O. E. WALL.

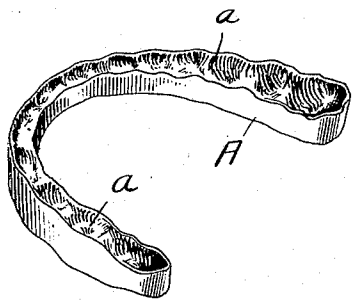
PROCESS OF MAKING ARTIFICIAL DENTURES AND OCCLUDING FORM FOR THE SAME.

APPLICATION FILED APR. 24, 1917.

1,303,223.

Patented May 6, 1919.

Fig. 1.



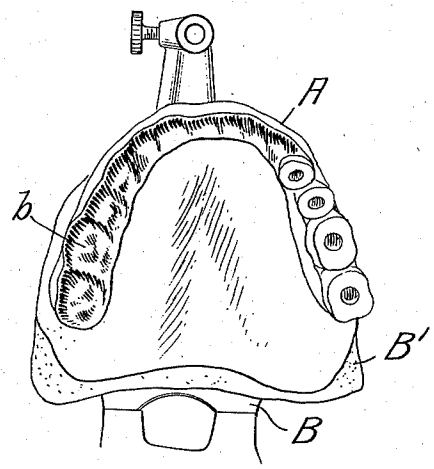


Fig. 2.

Fig. 3.

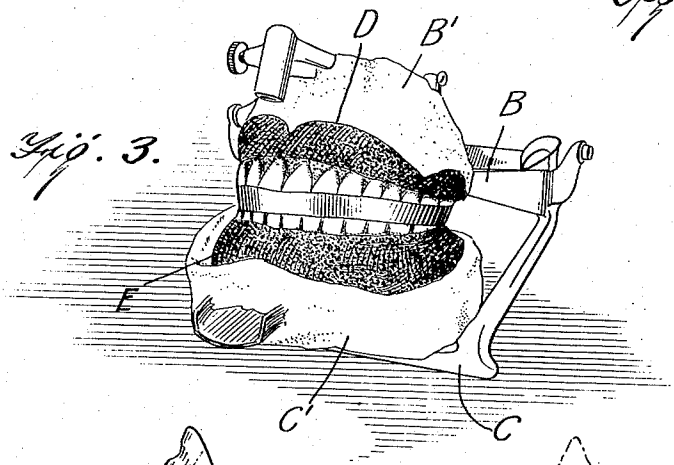


Fig. 4.

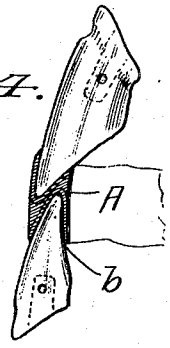
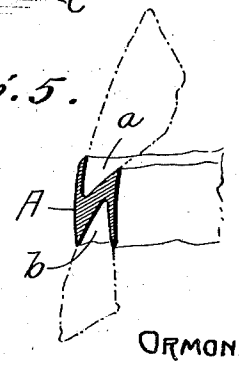


Fig. 5.



WITNESSES

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PROCESS OF MAKING ARTIFICIAL DENTURES AND OCCLUDING-FORM FOR THE SAME.

1,303,223. Specification of Letters Patent. Patented May 6, 1919.

Application filed April 24, 1917. Serial No. 164,105.

To all whom it may concern:

Be it known that I, ORMOND EDGAR WALL, a citizen of the United States, and a resident of Honolulu, Territory of Hawaii, have made certain new and useful Improvements in Processes of Making Artificial Dentures and Occluding-Forms for the Same, of which the following is a specification.

My invention relates to improvements in processes of making dental plates, as well as forms for making these plates, and it consists in the steps hereinafter described, and in the combinations, constructions, and arrangements set forth.

An object of my invention is to provide a process by means of which artificial teeth may be set in dental plates, so as to effect the proper occlusion in much less time, and with greater accuracy than by the ordinary steps.

A further object of my invention is to provide what I may term an "occluding form" by means of which the artificial teeth are readily placed in position, and when so placed may be secured in position so that when the form is removed and the upper and lower sets of teeth are brought together, substantially perfect occlusion will be insured.

Further objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing forming part of this application, in which,

Figure 1 is a perspective view of the occluding form.

Fig. 2 is a face view of the upper portion of an articulator, the upper teeth having been placed in the form, secured in position, and four of the lower teeth having been placed in position in the form.

Fig. 3 is a perspective view showing both the upper and the lower sets of teeth held in the form and having been secured in position, just ready for the removal of the form.

Fig. 4 is a section through the form showing teeth in position, and,

Fig. 5 is a similar section showing the teeth having been removed.

In the ordinary process of setting up artificial teeth to get what is called the "three point" contact, considerable work is required. With two full plates (an upper and a lower) it often takes a whole day to get the artificial teeth to properly articulate. In order to expedite the work and at the same time to provide a means by which perfect occlusion may be secured, I provide an occluding form like that shown at A in Fig. 1. This form is designed to be made in a factory by scientific methods, that is to say, it should be made from models of sets of teeth, upper and lower, which have perfect occlusion. The form is similar to matrix, that is to say, the recess *a* on the upper side and the recess *b* on the lower side conform to the recesses which would be made were the teeth brought together on some intervening substance, such as wax. These forms are of course made of substantial material, such as metal or other suitable material, and each dentist should have several of the forms to correspond with the respective shapes or molds of teeth. A form which might be used for one patient might not suit another patient, as well as some other form which would more nearly correspond with his natural teeth.

In preparing a set of plates the dentist makes plaster models of the jaws which he places on the upper and lower portions of the articulator. In Fig. 3 the upper portion of the articulator is shown at B, the lower portion at C, the upper plaster cast at B′ and the lower plaster cast at C′. He now makes a wax base plate on each portion of the plaster cast, these wax base plates being shown at D and E, respectively. A full upper set of teeth is now taken, the molds of which correspond with the upper recesses or matrices *a* of the form A and places each tooth in its proper position fitting it into its proper recess. The teeth are now attached together with wax in the form, but not to it. They are now placed in the proper position on the upper wax base D and attached to the base. Similarly a set of lower teeth are now placed in the lower recess *b*, are secured together by means of the wax, and are attached to the base E. The dentist now waxes the teeth up the way a finished plate should be, taking care, however, not to alter the relative positions of the teeth. Now, when the articulator is opened and the form *a* removed, it will be found that substantially perfect occlusion is made. The process can be carried out in a very short time, and even a novice can set up these plates and secure better results than a much more experienced operator who works hurriedly by the old method.

While I have shown in the drawings a full

set of teeth, obviously a less number may be set by the same process without departing from the spirit of the invention. Thus, where a dentist wishes to set up the anterior teeth to suit his own ideas, forms of only bicuspids and molars can be made, leaving off the six anterior teeth, but in this case the two lateral sections, that is, the bicuspids and molars, on each side of the jaws, will have to be connected by bars or a plate.

I claim:

1. The herein described process of making dental plates, which consists in preparing a matrix or form having its upper and lower surfaces respectively provided with recesses or sockets conforming in shape to the incisor and masticating surfaces of a series of upper and a series of lower teeth, said recesses or sockets shaped and positioned to cause the teeth of the upper and lower sets to have substantially perfect occlusion, placing the artificial teeth of the two sets in their respective positions in the recesses or sockets of the matrix or form, securing the teeth together to constitute the respective sets while definitely positioned in the matrix or form, attaching the two sets of teeth thus respectively secured to upper and lower jaw casts respectively, finishing the respective denture plates with the teeth thus held together while they are yet retained in the matrix or form, and finally removing the matrix or form.

2. The herein described process of preparing plates of artificial teeth, which consists in arranging a full set of artificial teeth for one jaw in relative position to make a substantially perfect occlusion with a complementary second set of teeth for the other jaw and supporting the incisor and masticating surfaces of the teeth so arranged in a predetermined occlusial matrix or form for positively retaining the teeth against lateral and vertical displacement, attaching the teeth to the jaw casts while they are thus held in proper relative positions, finishing the denture plate while the teeth of the set are thus held and positioned in the occlusial matrix or form, and finally removing the occlusial matrix or form and the teeth and plate from the jaw cast.

3. As an article of manufacture, an occluding form for making dental plates comprising a body portion having its upper and lower surfaces respectively provided with recesses or sockets conforming generally in shape and in relative positions to the incisor and masticating surfaces of a series of upper and lower teeth arranged to form substantially perfect occlusion, said recesses or sockets shaped to hold the teeth therein from lateral and vertical displacement.

4. As an article of manufacture, an occluding form for positioning teeth in making dental plates, said form comprising a rigid body portion having a tooth supporting surface provided with recesses or sockets conforming to the incisor and masticating surfaces of the teeth when positioned for insuring perfect occlusion, said recesses or sockets mechanically holding the teeth comprising the set in proper relative positions and against lateral and vertical displacement.

ORMOND EDGAR WALL.