Feb. 16, 1954 W. A. BADER 2,669,021

ARTIFICIAL DENTURE

Filed Oct. 9, 1952

Fig. 1

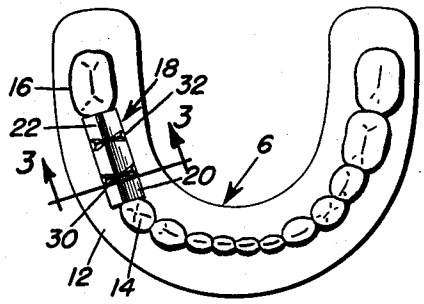


Fig. 3

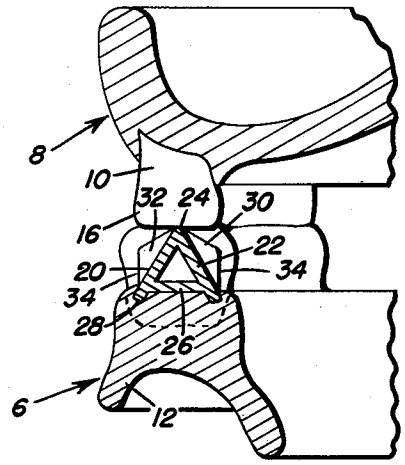


Fig. 2

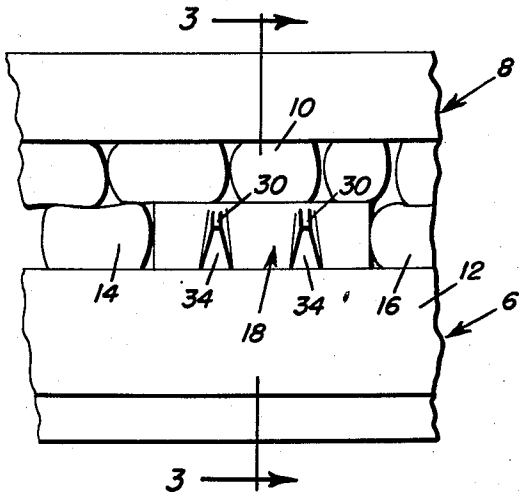


Fig. 5

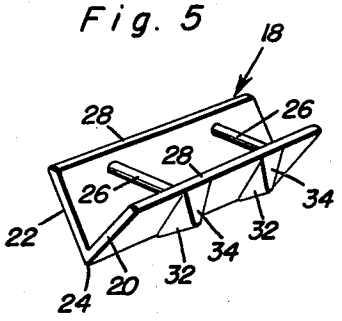
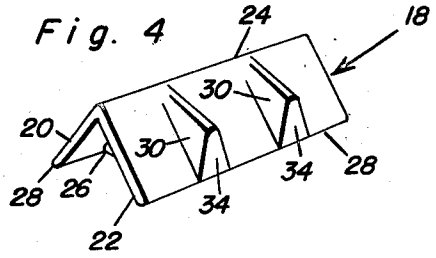


Fig. 4



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ARTIFICIAL DENTURE

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4 Claims. (Cl. 32—2)

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The present invention relates, generally speaking, to artificial dentures, either upper, lower or partial in form, and also appertains to an improved method or technique of producing such a denture.

More particularly, the over-all concept has to do with ways and means whereby the act of mastication in reference to artificial teeth is appreciably enhanced through the medium of the method or procedural steps which are followed in perfecting the denture and the finished denture itself and wherein the essence of the invention has to do with omitting one or more regularly used porcelain teeth and using, in lieu thereof, an ingenious substitute which latter preferably takes the form of a specially designed metallic insert.

It is a matter of common knowledge to those skilled in the art of making up artificial dentures and properly fitting the same for individual needs that there are instances where tender tissue obstructs the necessary pressure from being transmitted properly through the use of artificial teeth, porcelain or equivalent material. This vulnerable area of tender tissue has repeatedly come to be recognized as that which is in close proximity to the bicuspid and first molar area.

As is evident, therefore, an object of the invention here is to provide a more reliable and satisfactory bite in this area and to cause the least resistance to the separation of food and the clogging of its components. More specifically, one aspect, that which has to do with the method steps, involves a technique of producing an artificial denture, usually a lower denture, which invokes substituting a single hard metal insert for the usual porcelain teeth, bicuspid and first molar for instance, wherein said insert is V-shaped in cross-section and to thus provide a vertex which performs as a cutting edge, and embedding the marginal edges of the downwardly sloping flanges of the insert in the denture forming material so that the cutting edge extends mesio-distally and functions to cause the least possible resistance to the severance of food.

Construed more from the standpoint of the article itself, either as an insert per se or said insert in combination with the denture, novelty is predicated on means for improving mastication where artificial teeth are used comprising an artificial denture in which the usual porcelain bicuspid and first molar are omitted and a special dual purpose insert is employed in lieu thereof, said insert being constructed of a hard non-corrodible metal, stainless steel for example, and

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being adapted to extend mesio-distally and having a single longitudinal uninterrupted ridge sharpened to function as a cutting edge when opposed to companion teeth in a complemental artificial denture.

Construed from another point of view the invention has to do with means for use in promoting keen cutting mastication where, in an artificial denture, tender tissues obstruct the required pressure from being applied and transmitted through the medium of porcelain or equivalent false teeth; comprising in combination, an artificial denture having a space existing at the place of omission of at least one prescribed porcelain or equivalent breakable tooth, and a substantially indestructible metallic insert fitted in and occupying said space, said insert being an inverted V-shaped member whose flanges are embedded and anchored in the denture material and whose vertex is sharpened to function as a cutting and masticating edge.

Other achievements and characteristics will become more readily apparent from the following description and the accompanying sheet of illustrative drawings.

In the accompanying sheet of drawings wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a bottom plan view of a lower artificial denture produced by following the method herein under consideration and, therefore, revealing the denture with the improved mastication feature;

Figure 2 is an enlarged fragmentary elevational view showing both upper and lower dentures and the improved insert and the manner in which it performs;

Figure 3 is an enlarged fragmentary sectional and elevational view taken on the line 3—3 of Figures 1 and 2 respectively, looking in the direction of the arrows;

Figure 4 is a perspective view of the insert by itself; and

Figure 5 is a perspective view of the same showing it from its bottom or underneath side.

By way of introduction to the detailed description it is to be repeated that the invention is susceptible of being incorporated in either the upper artificial denture, the lower artificial denture or a partial denture. So far as the present disclosure is concerned it is simpler to assume that we are primarily concerned here with the lower complete artificial denture which is denoted by the numeral 6 and is shown in

Figures 2 and 3 in conjunction with a standard or unaltered upper artificial denture 8.

The standard porcelain or equivalent teeth in the upper denture are denoted by the numerals 10. The formable denture material in the lower denture is denoted by the numeral 12. Insofar as the invention is essentially concerned the same is to be placed and anchored in the space which is left between the teeth 14 and 16 in Figure 2 as is clear. This is designated as the bicuspid and first molar area inasmuch as these are the artificial teeth which are omitted in the production of the improved denture here. The metallic insertable indestructible insert which is fitted and anchored in this prepared space is denoted by the numeral 18. Although the insert is susceptible of use to replace a single tooth, that is to serve as a substitute for such a tooth, it is preferably a dual purpose element and is intended to serve in lieu of two teeth; namely, the first molar and the bicuspid adjacent thereto. In its preferred embodiment said member or insert is a stainless steel specially prepared item which is V-shaped in cross-section and open at its ends and which provides a pair of downwardly and outwardly diverging flanges or walls 20 and 22 and an adjoining sharpened vertex 24 which provides the cutting edge. On the underside and at the interior are cross-braces or rounds 26—26 which it will be noted are spaced away from the longitudinal edges 28—28 which latter edges are embedded in the denture material to the extent shown in Figure 3. As a matter of fact, the cross-braces 26 are also partly embedded. The numerals 30—30 and 32—32 designate the aforementioned lateral embossments which are at longitudinally spaced points on the sloping surfaces of the walls or flanges and whose outer ends, after they are finished off, are substantially flat and triangular as denoted at 34—34. These elements have sometimes been referred to as lateral segments. To this end it will be observed that the lateral segments are so designed, that the cutting edge adjacent to the longitudinal cutter bar is constructed with a 20° angle, so as to conform with the angle of modern posterior teeth. Extra length is given to the cutting segment so that either end may be cut off, not only to conform to the distance between the first bicuspid and second molar but also to enable at least one of the lateral segments to act as a guide in the lateral movements of the mandible, thus securing for both sides of the denture adequate anatomical articulation.

This insert or cutter bar as it is often called extends, obviously, mesio-distally and the ridge or apex 24 has the same sharpness as would be on the cutting edge on a pair of good scissors. It has an over-all height of about a quarter of an inch above the base and it will be seen that the lateral segments extend buccally and lingually from the cutting edge of the cutter bar in order to keep the tongue and cheek from being injured by the cutter bar. These are so spaced for greatest protection and provide adequate clearance for food as the segments arise from the cutter bar, they are also sharpened. As they extend laterally they broaden out and are flattened for protection. The spaces and shape of the areas between the lateral segments are so designed as to be self-cleansing, thus allowing the cleavage of food to be accomplished with the greatest efficiency. This fact distinguishes this invention from all others.

It will be evident that there are a number of salient aspects or features involved in the subject matter herein presented having to do with a novel technique or method involving the special steps pursued and the article itself as well as the article in combination with the denture in which it is embedded wherein said article is a single-piece cutter bar of hard alloy, stainless steel, or dental gold, the same having the cross-sectional shape shown and characterized by the improved segments protecting the cheek and tongue and unique because of these and other characteristics which will be recognized by experts in this line of endeavor.

Having described the invention, what is claimed as new is:

1. For use in promoting keen cutting mastication where, in an artificial denture, tender tissues obstruct the required pressure from being applied and transmitted through the medium of porcelain or equivalent false teeth comprising in combination, an artificial denture having at least two spaced porcelain or equivalent breakable teeth, and a substantially indestructible metallic insert fitted between said spaced teeth, said insert being an inverted V-shaped member whose flanges are embedded and anchored in the denture material and whose vertex is sharpened to function as a cutting and masticating edge.

2. The structure defined in claim 1 and the combination therewith of lateral segments integral with and extending buccally and lingually from the exterior surfaces of the slanting diverging portions of said V-shaped member.

3. The structure defined in claim 1 and the combination therewith of lateral segments integral with and extending buccally and lingually from the exterior surfaces of the slanting diverging portions of said V-shaped member, said segments being arranged in pairs on opposite sides of the vertex of the member and each being substantially V-shaped in cross-section with its vertex slightly sharpened and with its outermost end portion flattened and triangular in appearance.

4. Means for improving mastication where artificial teeth are used comprising an artificial denture in which the usual porcelain bicuspid and first molar are omitted and a special dual purpose insert is employed in lieu thereof, said insert being constructed of hard non-corrodible metal and being adapted to extend mesio-distally, said insert being substantially V-shaped in cross-section with its ends open and embodying a pair of diverging flanges joined at corresponding edges by way of a sharpened vertex constituting a cutting edge, lateral segments integral with and extending buccally and lingually from the exterior surfaces of the flanges, said segments being arranged in pairs on opposite sides of the intervening vertex and each segment being substantially V-shaped in cross-section with its vertex slightly sharpened and with its outer end portion flattened and triangular in appearance.

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