

[54] **PREFORMED BLANKS FOR FALSE TEETH SET-UP**

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[73] Assignee: Valeria O. Wichner, Miami Beach, Fla. ; a part interest
[22] Filed: Jan. 5, 1973
[21] Appl. No.: 321,257

[52] U.S. Cl. 32/2
[51] Int. Cl. A61c 13/00
[58] Field of Search..... 32/2, 11, 71

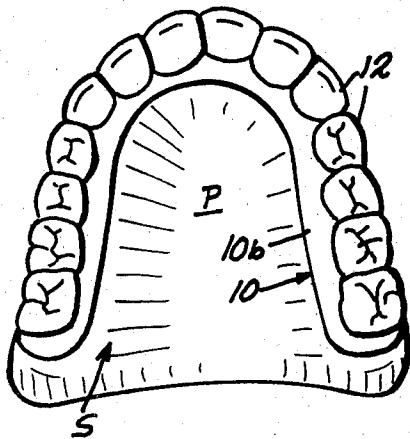
[56] **References Cited**

UNITED STATES PATENTS		
2,036,678	4/1936	Blake 32/2
2,341,156	2/1944	Myerson 32/71
3,335,495	8/1957	Wichner 32/2

Primary Examiner—Antonio F. Guida
Assistant Examiner—J. Q. Lever
Attorney, Agent, or Firm—Erwin M. Barnett

[57] **ABSTRACT**
Set-ups of sets of teeth individually selected from assortments of conventional and readily available false teeth are prepared on preformed dental arch ridge conforming blanks selected for the individual patient from a supply of sizes and configurations. Each blank has means for individually positioning each tooth of the set and serves as a support for the set-up enabling testing and adjusting in the mouth. Also, preselected sets of teeth may be supplied to dentists and technicians, each set of teeth being set-up in an appropriately sized blank. Thereafter the set-up including the blank serves as an integral part of the finished denture.

5 Claims, 7 Drawing Figures



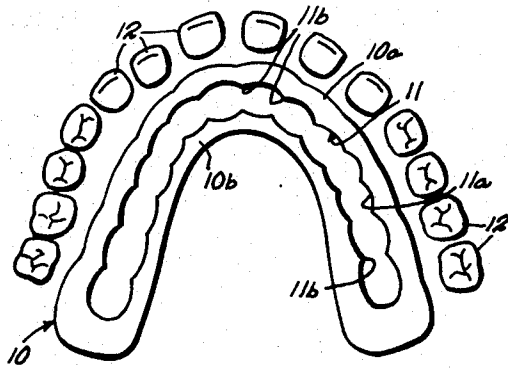


Fig. 1

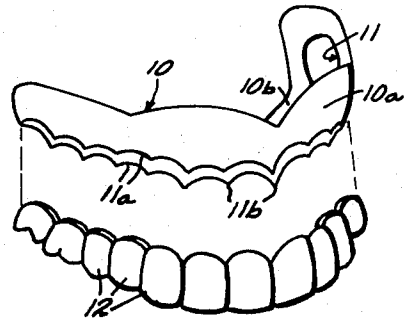


Fig. 2

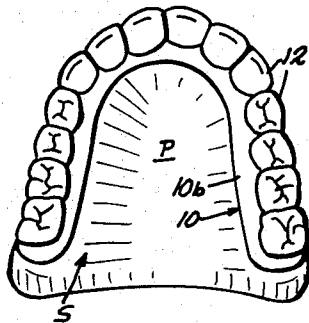


Fig. 3

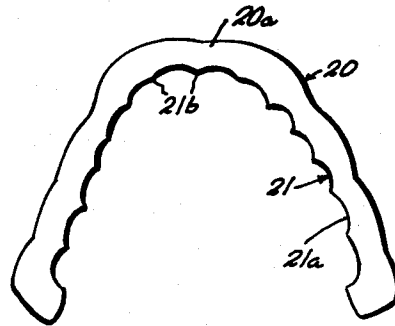


Fig. 4

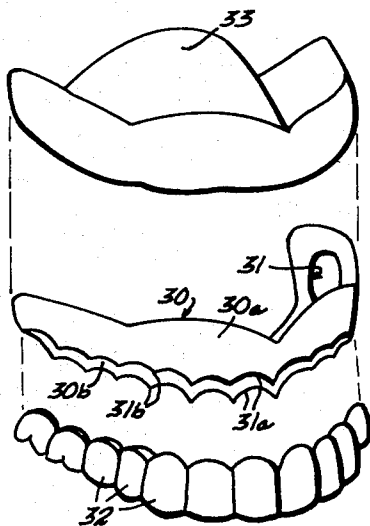


Fig. 5

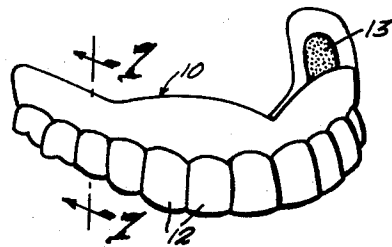


Fig. 6



Fig. 7

PREFORMED BLANKS FOR FALSE TEETH SET-UP

BACKGROUND OF THE INVENTION

1. Field of the invention

The invention relates to dentures made with preformed gum conforming blanks on which false teeth of any conventional construction are set-up either on stone models of the patient's jaws, hereinafter designated semi-custom dentures or, on preformed bases, hereinafter designated as directly made dentures. Both these dentures distinguish from the well known custom denture.

2. Description of the prior art

One of the advantages of the custom denture is its versatility in the selection of each of the false teeth individually for desired size, shape, and color and the proper positioning of those selected teeth in relation to each other, to the gum line, and to the teeth of the opposing jaw. The selected false teeth are set-up in wax formed as temporary dentures usually on stone models of the patient's jaw in a painstaking, time consuming procedure by a highly skilled and trained technician. The temporary denture is then fitted and adjusted in the patient's mouth and, when found satisfactory, the wax is replaced by permanent acrylic or other suitable plastic in the manner well known in the art.

One form of directly made denture is completely prefabricated with the teeth prepositioned and requires only lining to snugfit the patient's gums and palate after the proper size and shape denture is selected from those available. A method of aiding the individual in his selection so that he may fit his own dentures is disclosed in U.S. Pat. No. 2,685,133, of which I am a co-inventor. To combine the advantages of better fit and appearance of the custom denture with the economy and availability of the directly made denture, my prior U.S. Pat. No. 3,335,495 discloses a preformed sectional denture which permits selection of individual teeth but requires the teeth to be of a special construction. The present invention is an improvement of my said prior patent disclosure and utilizes false teeth of constructions that are currently readily available. The existing need in dental clinics where large numbers of patients must be served quickly and economically is also satisfied by this invention.

SUMMARY OF THE INVENTION

Among the objects of the invention is to provide dentures and methods of forming same which dentures will approximate custom dentures in fit and appearance yet will be inexpensive, capable of being made and completely fitted in one or no more than two sittings, and are adaptable both to dental clinic procedure where patients can be served in assembly-line fashion without sacrifice of quality results and to the private dentist taking personal pride in his work.

Preformed gum conforming blanks are provided for upper and lower jaws in a range of predetermined sizes and configurations to include the various dimensions of the male and female mouth. Each blank is formed with cut-outs on its ridge portion to seat each of the teeth of the set individually so that each tooth may be carefully selected and matched from a stock of conventional false teeth customarily available to the dentist. In making the semi-custom denture, the preformed blank is selected to best fit a stone model of the patient's jaw and, with the aid of wax, the teeth are positioned in the

blank which has been placed on the stone model to make a temporary set-up for checking and adjusting in the patient's mouth. Thereafter, the denture is prepared by conventional molding methods in which the teeth and blank become an integral part of the denture.

For the directly made denture, the set-up of the teeth and blank is done on a preformed base selected to best fit the patient's gums. A slow curing material is used to bind the teeth, blank and base together into a set-up initially permitting adjustment of the teeth in the mouth and subsequently setting into a permanent unitary structure.

Manufacturers or distributors of false teeth may supply complete sets of teeth preselected and placed in preformed blanks ready, after selection with regard to the size and shape of the blank, for application directly to the stone model.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an exploded bottom plan view of a preformed gum ridge conforming blank and a set of false teeth which are to be secured to the blank.

FIG. 2 is an exploded perspective view of the blank and teeth shown in FIG. 1.

FIG. 3 is a plan view of the blank and teeth shown in FIGS. 1 and 2 assembled on a stone model in accordance with the invention.

FIG. 4 is a modified form of the blank shown in FIG. 1.

FIG. 5 is an exploded perspective view of a direct made denture shown to comprise a base, a blank and a set of teeth.

FIG. 6 is a perspective view of a set of false teeth placed in its preformed blank providing a supplier's package unit, and

FIG. 7 is a sectional view taken on line 7-7 in FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring in detail to FIGS. 1, 2 and 3 of the drawing, blank 10 is seen to substantially conform to a patient's dental arch ridge and comprises an outer or buccal portion 10a, an inner or lingual portion 10b, and a central opening or cut-out 11, the opposing edges of which may have a series of concave portions 11a separated by inward projections 11b defining a series of locations or seats, one for each of the false teeth 12 of the set. In accordance with the invention, blank 10 is relatively thin, namely, of a thickness permitting embedment in the completed denture and is preformed of an acrylic or other plastic material compatible with that of said denture. Blank 10 is provided in an assortment of sizes and shapes, as for example, in a small, medium and large size for each of a tapered, square and ovoid shape of dental arch and intermediate sizes and shapes, if necessary. The assortment of sizes and shapes of blank 10 may substantially correspond to those of the base and matching blank described in my said prior U.S. Pat. No. 3,335,495.

In the preparation of a semi-custom denture, a stone model S is cast from an impression taken of the patient's mouth, shown in FIG. 3 as that of the upper jaw and having a palate P. A preformed blank 10 is selected from the assortment to best fit the dental arch ridge and is positioned thereon. A set of teeth 12 are then individ-

usually selected from a supply of conventional false teeth which may be made either of plastic or porcelain. Each selected tooth is positioned with its base in central cut-out 11 of blank 10 and is temporarily secured thereto by a suitable wax, proper relative seating of each tooth being readily accomplished by registration thereof with its respective concave portion 11a of cut-out 11.

A similar set-up is made for the lower jaw, an assortment of lower jaw blanks, likewise, being provided for use on a stone model made from an impression of the lower jaw. The setups of upper and lower jaws on blanks 10, if desired, may then be checked in the patient's mouth and various adjustments, including changes of teeth and the like, made and rechecked until found to be satisfactory. The set-ups are then returned to the stone models for completion, for example, the addition of the palate portion of the upper denture. The wax is then replaced with acrylic in the manner well known in the art, blanks 10 being retained as an integral part of the finished semi-custom dentures.

Where dental laboratory equipment and technicians are readily available as may be the case in large dental clinics, the above described semi-custom molded dentures may be completed and delivered to the patient on the same day.

A modified form of blank 20, as illustrated in FIG. 4, is seen to be blank 10 lacking a lingual portion 10b, its buccal portion 20a being provided with an interior edge 21 formed with concave portions 21a and projections 21b which correspond to the buccal edge of cut-out 11, concave portions 11a and projections 11b, respectively. It will be apparent that blank 20 will serve in a manner similar to that hereinbefore described with respect to blank 10.

The directly made denture is seen in FIG. 5 to comprise a preformed base 33, a preformed blank 30 and a set of teeth 32. Base 33 is made of an acrylic or other suitable plastic material as a relatively thin structure similar to the base shown and described in my said prior patent but without the locating pins. Similarly, bases 33 are supplied in an assortment of sizes and shapes to provide an approximate fit for all individuals, each size of the assortment having a corresponding blank 30 fitted for use therewith. Each blank 30 is seen to have a buccal portion 30a and a central opening or cut-out 31 formed with concave portions 31a separated by inward projections 31b similar to the corresponding structure of blank 10.

With a supply of assortments of bases 33, blanks 30, and sets of teeth 32 for the upper and lower jaws on hand, a directly made pair of dentures may be expertly assembled and fitted for immediate use by the patient in a single sitting. The closest fitting pair of bases 33 for the upper and lower jaws are chosen from said assortments and are lined and fitted in the mouth for the patient's comfort. Corresponding blanks 30 are then applied to the lined bases 33 and the sets of teeth 32 are set-up in the cut-outs 31, aided by concave portions 31a for proper seating, and using, as a bonding and filling agent, a slow setting acrylic or plastic material

which is compatible with the acrylic or plastic material from which bases 33 and the blanks 30 are made. The dentures may be directly checked in the patient's mouth and any required repositioning, or adjustment of teeth 32 is rapidly accomplished before the bonding material sets permanently.

Whereas each blank 10 requires its set of false teeth 12, manufacturers of false teeth may utilize blanks 10 as a holder for packing and shipping their product. Accordingly, FIGS. 6 and 7 show a novel package comprising a set of teeth 12 which are matched in size, shape, and color and removably set in cut-out 11 of a blank 10 by a strip of wax 13. In use, the appropriate package is selected from an assortment according to the desired size and shape of its blank 10 and then may be directly applied to the stone model S, thereby materially reducing the time for making the set-up and yet preserving the capability for individually adjusting each tooth.

The semi-custom and directly made dentures utilizing the preformed gum conforming blank herein disclosed are seen to achieve the several objects of the invention and to be well adapted to meet conditions of practical use. As various possible embodiments might be made in this invention, and as various changes might be made in the disclosed structures, it is to be understood that all matter herein set forth and shown in the accompanying drawing are to be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A dental ridge blank provided in a range of sizes and arch shaped configurations corresponding to those of the human dental ridge, said blank being preformed of a material and of a limited thickness to become an integral part of the completed denture, and having a cut-out portion for positioning therein the support end of false teeth of standard construction, said positioning permitting relative movement of the teeth for adjustment purposes.

2. The dental ridge blank defined in claim 1 in which said blank has an interior edge serving as said cut-out portion and includes a concave portion indicating a location for each of the teeth.

3. The dental ridge blank defined in claim 1, a wax material temporarily retaining each of said false teeth in said positions in said blank cut-out providing a temporary set-up capable of accomplishing said adjustment in the patient's mouth in the preparation of a semi-custom denture.

4. The dental ridge blank defined in claim 1 in which said cut-out portion is formed with concave portions which indicate seating positions for the teeth.

5. The dental ridge blank defined in claim 1, a preformed base to which the blank is applied, a slow curing resin adjustably retaining each of said false teeth in said positions providing a set-up capable of accomplishing said adjustment in the patient's mouth, said base, blank and teeth being bonded together by said resin after curing as a directly made denture.

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