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B. N. GREENE ET AL
METHOD OF FITTING DENTURES

2,685,133

Filed Aug. 19, 1950

2 Sheets-Sheet 1

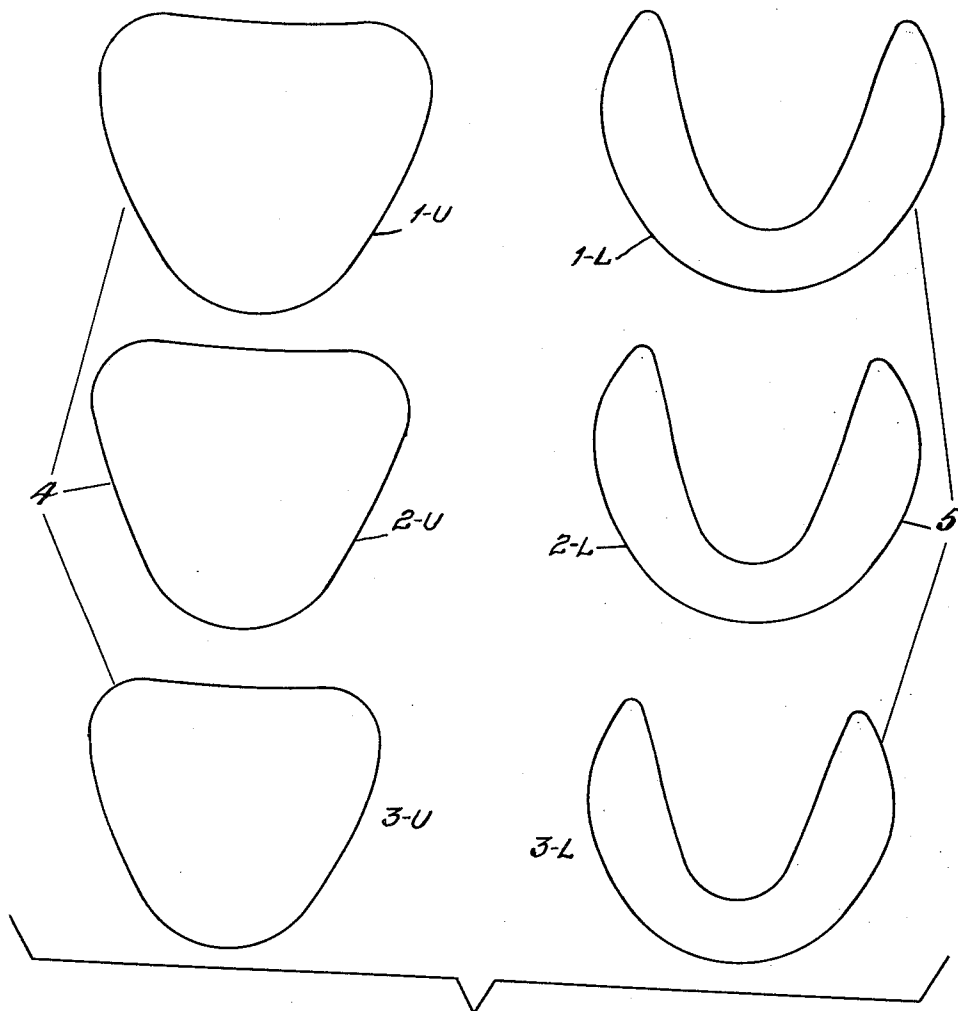


FIG. 1

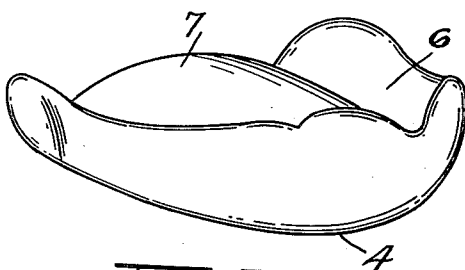


FIG. 2



FIG. 3

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2 Sheets-Sheet 2

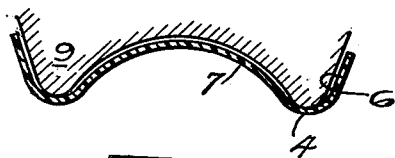


FIG. 4

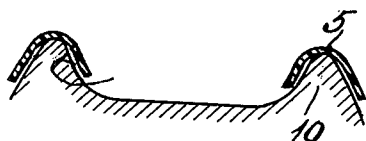


FIG. 5

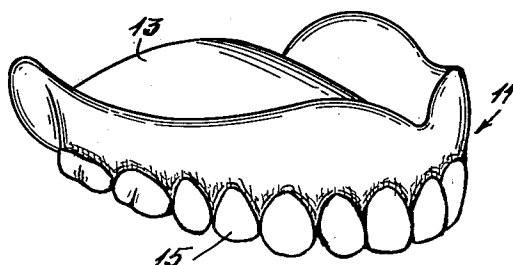


FIG. 6

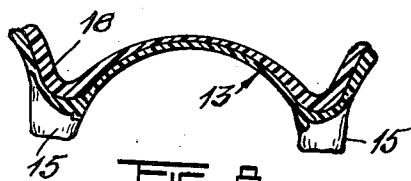


FIG. 8

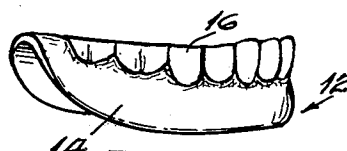


FIG. 7

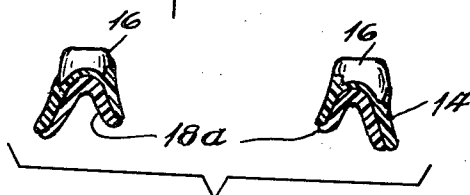


FIG. 9

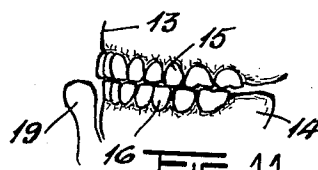


FIG. 11

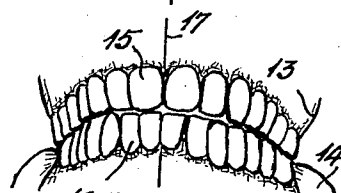


FIG. 12



FIG. 10

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UNITED STATES PATENT OFFICE

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METHOD OF FITTING DENTURES

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1 Claim. (Cl. 32—2)

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The present invention relates to the manufacture, sale and fitting of artificial dentures, and more particularly to dentures adaptable for home fitting.

There are thousands of people without their natural teeth who, for economic reasons, living in remote regions, or because of old age and infirmity, are unable to obtain the services of professional dentistry, and it is the main object of our invention to make it possible for these people not only to provide themselves with perfectly fitting dentures but to do so for a very nominal cost.

Other objects of the invention are to provide prefabricated full mouth dentures in standard sizes; to make provision whereby a person may accurately determine the sizes of plates he or she will require; to provide instructions which are simple and readily understandable by the ordinary layman as to the self fitting of the dentures and, in this manner, to make it both possible and practical to sell artificial teeth in stores like any other commodity and with a guarantee of entire satisfaction.

In professional dentistry, when making dentures, the first step is to taken an impression of the patient's gums, after which many other operations are performed before the work is completed. In the instant invention, making the impression is the final step and may be self-performed in the home, the only other operation necessitated being the predetermination of the size of dentures to purchase by the use of novel measuring or sizing means. And it is a further object of the invention to thus simplify the method of providing and fitting artificial dentures over the prior art and professional methods, and yet obtain equally satisfying results.

To these ends the invention consists in the provision of prefabricated dentures in standard sizes, means for the self-determination as to the size or sizes of said dentures required, accordingly as a person is to have an upper, a lower or a complete set of dentures, and also providing material for and instructions as to fitting the dentures as will be fully set forth in the following description and particularly defined in the appended claim.

The accompanying drawings illustrating the invention are as follows:

Fig. 1 is a diagrammatic illustration in outline of a plurality of upper and lower ridge forms which are employed as the means for predetermining the size of homefit dentures a person requires.

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Fig. 2 is a perspective view of an upper ridge form.

Fig. 3 shows one of the lower ridge forms partly in side elevation and partly in vertical central section, the scale of this view being smaller than that to which the upper ridge form is drawn in Fig. 2.

Figs. 4 and 5 are transverse sectional views of upper and lower ridge forms, respectively, the ridge forms being shown as placed on gum ridges for trial fitting.

Fig. 6 is a perspective view of an upper denture before application of lining material thereto.

Fig. 7 shows in side elevation a lower denture before lining.

Figs. 8 and 9 are transverse sectional views through a pair of upper and lower dentures, respectively, after application of the liner material but before impressions have been taken therein.

Fig. 10 is a human portrait, purely fanciful, showing the median facial line by which the lower denture is centered on the jaw.

Figs. 11 and 12 show, in side and front elevations, respectively, the relative positions of a set of dentures when in the mouth, Fig. 11 also showing the normal position of the lower lip relative to the lower denture, while in Fig. 12 the median line of the dentures is indicated.

It will be understood that the drawings are for the purpose of illustration only and are not drawn to any particular scale or exactitude in the tooth settings.

In the drawings similar reference numerals refer to similar parts throughout the several views.

In Figs. 2 and 3 there are shown two fitting or ridge forms 4 and 5, respectively, the term ridge form being used more because of the structural design than for their intended use. These ridge forms 4 and 5 are inexpensively made, preferably of a molded plastic such as celluloid or the like, and are shaped substantially as shown so as to be placed in the oral cavity. The ridge form 4 has an upwardly opening recess 6 for receiving the ridge formed on the receded gum of the upper jaw, the inner wall of this recess being continuous to form a central palatal portion 7 which is conformed substantially to and adapted to lie in slightly spaced relation to the hard palate. The ridge form 5 is formed to provide a downwardly opening recess 8 which permits the ridge form to be placed on the ridge formed by the lower jaw, the ridges on the upper and lower

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jaws being indicated by numerals 9 and 10, respectively, in Figs. 4 and 5.

From practical experience it has been ascertained that the resemblance of the jaws, as to contour and size, is so nearly alike in all people that the jaws of fully 98% of persons requiring dentures will fall within the range of three standard sizes of ridge forms such as hereinabove described.

The ridge forms are supposed to fit comfortably on the gum ridges 9 and 10 but not snugly. In fact there should be clearance all around so as to allow a certain freedom of movement of the ridge forms both laterally and longitudinally in the mouth.

To the end that a predetermination may be made as to the size of dentures to be purchased, the prospective user is first furnished with a packaged set of sizing or testing ridge forms which includes three uppers and three lowers. These ridge forms, the upper 4 and lower 5, vary in size, the three sizes being standard, and are illustrated in diagrammatic outline in Fig. 1 and in which the uppers 4 are designated 1-U, 2-U and 3-U, while the lowers 5 have the designation 1-L, 2-L and 3-L.

The ridge-forms are all tried for size, uppers and lowers separately, and preferably while looking in a mirror; the fitting to allow for clearance as above stated. It may be that 1-U and 1-L will be the ones that fit best, or it may be any combination such as 1-U and 3-L, or 2-U and 1-L. When a selection has been made the combination is reported back to the store and the purchaser receives a set of prefabricated dentures correspondingly numbered, these dentures being illustrated in Figs. 6 and 7 and in which the upper denture is indicated generally by the numeral 11 and the lower by numeral 12. Also supplied with the dentures is a tube or other container, not shown, of an impressionable thermosetting plastic material that will harden in the heat of the mouth, together with instructions as to fitting the dentures, and such minor implements as may be used in removing excess liner material from the outside of the dentures after impressions have been made.

The upper denture 11 includes the plate 13 of plastic material and the lower denture includes a plastic plate 14, each plate having its respective tooth facings 15 and 16. The plates 13 and 14 match their counterpart trays 4 and 5 and in fact are formed on the same or identical molds.

Fitting the dentures

Before attempting to fit the dentures, the person doing the self-fitting stands or sits before a mirror and with a pencil draws a line, indicated at 17 in Fig. 10, straight down from the middle of the nose and continued over the upper and lower lips. This represents the center or median line of the face. The lower denture 12 is fitted first, the successive steps being as follows:

Lining material, shown at 18a in Fig. 9, is spread over the inner surface of the plate member 14 of the denture to a depth of about $\frac{1}{8}$ ". The denture is then placed over the lower gum and pressed down until the top edge of the teeth 16 is even with the top of the lower lip, the latter being indicated at 19 in Fig. 11. This produces an impression of the gum in the moldable liner 18a. It is essential that the teeth 16 lie directly over the crest on top of the ridge 10 or slightly inside the ridge, but never on the outside. This position is critical. It is also of importance that, when

exerting pressure to make the impression, the plate 14 must be kept level or, in other words, it must not be tipped sidewise or forward or back. And, care must also be exercised so that the center of the denture is directly aligned with the facial mark 17. As a check on proper centering it is suggested that the upper denture 11 be placed in the mouth prior to lining to see that there is a true alignment of the centers of the upper and lower teeth with the guide line 17, see Fig. 12.

It is best that a lapse of about thirty minutes be allowed between the setting of first the lower and then the upper denture. Then, with plate 13 of the upper denture thoroughly dry, the liner, shown at 18 for the upper plate is applied over both the recessed and palatal portions in the same manner as described with reference to the lower plate 14. After this the lined denture is placed on the upper gum and again properly centered in the manner above stated, but brought forward, as in Fig. 11, so that the upper front teeth 15 slightly overlap the lower front teeth 16, this being the correct position of natural teeth. Holding the upper denture in place with the fingers, the next step is to close the jaws, thus biting the teeth together until the lips meet in the normal closing of the mouth. Following this the next thing to do is to open the mouth to see if the teeth have contact all around and to further check as to proper centering. If off center, a correction should be made by moving the misaligned denture to one side or the other.

Thereafter the mouth should be opened and closed and the bite repeated until the jaws feel comfortable. This movement deepens the impressions in the linings 18 and 18a. The fitting is now completed, but the dentures should be left in the mouth a sufficient length of time, about an hour, before removing them to trim off excess material 18 and 18a which may be done from the outside of the dentures but never from the inside. First removal of the dentures should be by gripping the teeth 15 and 16 in order not to displace or injure the lining which will remain somewhat pliable for about twenty-four hours, after which the dentures may be handled safely.

Regarding the prefabrication of upper and lower dentures 11 and 12 it may be further stated that the teeth position will be according to standard setting in all instances. To the end, however, of preventing improper articulation due to the size selection of upper and lower dentures, a person may have made, or slight misalignment of dentures, it is proposed that the posterior teeth will have flat cusps. The use of flat or inverted cusp teeth will take care of the occlusion similarly to the occlusion of natural teeth in the mouth and will assure contact of all sixteen posterior teeth, eight upper and eight lower.

The flat cusps of the posterior teeth permit use of different size uppers and lowers, as will sometimes occur. Since it is important that the teeth themselves are positioned directly over the ridge of the gums as pointed out above, obviously the teeth in the 1-L denture will be set in a slightly larger arc to the teeth in the 3-U denture. Nevertheless, because of the flat cusps of the posterior teeth, a satisfactory occlusion will be obtained even in the unlikely case that a person would require the 1-L and 3-U dentures.

Thus our invention is based on the discovery that about 98% of people have dental and jaw structures such that three standard sizes, vary-

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ing only slightly from each other, combined with corresponding dentures having flat cusp posterior teeth will give satisfactory false teeth in full sets.

From the foregoing it will be observed that the invention provides for the fabrication of artificial dentures prior to taking an impression of the gums, that means have also been provided whereby a person may determine the size of a plate or plates he or she will need, that the dentures may be purchased like any other article of manufacture and self-fitted in the home, that the impression of the gums is made by the user and is the final operation, and that as a result of the invention the possession of dentures will have been made possible for many persons in need but who would otherwise have to go without them.

What we claim is:

The method of fitting artificial dentures, comprising the steps of inserting in sequence into the mouth and embracing the gums a plurality of different presized upper and lower ridge forms

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until a single upper and a single lower ridge form correctly fitting the upper and lower gums, respectively, is obtained, lining a pair of pre-formed artificial dentures whose ridge forms correspond in size to the correctly fitting ridge forms with an impressionable thermosetting bonding material, placing the lined dentures in aligned position on the gums, bringing the dentures while so positioned into occlusion, forcing them while in occlusion into conforming engagement with the gums, and allowing the thermosetting material to harden before removing said lined dentures from the mouth, thereby effecting a true denture fit for said gums.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,057,341	Morgan -----	Oct. 13, 1936
2,466,727	Morgan -----	Apr. 12, 1949
2,496,387	Fink -----	Feb. 7, 1950
2,548,956	Dickson -----	Apr. 17, 1951