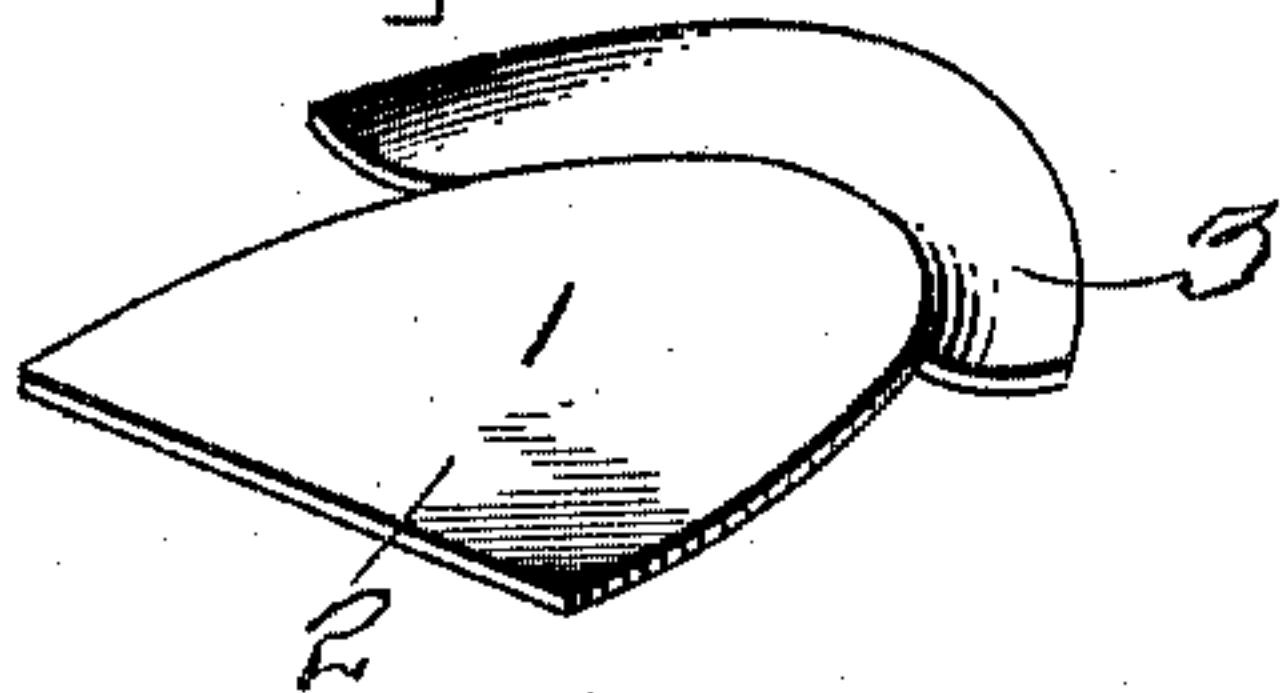


Fig. 6.

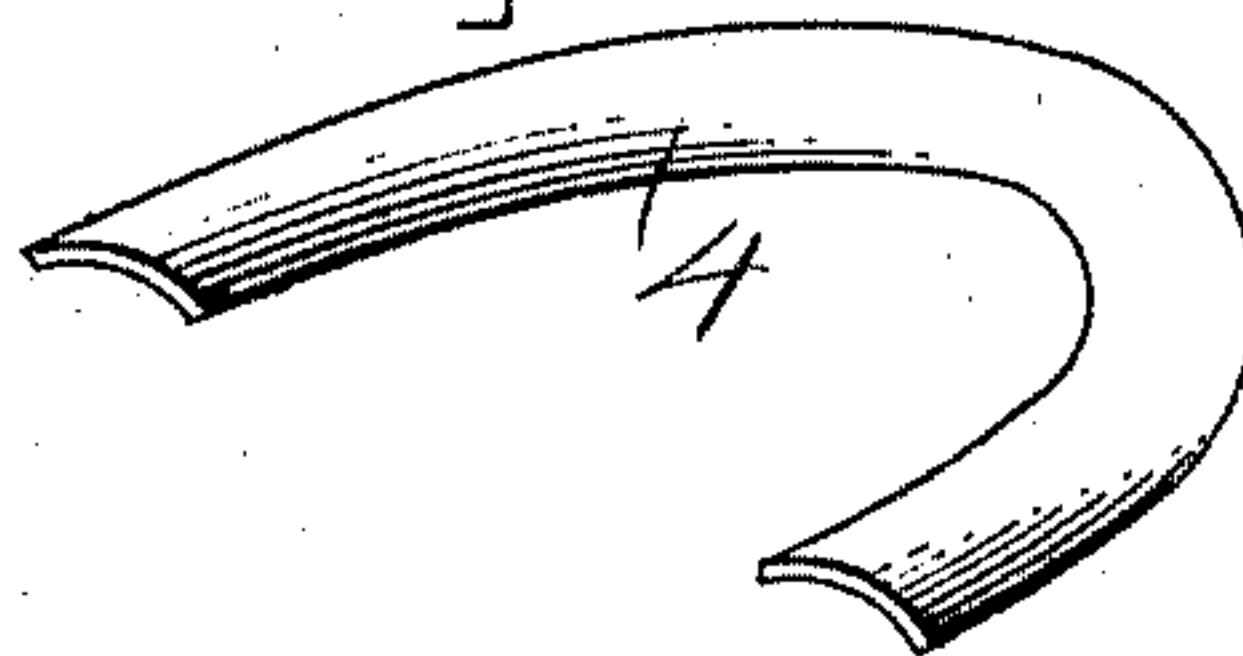


Fig. 7.

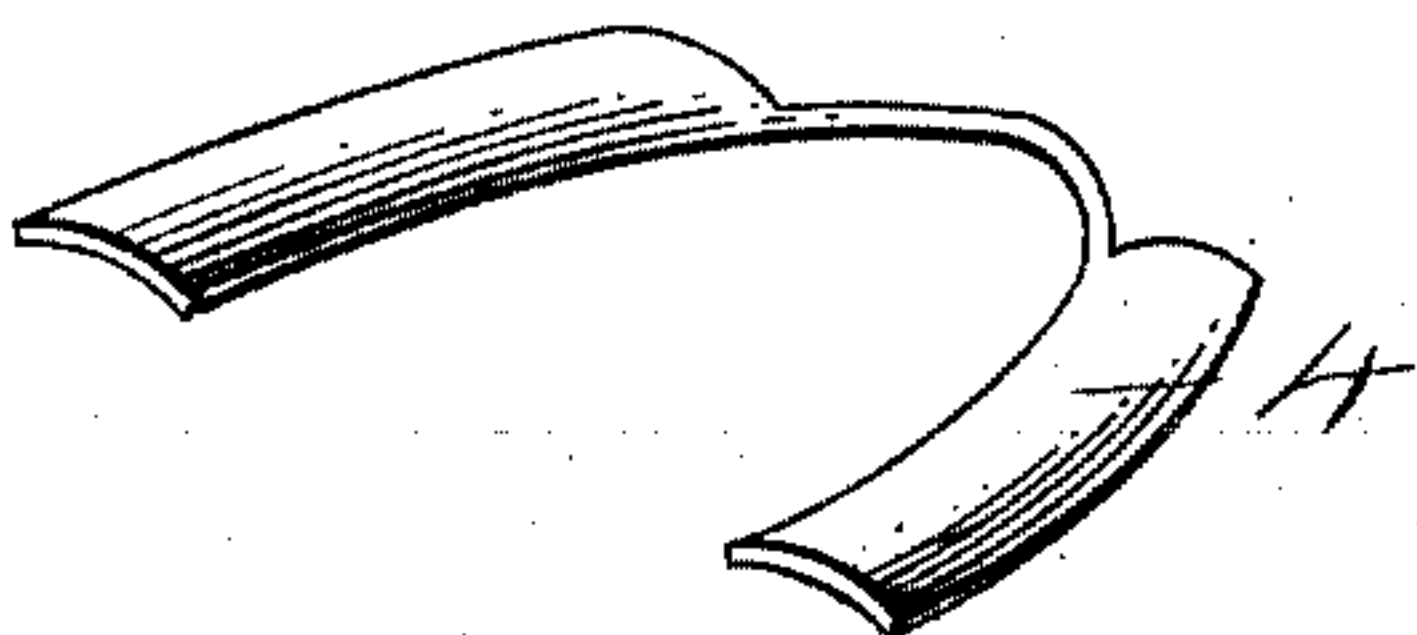


Fig. 8.

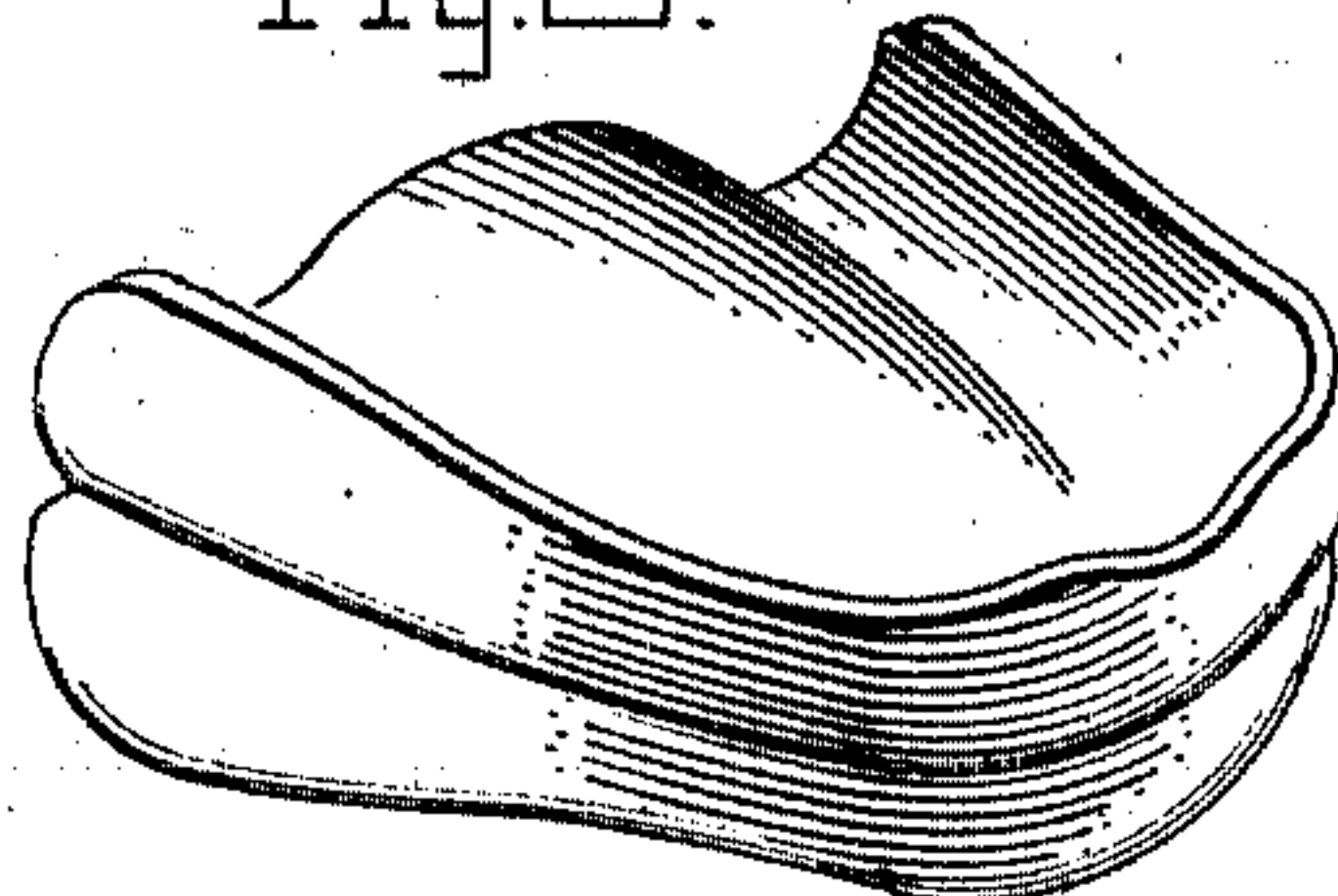


Fig. 9.

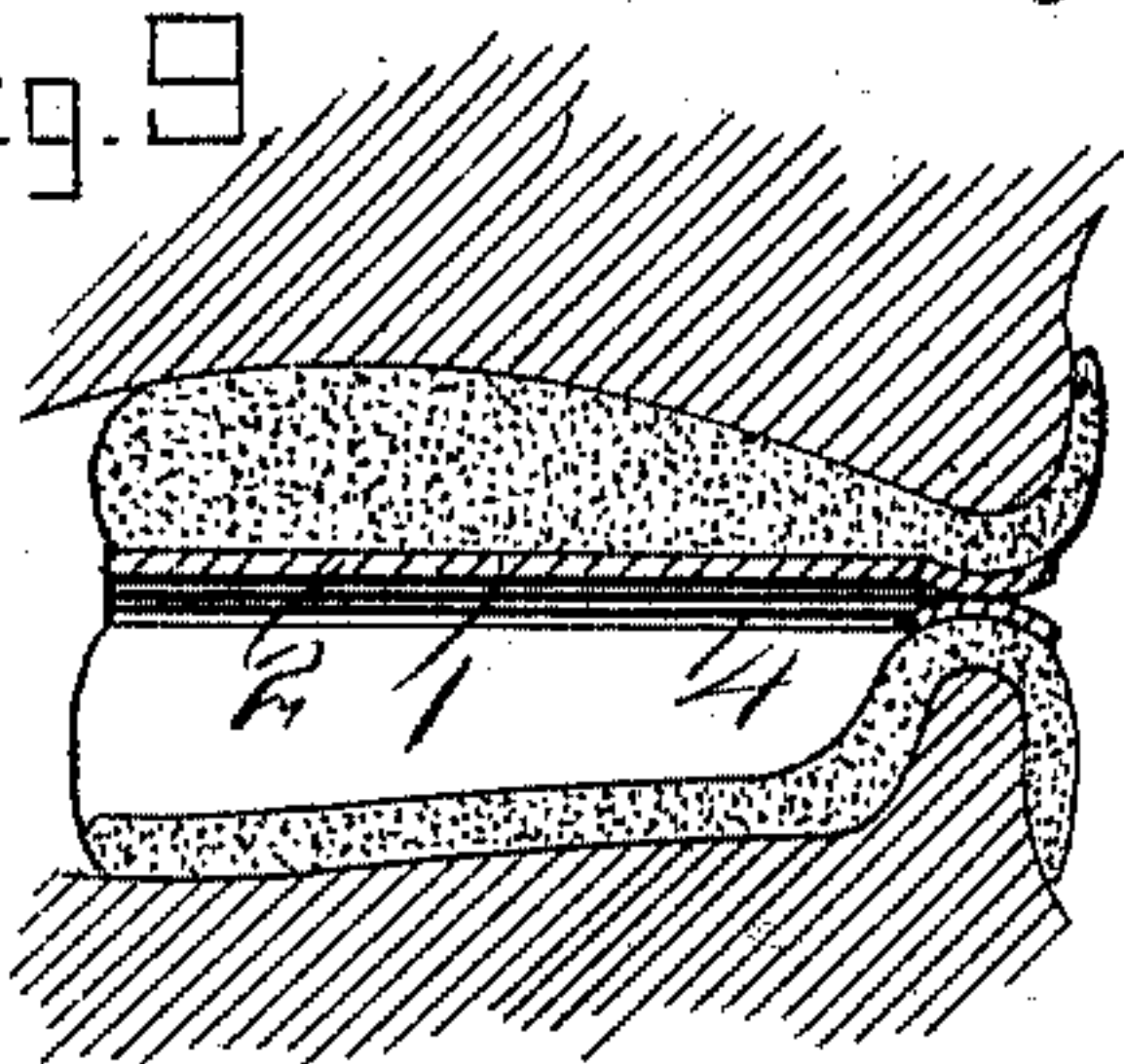
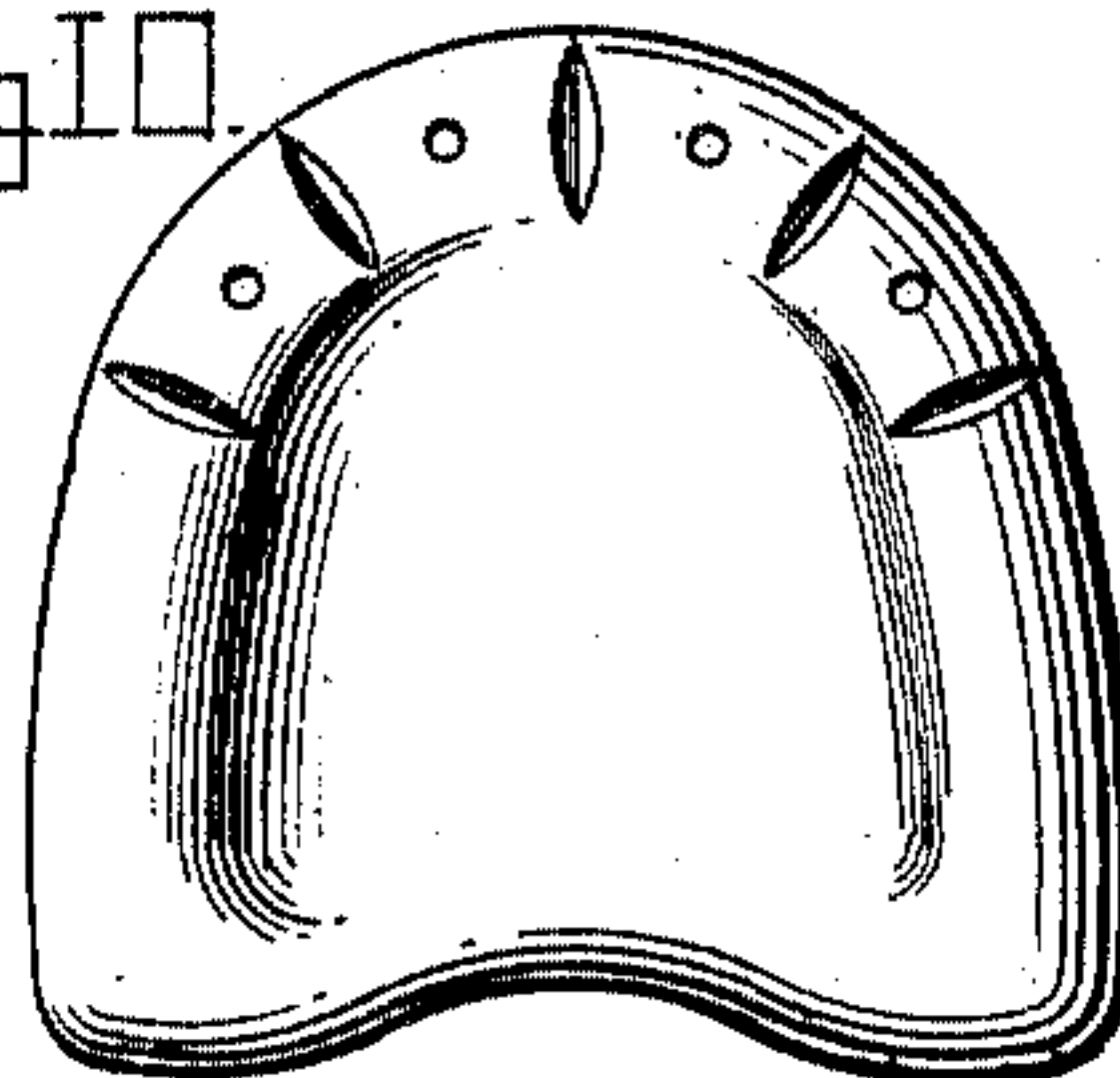


Fig. 10.



Inventor

Willis E. Allen.

Witnesses

E. K. Reichenbach.

E. J. Wilson

By

A. B. Wilson

Attorney

UNITED STATES PATENT OFFICE.

WILLIS EDW. ALLEN, OF HONOLULU, TERRITORY OF HAWAII.

PROCESS OF OBTAINING CORRECT DENTAL IMPRESSIONS.

SPECIFICATION forming part of Letters Patent No. 760,295, dated May 17, 1904.

Application filed September 21, 1903. Serial No. 174,061. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIS EDW. ALLEN, a citizen of the United States, residing at Honolulu, in the Territory of Hawaii, have invented certain new and useful Improvements in Processes of Obtaining Correct Dental Impressions; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improved process of obtaining correct dental impressions, as herein-after fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of an impression-tray for use in the upper jaw. Fig. 2 is a similar view with the impression wax in place for taking an impression of the upper jaw. Fig. 3 is a similar view of the wax after the impression has been formed. Fig. 4 is a modified form of the upper impression-tray. Fig. 5 is a perspective view showing a partial tray for use where part of the natural teeth remain in the jaw. Fig. 6 is a perspective view of the lower-jaw plate. Fig. 7 is a similar view of a partial lower-jaw plate. Fig. 8 is a perspective view of the upper and lower jaw impressions, showing the same closed together. Fig. 9 is a sectional view through the impression-trays with the wax impressions thereon, showing the same applied to the ridges of the jaws. Fig. 10 is a top plan view of the lower impression, showing the arrangement of the bite-testing grooves and holes.

Referring more particularly to the drawings, 1 denotes the upper impression-tray, consisting of a plate or sheet of thin metal of such size and shape as to adapt it to be properly adjusted to the mouth of the patient and consisting of a central flat portion 2, around the curved edge of which is formed a shallow concaved channel or groove 3.

4 denotes the lower-jaw tray, which consists of a concaved or curved strip of metal shaped to conform to the ridge of the patient's lower jaw. Parts of this curved tray may be cut away, as in Fig. 7, so as not to interfere with any natural teeth that may be left in the patient's jaw.

In Fig. 4 of the drawings is shown a modified form of upper-jaw tray. In this instance the concaved groove or channel is done away with and simply a flat plate is used, which is of such size and shape as to correspond with the ridge of the jaw without projecting beyond the same.

In Fig. 5 is shown an upper-jaw tray, parts of the same being cut away to accommodate the natural teeth remaining in the jaw. The shape of these partial trays for both the upper and lower jaws will of course vary to suit the requirements of each particular case.

In practice the wax or modeling composition is placed upon the trays so that the same projects slightly beyond the edges of the tray. This is now applied to the parts of which it is desired to take an impression and lightly pressed up against the same and under the lips, so that an impression of all the muscles may be had. After this impression has been taken the composition is hardened and removed from the tray, after which the palatal portion or arch of the impression is warmed to slightly soften, when the impression is again placed in the patient's mouth and gently forced up to the palate to get a perfect impression of the posterior palatal muscles. The impression is now removed, trimmed off, and cut down to near the size it is desired the plate should be, when it is again inserted in the patient's mouth and tested by pressing on it at different angles. If when thus pressed the impression is dislocated, the same is not correct. To find the defect, a little mixed plaster of the consistency of thick cream is poured on the impression to cover it. It is then replaced in the patient's mouth and the plaster allowed to harden. After removing and carefully noting the location of the defects from the thickness of the plaster the same is washed off and such defective places warmed and softened. The impression is again placed in the patient's mouth and such defective places pressed up into place. After having obtained a perfect impression it is necessary to get a correct bite. This is obtained by cutting three or more grooves across the outer surface of the lower impression and forming a hole in the composition between each groove. The outer surface of

the ridge portion of the upper impression is now warmed and the impressions placed in the patient's mouth with instructions to bite, the pressure of the jaws in so biting causing the softened composition of the upper-jaw impression to enter the grooves and holes of the lower-jaw impression, thus forming projections on the upper-jaw impression and indicating the correct bite, which may be tested by hardening the impression and again replacing in the mouth with instructions to the patient to bite several times in quick succession. If the projections register with the grooves and holes, the bite is correct. After the correct bite is obtained the impressions are placed, as usual, in an articulator and the customary operations in preparing artificial dentures are proceeded with.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein-described method of obtaining correct dental impressions, consisting in placing modeling material on trays, fitting the

material by pressure to the palatal arch and teeth-ridges of the jaws, forming a series of depressions in one of the impressions, and softening the surface of the other impression, prior to causing the patient to "bite," whereby the act of closing the impressions together forms counter projections on the impression opposed to that having the depressions, for the purpose specified.

2. The herein-described method of obtaining correct dental impressions, consisting in placing modeling material on trays, fitting the material by pressure to the palatal arch and teeth-ridges of the jaws, providing the impressions with devices in their opposing surfaces which register and coengage at a "bite," and correcting the fit of an imperfect impression by covering the same with a coating of removable plastic material; reapplying the same to the parts to be fitted, hardening the plastic coating, locating the defective places in the impression by observing the plastic coating, removing the latter, softening the defective parts of the impression, and in taking the final impression, pressing such defective parts in place.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIS EDW. ALLEN.

Witnesses:

GEO. A. DERBY,
A. H. WHITE.