No. 643,038. Patented Feb. 6, 1900.

J. W. BRYAN.

DENTAL ARTICULATOR.

(Application filed June 8, 1899.)

(No Model.)

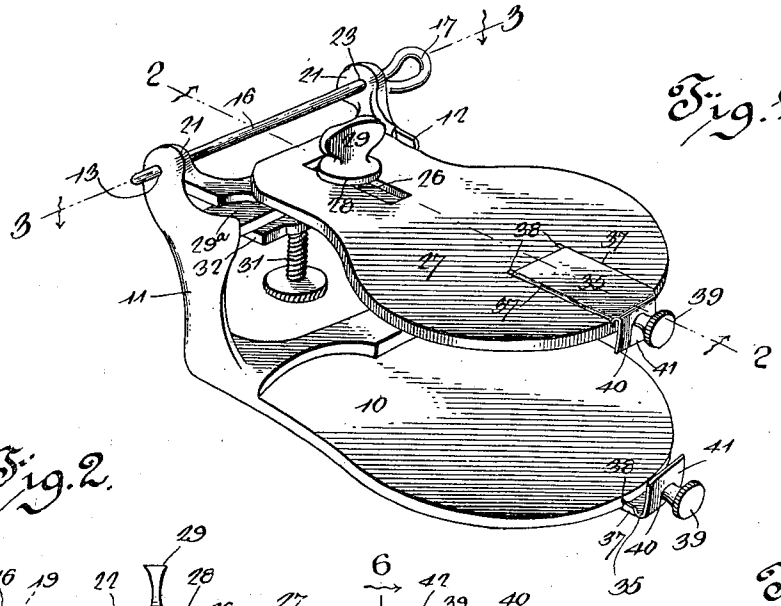


Fig. 1.

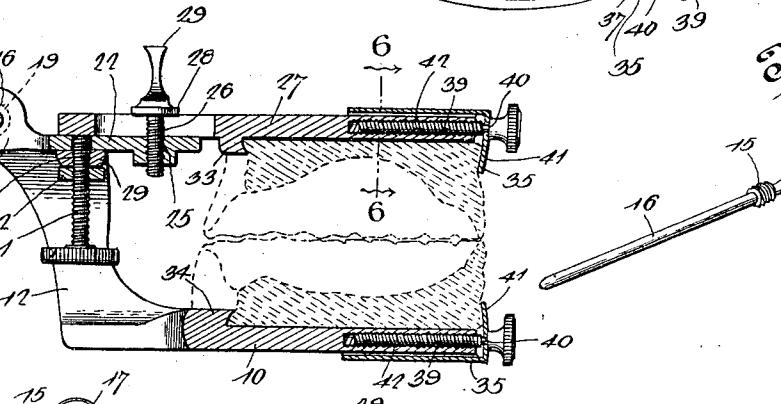


Fig. 2.

Fig. 5.

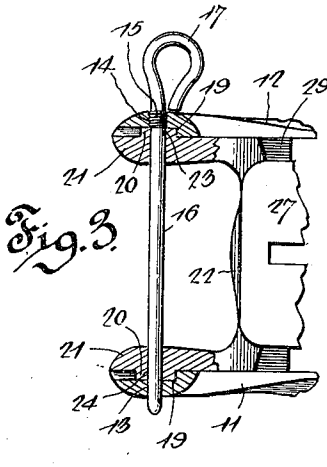


Fig. 3.

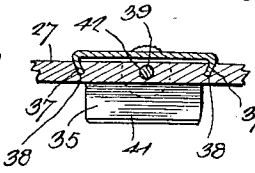


Fig. 6.

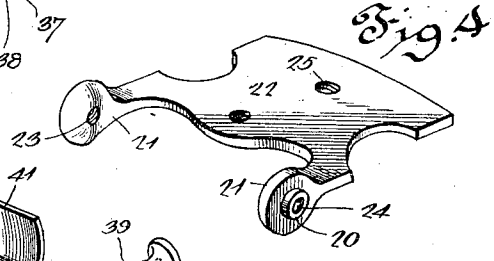


Fig. 4.

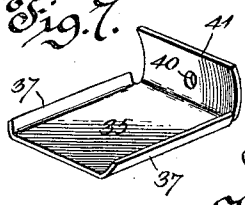


Fig. 7.

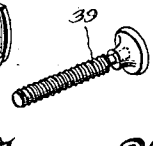


Fig. 8.

Witnesses
J. Frank Culverwell.
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UNITED STATES PATENT OFFICE.

JAMES WATERS BRYAN, OF RUSSELLVILLE, KENTUCKY.

DENTAL ARTICULATOR.

SPECIFICATION forming part of Letters Patent No. 643,038, dated February 6, 1900.

Application filed June 8, 1899. Serial No. 719,784. (No model.)

To all whom it may concern:

Be it known that I, JAMES WATERS BRYAN, a citizen of the United States, residing at Russellville, in the county of Logan and State of Kentucky, have invented a new and useful Dental Articulator, of which the following is a specification.

This invention relates to dental articulators; and it has for its object to provide a simple construction of this nature in which the molds may be readily inserted or removed and also in which the jaws may be easily and quickly connected or disconnected when desired, the particular object of the invention being to save the time usually lost in the manipulation of the articulator preparatory to operations upon the mold.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective of a form of my device adapted for platework. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a section on line 3 3 of Fig. 1, partly broken away. Fig. 4 is a detail perspective of a section of one of the hinge-carrying plates. Fig. 5 is a detail perspective of the hinge-pin. Fig. 6 is a section on line 6 6 of Fig. 2 looking to the right. Fig. 7 is a detail perspective of one of the clamping-plates. Fig. 8 is a perspective of a clamping-screw.

Referring now to the drawings, in operating in accordance with my invention I provide a lower jaw 10, the horizontal projection of which is similar to that of the human jaw, which jaw 10 has at its rear end two upwardly-extending portions 11 and 12, the upper ends of which project rearwardly and are provided with perforations 13 and 14. The perforation 14 is screw-threaded and is adapted to receive the threads 15 of a hinge-pin 16, passed through the perforations 13 and 14, the pin 16 having its end adjacent to the threads 15 bent in the form of a hook or ring 17 to form a handle for the manipulation of the pin. Formed in the upper ends of the uprights 11 and 12 are passages opening into circular countersinks 19, concentric with the perforations 13 and 14 and upon the inner faces of the uprights. These passages lead from the countersinks rearwardly through the uprights and are adapted to form guideways for annular lugs 20 upon the outer faces of rearwardly-extending ears 21 of a hinge-plate 22, having perforations 23 and 24, adapted to register with the perforations 14 and 15, respectively, when said hinge-plate is in the position shown in Figs. 1, 2, and 3 of the drawings. The perforations 23 and 24 receive also the hinge-pin 16, and thus hingedly connect the jaw-plate with uprights 11 and 12.

A screw-threaded perforation 25 is formed adjacent to the front edge of the plate 22, and in engagement therewith is a threaded bolt 26, passed through a longitudinal slot in an upper jaw 27, disposed upon the upper surface of plate 22. In order to hold the jaw 27 upon the plate 22, the bolt 26 has an annular head adapted to engage the upper surface of the jaw 27 adjacent the slot therein, said bolt-head 28 having upwardly-extending wings 29 to enable the adjustment of said bolt with the fingers. Thus it will be seen that by loosening the bolt 26 the jaw 27 may be adjusted with respect to the plate 22 and may be positioned, as desired, above the jaw 10.

In order to hold the jaw 27 at the desired point in its pivotal movement with respect to the jaw 10, I arrange a cross-piece 29^a transversely of the uprights 11 and 12 and to which uprights it is secured. This cross-piece has a threaded perforation 30 formed therein, in which is disposed a set-screw 31, adapted for adjustment in said perforation, said set-screw having a jam-nut 32 thereon, through the medium of which it may be held in its adjusted positions.

In order to hold the molds upon the jaws 10 and 27, I form adjacent to the rear edge of the jaw 27 a downwardly-extending rib 33 and upon the upper surface of the jaw 10 a corresponding upwardly-extending rib 34. The upward edge of each of these ribs is slanted upwardly and rearwardly to form a recess for the correspondingly-formed edge of the mold. These forward edges are, furthermore, projected upwardly at their centers to prevent lateral displacement of the molds with respect to the jaws.

In order to clamp the molds against the ribs 33 and 34, I form a clamping-plate 35 for each jaw, which plate has at its edges downwardly and outwardly extending flanges 37, adapted

to enter kerfs 38 in their respective jaws, which kerfs are formed at angles to the jaws corresponding to the angles of the flanges with respect to their plates. The kerfs 38 extend through the front edges of the jaws to enable the insertion of the plate-flanges therein, said plates being adjusted and held with respect to their jaws by means of clamping-screws 39, passed through perforations 40 in the extensions 41 of the outer ends of the plates 35 and into threaded perforations 42, formed longitudinally of the jaws. Thus by manipulation of either clamping-screw 39 its respective clamping-plate may be moved with respect to its jaw and its clamping end 41 be caused to engage the outer edge of the mold and clamp it against its respective rib at the rear of the jaw. As may be seen in Fig. 2 of the drawings, the free edges of the clamping portion 41 of the plates 35 are disposed rearwardly of the jaws to bear upon the correspondingly-formed outer faces of the molds to hold the latter more securely in place.

It will thus be seen that I may readily adjust the jaws correlatively to correspondingly adjust the molds and that by means of the bolt 26 I may adjust the upper jaw longitudinally and transversely of the lower jaw. Also by means of my clamping arrangement I can quickly and easily clamp the molds in place and can remove them when desired.

It will be readily understood that I may form the jaws of my device of any specific shape to adapt them for crown or bridge work and that in the manufacture of the articulator I may employ whatever material I may deem expedient.

Having thus described my invention, what I claim is—

1. An articulator comprising a jaw having projections provided with alining perforations, one of said perforations having screw-threads therein a second jaw, ears carried by the second jaw and having perforations adapted to aline with the first-named perforations and a hinge-pin provided with a head and having threads adjacent said head adapted to engage the threads of said threaded perforation.

2. An articulator comprising jaws pivotally connected and clamping means carried by each of said jaws, said clamping means consisting of a shoulder and a clamping-plate having flanges engaging kerfs in the jaw, said plate having a clamping end disposed at an angle thereto, and means for moving said plate with respect to the shoulder.

3. An articulator comprising a jaw having perforated projections, a hinge-plate having perforations adapted to aline with the first-named perforations, a hinge-pin passed through the alining perforations and having threads engaging the threads of the threaded perforation, a second jaw adjustably connected with said hinge-plate, a shoulder on each jaw, a clamping-plate slidably connected with each jaw and having a perforated end, and a screw passed through said end and engaging the threads of a longitudinal perforation in the jaw to move said plate with respect to its clamping-shoulder.

4. An articulator comprising two jaws each provided with projections having perforations adapted to mutually aline, lugs upon the projections of one of the jaws and concentric with the perforations thereof, annular recesses in the faces of the projections of the second jaw and concentric with the perforations thereof, and slots formed in the last-named projections and entering the recesses thereof and adapted for the passage of said lugs to enable mutual alinement of the perforations of the projections.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES WATERS BRYAN.

Witnesses:
WM. I. MORTON,
J. W. LINTON.