

May 8, 1928.

1,669,335

D. S. HIGHKIN
DENTAL ARTICULATOR

Filed Jan. 21, 1927

Fig. 1.

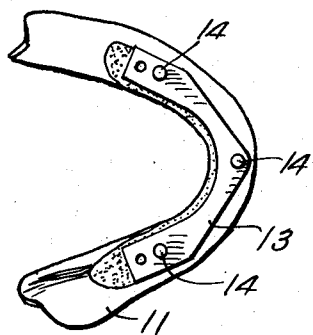


Fig. 2.

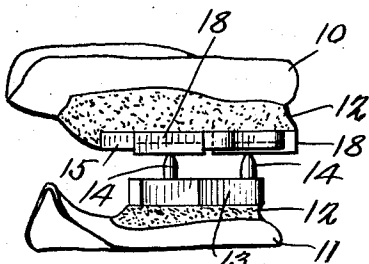
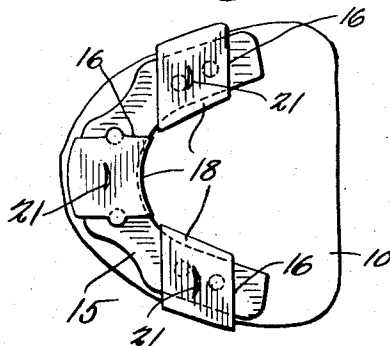


Fig. 3.

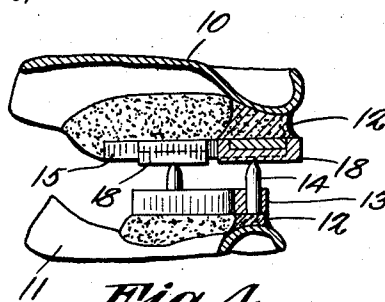


Fig. 4.

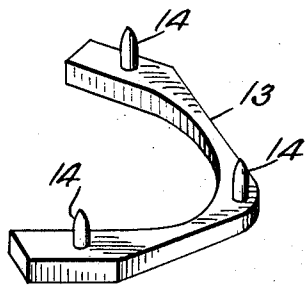


Fig. 5.

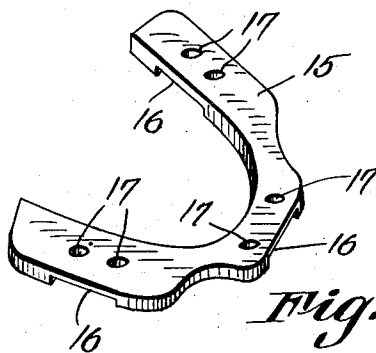


Fig. 6.

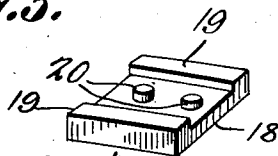


Fig. 7.

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Patented May 8, 1928.

1,669,335

UNITED STATES PATENT OFFICE.

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DENTAL ARTICULATOR.

Application filed January 21, 1927. Serial No. 162,429.

This invention relates to dentistry and has special reference to a method and apparatus for obtaining correct bite in dental plates.

In the construction of dental plates it is customary to take impressions of the upper and lower parts of the mouth and to forming with these impressions as a mold, plates carrying the false teeth. Difficulty is always experienced in so positioning the false teeth that they will probably coact with each other and with any teeth left in the mouth where partial plates are used and from what is technically known as a correct bite. To obtain a correct bite it is not alone necessary that the teeth shall contact properly with the mouth closed but it is also necessary and most highly important that the grinding movement of the lower jaw in mastication should be accomplished with the false teeth in proper bite with each other or with teeth remaining in the mouth.

The principal objects of the present invention are to provide an improved method and apparatus therefor for obtaining and recording what may be termed the grinding bite of any person in a correct and accurate manner.

With the above and other objects in view as will be hereinafter apparent, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a plan view of the lower jaw apparatus for carrying out this method.

Figure 2 is a bottom plan view of the upper jaw apparatus.

Figure 3 is a side elevation of the two in bite position.

Figure 4 is a section on the medial plane of the apparatus.

Figure 5 is a perspective view of a certain pin carrying plate used herewith.

Figure 6 is a perspective view of what may be termed the upper jaw plate as used herewith.

Figure 7 is a perspective view of a soft metal detachable lug for the plates shown in Figure 6.

In the embodiment of the invention as here described there is shown an upper plate 10 and a lower plate 11. In the construction

of these plates the ordinary mold is made of the mouth in one of the common manners such as by the employment of plaster of Paris. In the mold thus formed is cast a thin shell of metal to form the respective part 10 or 11 and this metal is preferably one of the alloys having a very low fusing point, it having been found advisable to keep the fusing point below that of boiling water. These shells correspond to the plates on which false teeth are ordinarily mounted. On the obturating portions of these plates there are built up U-shaped mounds 12 of modeling compound and the lower jaw plate 11 supports on its mound a U-shaped metal plate 13 which is preferably termed a bite rim and carries upwardly projecting pins 14 at the sides and front of this bite rim, the pins being provided with sub-acute points. Similarly there is embedded in the modeling compound of the upper plate a bite rim 15 which, at the center and sides of its under surface is provided with positioned notches 16, positioning pin receiving openings 17 opening from the top of this bite rim into these notches. These notches are used for positioning the removable bite plates 18 which are made of very soft metal and of such width that they set neatly in the respective notches 16 and are kept from moving laterally by the side flange 19 and positioning pins 20 which latter extend into the respective openings 17. These bite plates 18 are so positioned on the bite rim 15 that when the plates 10 and 11 are placed in the mouth the pins 14 will engage the under surface of the bite plates 18. With the plates 10 and 11 thus positioned the patient is instructed to go through the motions of chewing or grinding food and in the course of this procedure the hard pins 14 will wear pits or grooves 21, see Figure 2, in the bite plates 18. When the dentist has deemed the operation of grinding or chewing has been continued to a sufficient extent he then removes the plates 10 and 11 and the parts carried thereby and the plates may be positioned in a suitable apparatus, such as is usually employed, so that the relative positions of the plates in the apparatus will be identical with the normal relative position they should have in the mouth of the patient.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, therefore, 5 desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

Having thus described the invention, 10 what is claimed as new, is:

1. An apparatus for obtaining "bite" for dental plates, a bite rim for each jaw, relatively hard pins carried by one bite rim, relatively soft bite plates carried by the other 15 rim in position for engagement by said pins, plates fitting the patient's jaws, and plastic backing interposed between said plates and bite rims.

2. An apparatus for obtaining "bite" for 20 dental plates, a bite rim for each jaw, relatively hard pins carried by one bite rim, relatively soft bite plates carried by the other rim in position for engagement by said pins, plates fitting the patient's jaws, and 25 cushions of modeling compound interposed between the plates and respective bite rims.

3. The method of obtaining "bite" for dental plates which consists of supporting 30 relatively hard points and relatively soft metallic bite plates in cooperating positions in a patient's mouth, and causing the patient to simulate chewing action and thereby produce wear on the relative soft plates.

4. The method of obtaining "bite" for 35 dental plates which consists of supporting a plurality of relatively hard points and a

bite plate of a material relatively soft with respect to said points in co-operating position in a patient's mouth and causing the patient to simulate chewing action and 40 thereby scrape a plurality of paths in said relatively soft plate to produce wear therein.

5. An apparatus for obtaining "bite" for dental plates comprising a bite rim, relatively 45 hard pins carried thereby, a second bite rim having a surface of metal relatively soft and sufficiently hard with respect to said pins as to require a scraping of the pins thereagainst to produce wear when the pa- 50 tient simulates a chewing action.

6. An apparatus for obtaining "bite" for dental plates comprising a bite rim, relatively 55 hard pins carried thereby, a second bite rim, a detachable bite plate carried on the latter rim, adapted to be scraped by the aforesaid pins to produce wear in said plate when the patient simulates a chewing action.

7. An apparatus for obtaining "bite" for 60 dental plates comprising upper and lower base plates adapted to fit the patient's mouth, relatively hard projections supported on one of said base plates, a detachable bite plate supported on the other base plate, 65 said bite plate being of a material sufficiently hard to require a scraping of said projections thereagainst to produce wear therein upon the simulation of a chewing action by 70 said patient.

In testimony whereof I affix my signature.
DAVID S. HIGHKIN.