R. SYKORA.

HINGE FOR DENTAL ARTICULATORS.

APPLICATION FILED MAY 28, 1908.

905,479. **Patented Dec. 1, 1908.**

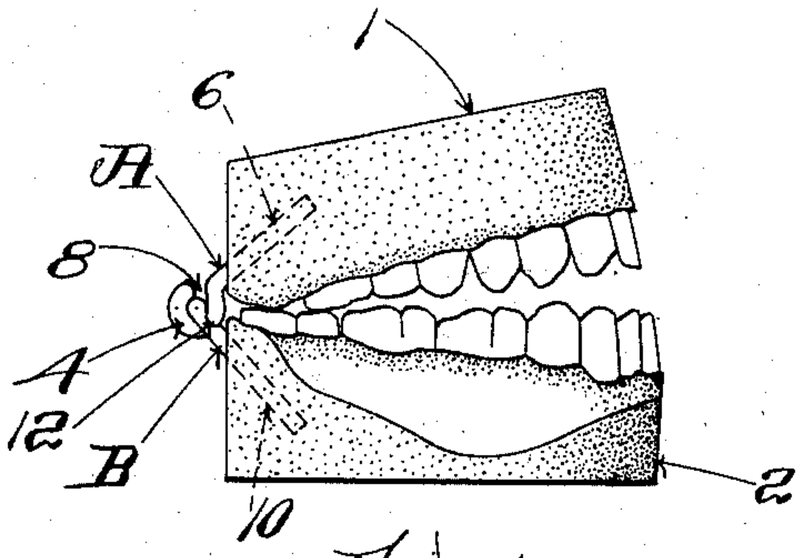

Fig. 1.

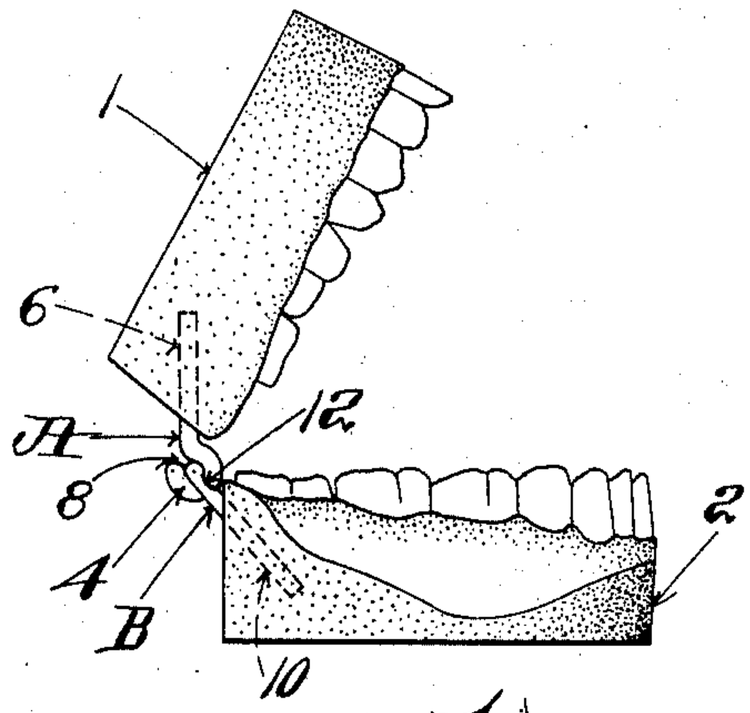

Fig. 2.

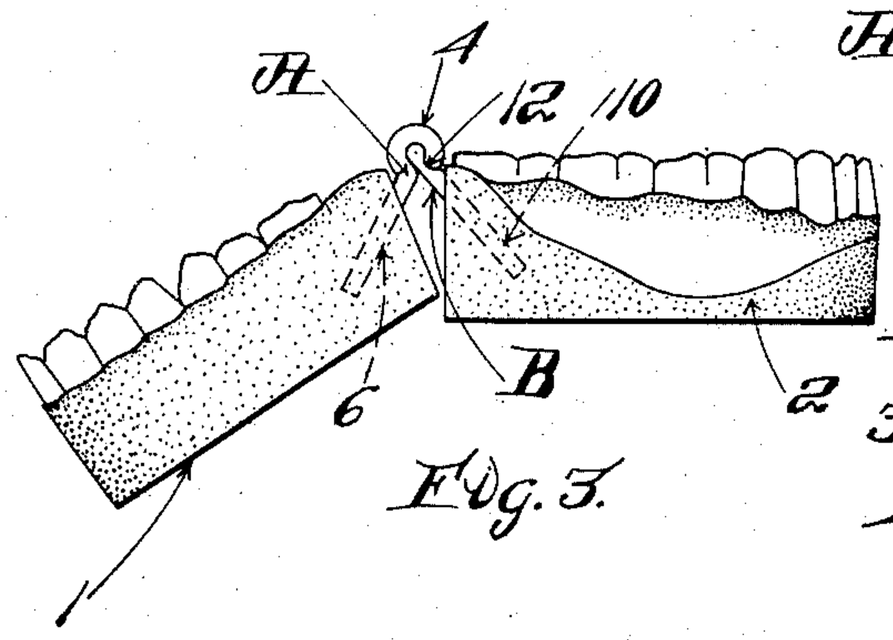

Fig. 3.

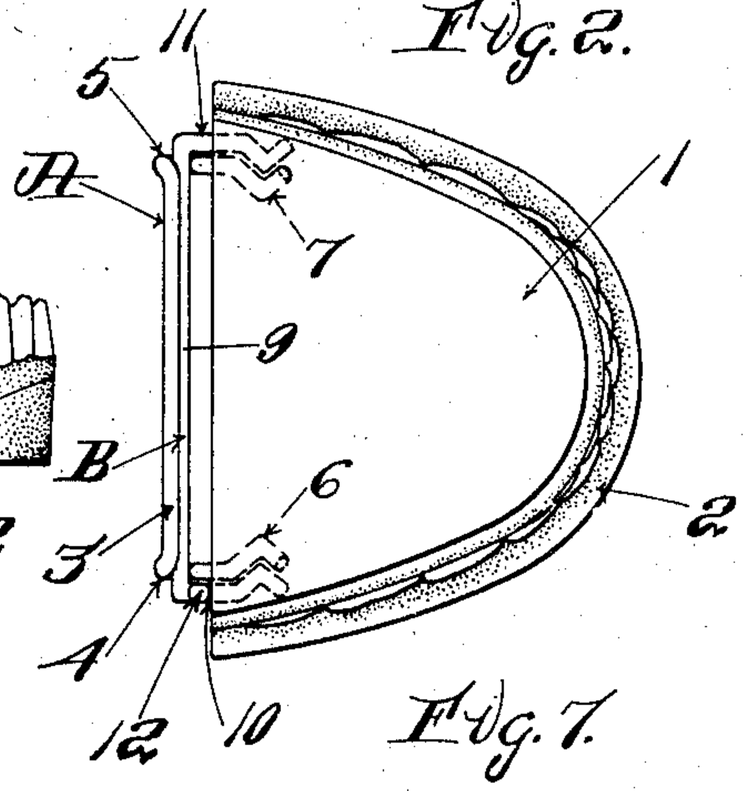

Fig. 7.

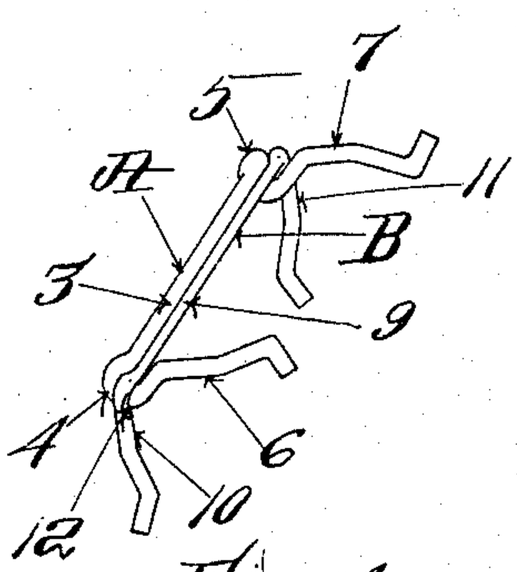

Fig. 4.

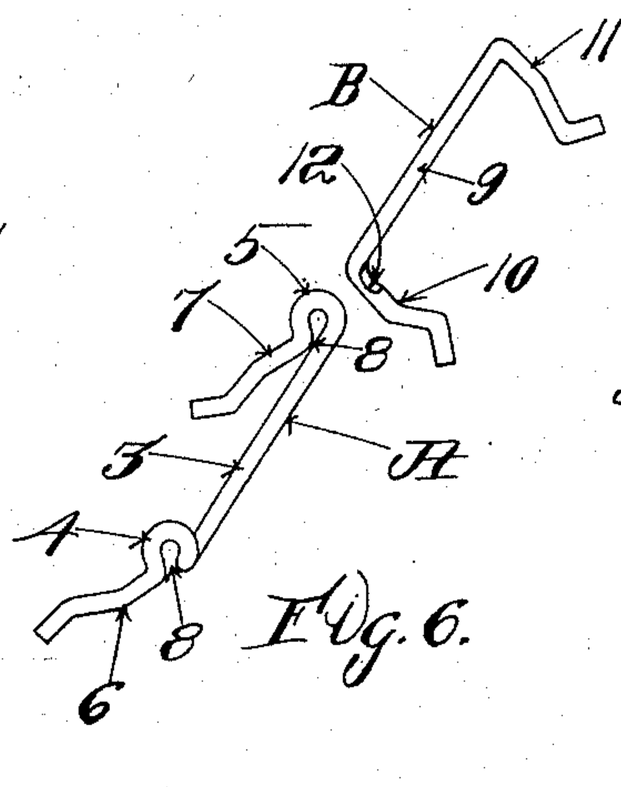

Fig. 6.

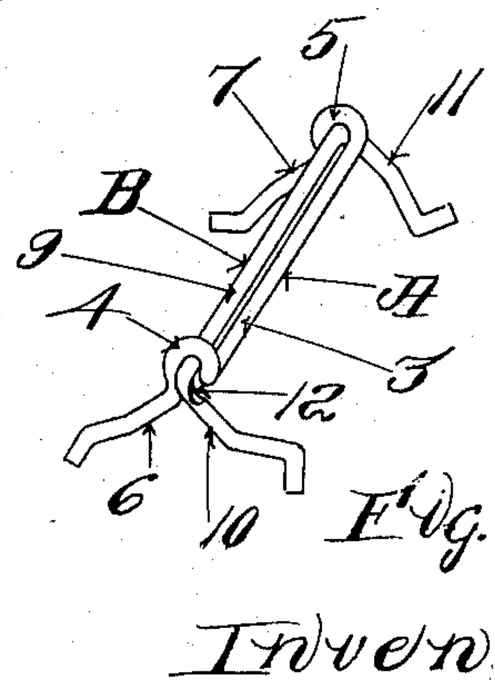

Fig. 5.

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UNITED STATES PATENT OFFICE.

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HINGE FOR DENTAL ARTICULATORS.

No. 905,479. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed May 28, 1908. Serial No. 435,534.

To all whom it may concern:

Be it known that I, RUDOLF SYKORA, a subject of the Emperor of Austria, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Hinges for Dental Articulators, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of the invention is to produce a hinge of simple construction in which the two members of the hinge are readily separable from each other when desired and which when in use are securely held together without danger of accidental separation.

The special use for which the invention is intended to be employed is in uniting together the superior and inferior maxillaries of orthodontia models, although the invention is applicable to use in other devices.

In orthodontia models of the superior and inferior maxillaries for dental use it is important that the two maxillaries shall be hinged together in a manner to permit them to be readily opened and closed to permit study and to maintain the anatomical relation between the superior and inferior dental arch and to securely hold them against accidental displacement while the operator is working on the model, yet to permit them to be readily separated from each other when desired. The invention will, therefore, be illustrated and especially described in connection with an orthodontia model.

The invention will be fully understood from the following description taken in connection with the accompanying drawings, and the novel features will be pointed out and clearly defined in the claim at the close of the specification.

In the drawings,—Figure 1 is a side elevation of an orthodontia model with the two maxillaries hinged together with my improved hinge, the maxillaries being shown closed. Fig. 2 is a side elevation showing the maxillaries partially open. Fig. 3 is a side elevation showing the maxillaries open to the full extent in position for the two members to be separated. Fig. 4 is a perspective of the hinge detached showing the two members in the same position that they are in Fig. 1. Fig. 5 is a perspective showing the two members rotated into the position shown in Fig. 3 ready to be separated. Fig. 6 is a perspective showing the two members separated from each other. Fig. 7 is a plan view of the two maxillaries in a closed position, the arms of the hinge being shown in dotted lines.

Referring to the drawings,—1 represents the model of the superior maxillary and 2 represents the model of the inferior maxillary. Each hinge member consists of an integral piece, preferably wire, bent to the proper shape. The hinge member A, which is connected with the superior maxillary, has a central portion 3 having at the ends thereof loops 4, 5, extending substantially at right angles with the body portion 3, the loops terminating in branches 6, 7, which also extend substantially at right angles with the body 3. The loops 4, 5, have a somewhat contracted throat 8. The branches 6, 7, serve as anchors by which the hinge member is secured to the maxillary 1. The model is usually made of plastic material such as plaster of paris which subsequently hardens and the anchors are subsequently connected with the model by making appropriate slots to receive the anchors and then filling in with soft plaster of paris which subsequently hardens. The other member B of the hinge, which as shown is connected with the inferior maxillary, is formed with a straight central portion 9 terminating at each end with branches 10, 11, at right angles with the body portion 9. The body portion 9 of this member is of slightly greater length than the body portion 3 of the hinge member connected with the superior maxillary in order that when the two hinge members are connected, the branches 10, 11, may swing outside of the branches 6, 7, of the hinge member A. The eye of each of the loops 4, 5, is large enough to receive the body 9 of the hinge member B but the throat 8 is contracted so that its entrance is of less width than the diameter of the body 9. Formed in the side of the branch 10 of the member B near the bend which connects the branch 10 with the body portion 9 is a relatively thin portion or notch 12, so that when the hinge members are turned with relation to each other in such manner as to bring the notch 12 into alinement with the throat 8 as shown in Fig. 5, by sliding the member B longitudinally, the thin or notched portion of the branch 10 may pass through the throat and the hinge member B may be disengaged from the loop 4 and the continued longitu-

dinal movement will allow the notched portion of the branch 10 to pass through the loop 5 at the other end of the member A, so that the two members may be entirely disengaged from each other. When it is desired to reëngage the two members of the hinge, they are placed in such a position that the notch 12 will be in alinement with the loops 5 and then by sliding the member B longitudinally with relation to the member A, the body 9 will readily slide through the eye of the loop 5 until the notched portion passes through the second loop 4. Then the two members are turned so that the thin edge of the notch will be out of line with the throat and the two members are securely held together as first described.

It is obvious that when the two maxillaries are closed as shown in Fig. 1, there can be no sliding movement of the two hinge members with relation to each other, but there is a free pivotal or hinge movement.

The two branches of the two members A and B are preferably formed with one or more bends instead of being straight in order to afford a more secure anchorage.

A hinge constructed in accordance with my invention comprises only two parts, one of which is connected with one of the maxillaries and the other of which is connected with the other maxillary and there is, therefore, no danger of loss of any part of the hinge.

As previously stated, the hinge connection hereindescribed can of course be used for other purposes than connecting the parts of a dental articulator, and it is not intended that the claim shall be limited to such use but shall cover its application to use for other purposes.

What I claim is:

A hinge connection for dental articulators comprising two members each of which is formed of an integral piece, one of said members having a straight central body portion terminating at each end in a loop bent substantially at right angles with said body portion and having a contracted throat, said loops each terminating in a branch adapted for engagement with one of the parts which are to be connected together, the other member of said hinge having a straight central body portion of slightly greater length than the body portion of the first member and terminating at the ends thereof in arms substantially at right angles with said body portion which are adapted for engagement with the second of the parts which are to be connected together, the loops in said first member forming eyes of sufficient diameter to receive the body portion of the second member and the throat being contracted to less than the diameter of the said body portion of the second member, one of the branches of the said second member having a notch in the side near the bend whereby the bar portion of said second member may be engaged with the loops of said first member by a sliding movement, and the two members locked together by a partial rotation.

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

RUDOLF SYKORA.

Witnesses:

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