J. M. O'KEEFE.

DENTAL ARTICULATOR.

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1,324,319.

Patented Dec. 9, 1919.

Fig. 1.

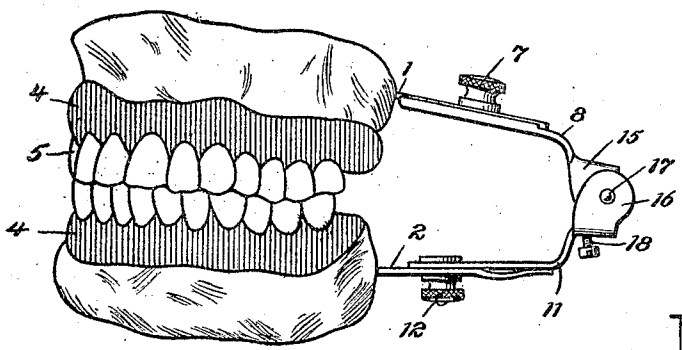


Fig. 4.

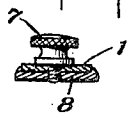


Fig. 2.

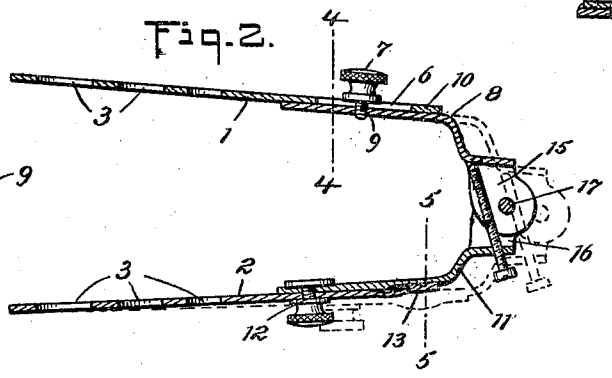


Fig. 5.

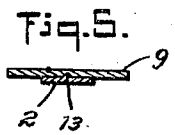
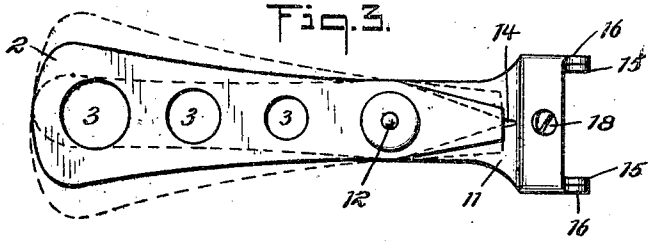


Fig. 3.



WITNESSES

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DENTAL ARTICULATOR.

1,324,319. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed November 6, 1917. Serial No. 200,582.

To all whom it may concern:

Be it known that I, JAMES M. O'KEEFE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Dental Articulators, of which the following is a specification.

This invention relates to improvements in dental articulators and has for its primary object, the provision of a device of this character which will be constructed in such manner that the parts serving to support the artificial upper and lower jaws will be permitted to move laterally as well as inwardly and outwardly for the purpose of determining the proper registration or bite of the teeth.

The invention has for another object, the provision of an articulator in which the lower jaw supporting member may have a lateral swinging movement upon the hinged support or body portion of the device while the hinged support or body portion is also adapted for longitudinal or inward and outward movement with the lower jaw supporting member upon the upper jaw supporting member.

A further object of the invention resides in the provision of a dental articulator of the above stated character which will be constructed in such manner that all of the movements of the human lower jaw may be imitated so that the artificial teeth may be properly positioned and filed to assure a perfect bite or registration of all of the upper and lower teeth when the artificial teeth or false teeth are placed in position in the patient's mouth.

A further object of the invention resides in the provision of an articulator in which the lower jaw supporting member will be normally held in parallel relation with the upper jaw supporting member and in which will also be provided means for guiding the body of the articulator and lower jaw member longitudinally upon the upper jaw supporting member and adjustable means for limiting movement of the jaw supporting members toward one another.

A still further object of the invention resides in the provision of a dental articulator of the above stated character which will be of extremely simple construction and operation, inexpensive to manufacture and highly efficient in use.

With the above and other objects in view, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the drawings:—

Figure 1 is an elevation of the dental articulator in use,

Fig. 2 is a longitudinal vertical section through the articulator, indicating in dotted lines the movement of the body and lower jaw member longitudinally upon the upper jaw supporting member,

Fig. 3 is a bottom plan view of the articulator, indicating by dotted lines the lateral swinging movement of the lower jaw supporting member,

Fig. 4 is a detail sectional view on the plane of line 4—4 of Fig. 2, and,

Fig. 5 is a similar view on the plane of line 5—5 of Fig. 2.

Referring more specifically to the drawings in which similar reference characters designate corresponding parts throughout the several views, 1 designates the upper jaw supporting member and 2 the lower jaw supporting member. A series of openings 3 is provided in each of the jaw supporting members to receive plaster Paris or the like upon which the artificial upper and lower jaws 4 are mounted with the upper and lower teeth 5 secured thereto.

The upper jaw supporting member 1 is provided with a longitudinal slot 6 adjacent its inner end and through which the shank of the set screw 7 is engaged, said set screw threading into the upper body member 8, as shown at 9. This upper body member 8 is provided with longitudinal upturned side flanges 10 to prevent lateral or swinging movement of the upper jaw supporting member 1.

The lower jaw supporting member 2 is mounted upon the lower body member 11 by means of the pivot pin 12 and is arranged for lateral swinging movement thereon. The lower jaw supporting member carries a longitudinal rib 13 which normally rests in a longitudinal channel or recess 14 formed in the under face of the lower body member

11. By loosening the pivot member 12, however, the lower jaw supporting member 2 may be readily moved laterally in either direction upon the body member 11, as indicated by dotted lines in Fig. 3.

The upper jaw member 8 has downwardly turned spaced ears 15 while the lower body member 11 has upwardly directed spaced parallel ears 16 adapted to fit the outer faces of the ears 15. The corresponding ears 15 and 16 are connected in pairs by a pivot 17, thereby forming a central pivot for the body members to represent the hinge of the lower human jaw.

The movement of the upper and lower jaw supporting members toward one another is limited by the adjustable member 18 threaded on an incline through the lower body member 11 and adapted to be adjusted so that its upper free end will be engaged by the upper body member 8 as the jaw supporting members are moved toward one another. It will be understood that the portions of the upper body member 8 and lower body member 11 carrying the ears 15 and 16 respectively are offset from the remainder of the body members so as to bring closer together the hinged or pivoted portions of the body of the device.

From the foregoing, it will be seen that the lower jaw supporting member may be moved inwardly and outwardly with respect to the upper jaw supporting member or swung laterally upon the pivot member 12 while the upper and lower teeth are registering, as shown in Fig. 1 of the drawings. This device therefore makes it possible to obtain a proper bite or registration of the teeth when the artificial jaws are in the various positions assumed by the human jaws during conversation or when the party is eating. When the teeth are properly set in the artificial gums and filed to permit proper registration of the teeth of the upper and lower jaws with the lower jaw supporting member in its various positions, all protruding edges or corners of the teeth may be eliminated and this will assure proper fitting of the artificial or false teeth in the patient's mouth for the best service possible.

It is believed that the advantages as well as the construction and operation of this device will be apparent from the foregoing description taken in connection with the drawings without further explanation. However, it will be observed that the device comprises particularly, jaws which are offset toward each other and pivotally connected on an axial line centrally between the same, these jaws having movable parts to simulate the movement of the lower jaw of the mouth with respect to the upper jaw, so that when an impression is made from a patient's mouth, the lower jaw and part of the upper jaw can have movement on the sliding section of the upper jaw, thereby giving the inward and outward movement of the lower jaw, while the pivoted part of the lower jaw can have lateral pivoting or swinging movement to give the corresponding movement of the lower jaw, the same as if the patient was at hand.

It will be evident to all parties familiar with this art, that the present invention is adapted for use for all cases such as two or three tooth bridge work or small partial plates, as well as full upper or lower sets of teeth.

It will be understood, however, that minor changes in the details of construction and arrangement of parts may be resorted to within the scope of the appended claims without departing from the spirit of the invention.

I claim:—

1. A dental articulator including upper and lower jaws offset toward each other and pivotally connected transversely thereof and intermediately therebetween, a section slidable on the upper jaw, means to hold said slidable section in adjusted position, said lower jaw having a pivoted section, means to resiliently and frictionally hold said pivoted section at different angular positions, and means to space the jaws and hold the same in adjusted spaced relation.

2. A dental articulator comprising a body including an upper part and a lower part pivoted thereto immediately between the same, means for adjusting the pivotal movement of said pivoted parts, an upper jaw supporting member slidably fitted to the upper part of said body, a clamping member carried by said upper part and coöperating with the jaw supporting member thereon to hold the latter in adjusted position, a lower jaw supporting member for the lower part, a clamping pivot connecting said lower jaw supporting member to the lower part for lateral movement thereon, said lower jaw supporting member having a reduced extension provided with a projection, said lower part of the body having a recess into which said projection is adapted to snap for holding the lower jaw supporting member centralized and adapted to coöperate with the clamping member to hold said lower jaw supporting member in an adjusted angular position, and adjustable means for regulating the distance between the upper and lower jaw supporting members.

3. A dental articulator including an upper jaw and a lower jaw, pivotally connected, adjustable means carried by one of said jaws for engagement with the other jaw to regulate the distance therebetween, a blade cooperating with the upper jaw, one of said parts having side flanges slidably receiving the other part therebetween, one of said

parts having a slot therethrough, a clamping member engaged through the slot and carried by the other part for clamping the blade in adjusted position, said lower jaw having a notch in its bottom face equi-distantly between the side edges thereof, a blade having an aperture, said lower jaw also having an aperture, clamping means carried by the lower jaw, said blade having an inward extension with an offset projection engaging the notch, said clamping means serving to hold said blade in adjusted angular position.

4. In a dental articulator including relatively movable jaws, a plate carried by each jaw, one of said plates being pivotally mounted for movement relative to the other, and means for releasably retaining said pivoted plate in a centralized position relative to the other plate, whereby said pivoted plate may be moved out of a central position in either direction and readily returned to central position, said retaining means acting automatically to centralize the plate.

5. In a dental articulator including relatively movable jaws, a plate carried by each jaw, one jaw having a notch and the plate carried by said jaw being pivotally connected thereto, and a resilient tongue carried by said plate to engage in the notch to centralize the plate relative to the other.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES M. O'KEEFE.

Witnesses:

WILLIAM S. FOWLER,

JOHN E. BURCH.