F. H. BROWN.

SUPPORT FOR DENTAL FACE BOWS.

APPLICATION FILED AUG. 1, 1913.

1,085,535. Patented Jan. 27, 1914.

Fig. 1

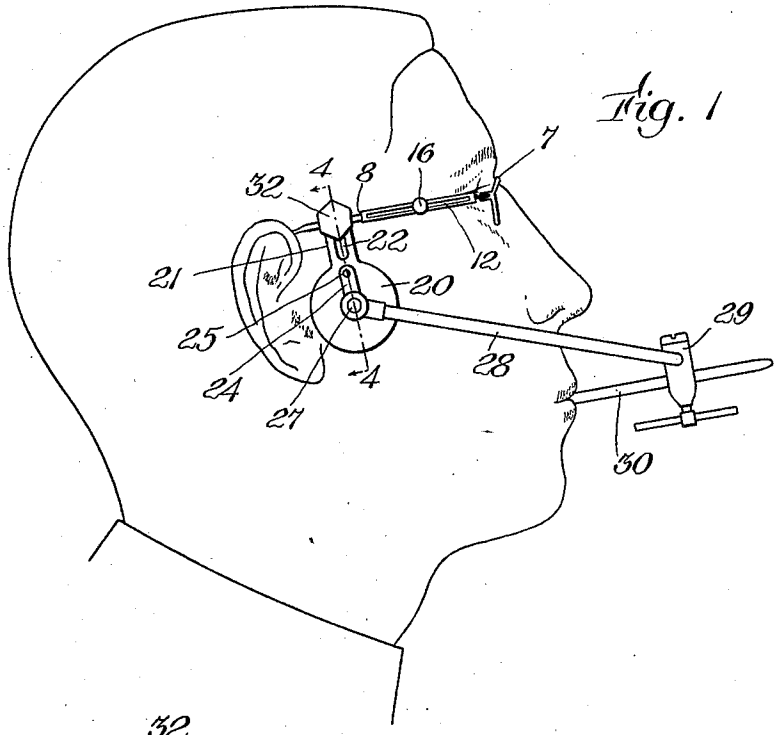


Fig. 2.

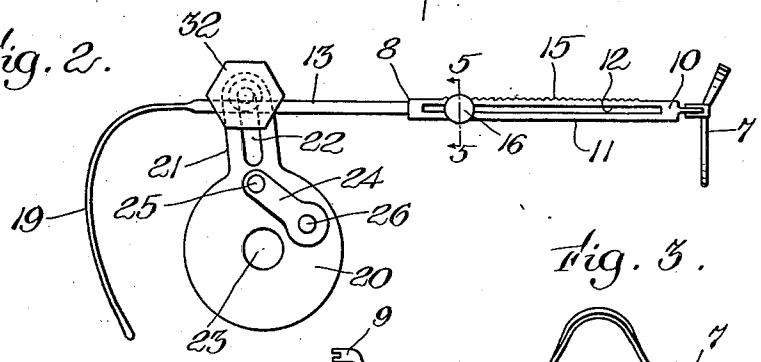


Fig. 3.



Fig. 4.

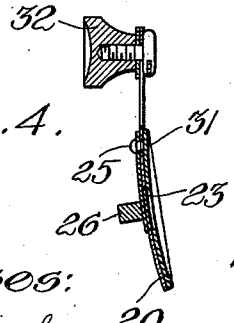


Fig. 5.

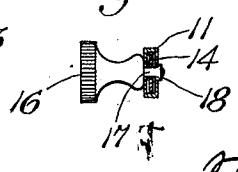
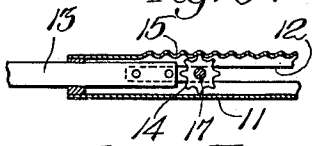


Fig. 6.



Witnesses:

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SUPPORT FOR DENTAL FACE-BOWS.

1,085,535. Specification of Letters Patent. Patented Jan. 27, 1914.

Application filed August 1, 1913. Serial No. 782,465.

To all whom it may concern:

Be it known that I, FREDERIC H. BROWN, a citizen of the United States, residing at Lebanon, in the county of Grafton and State of New Hampshire, have invented new and useful Improvements in Supports for Dental Face-Bows, of which the following is a specification.

My invention relates to supports for dental face bows, and its objects are to support mechanically the ends of the face bow at the heads of the condyles, to render such supports capable of ready adjustment, and in general to render the use of the face bow more economical, and efficient and uniform in results.

My invention primarily consists in constructing a frame shaped to be firmly attached to the human head or portions thereof such as the ears and nose and in suspending therefrom over the head of each condyle or pivotal point of the jaw, a plate provided with pivotal means for the attachment of one of the pointers of the face bow.

My invention further consists in other improved features and modifications illustrated in the drawing or more particularly hereinafter pointed out and claimed.

At the present time, as is well known in the art, mechanical means commonly called "anatomical articulators" are generally used in constructing artificial dentures. The better types of these articulators are formed to imitate mechanically all the essential changes in position of the human jaw when engaged in the mastication of food, and are made adjustable to conform to each individual case. To achieve anything approaching accurate results, however, even with such improved types long training and great skill are required to make proper adjustments; and in order to insure such accuracy face bows are employed to determine the points of movement of the jaw in relation to the occusal plane, and to mount upon the articulator the trial plates and models used for the particular patient.

As commonly constructed, a face bow is a metallic bar curved to conform roughly to contour of the human face, and having at each end a sliding pointer which is made adjustable by means of a clamping nut. Normally the central part of a face bow when in operative position is immediately in front of the mouth where it is provided with a swivel clamp constructed to engage with the stem of a mouth piece seated in the labial surface of the upper trial plate.

In attaching the face bow the mouth piece is properly affixed, and the pointers are firmly pressed down upon the heads of the condyles of the human jaw, the location of which have been exactly determined and previously marked upon the skin directly over the same. This being accomplished, as well as circumstances will permit, the clamping nuts are secured, and the swivel clamp locked into position. No other means is provided for suspending the pointers except that in some cases a sliding rod adapted to enter the external opening of the ear is provided to steady the device.

In practice considerable difficulties have been experienced in effectually placing and thereafter keeping in position the face bow above described. The pressure necessary to install the pointers in place is somewhat painful to the patient, the skin over the condyles is loose and flexible and liable to change its position, and the slightest movement of the patient or the handling of the bow by the operator is likely to dislodge to some extent the ends of the pointers, all of which render it difficult if not impossible to secure perfect results. Any misplacement of the pointers is multiplied at the central portion of the bow, and such error is repeated when the bow is removed from the patient and mounted upon the articulator thereby rendering it very difficult to determine with accuracy the condyle paths, and the establishment of the occusal plane.

In order to guard to some extent against the insecurity of the face bow in common use, it is the usual practice for the operative to use one hand constantly to assist in holding the bow in place, thus leaving him with but one hand free to make the necessary and proper adjustments, and necessitating the taking of his observations while in a cramped position. With my device, however, accurate results are the rule; there is no painful pressure upon the condyles of the patient, the ends of the pointers are accurately placed and securely held by mechanical means, both hands of the operative are freed from the work, and there is no danger of dislodgment even in the hands of an inexperienced operative.

Attention is hereby directed to the draw-

ing in which similar numerals of designation refer to similar parts throughout the several views.

Figure 1 is a side elevation of my invention showing the face bow attached thereto in position for use upon the patient. Fig. 2 is a side elevation of the right temple piece and the nose piece of my invention. Fig. 3 is a front elevation of the nose piece. Fig. 4 is a vertical section on line 4—4 of Fig. 1. Fig. 5 is a vertical section on line 5—5 of Fig. 2 looking in the direction of the arrow. Fig. 6 is a longitudinal section of the slide in the temple piece and adjusting mechanism.

Referring to the drawing; I preferably construct my support of a nose piece 7 and two temple pieces 8, of which only one is shown. The nose piece 7 is made of metal or other similar material and is shaped to rest firmly upon the upper part of the nose and curve downwardly so as not to offer any obstruction to vision. To each of the ends 9, 9, thereof is pivotally connected an adjustable slide 10 which is secured to one end of the temple piece 8. The slide 10 is constructed of an elongated box 11 provided with longitudinal grooves 12 for the reception of the rod 13 carrying at its extremity the gear wheel 14. The teeth of the said wheel are shaped to engage with the corrugations 15, and are made to rotate by means of the adjusting pin 16 the shank 17 of which passes through one of said grooves 12, and is secured to the center of the wheel 14. To the outer end of said shank 17 is connected the plate 18 sliding in the groove 12. See Figs. 5 and 6. By turning the pin the rod 13 may be made to assume various positions in the box 11, thereby shortening or lengthening the temple piece as desired to fit the requirements of the patient. The inner end 19 of said temple piece is curved in the same manner as the corresponding portion of a pair of spectacles in order to effect a firm engagement with the ear.

From the rod 13 of the temple piece 8, is suspended the disk 20 upon the arm 21 which is formed with the slot 22 therein. In the center of said disk is the opening 23, which is covered by one end of the strip 24, the other end of said strip being pivoted at the point 25. Upon the outer face of the strip 24 at the lower portion thereof is the stud 26. If desired the inner surface of the disk 20 may be furnished with a lining of felt or chamois 31. The thumb screw 32 serves to keep the arm 21 in proper engagement with the rod 13.

The above description of the construction of the right temple piece applies alike to the left temple piece. As illustrated in the drawing the studs 26 are directly over the condyles of the head there shown, and are adapted to be secured to the ends 27 of the face bow 28, at the middle portion of which is the swivel clamp 29 constructed to engage with the mouth piece 30.

The method of using my invention is as follows: The positions of the condyles of the patient are marked with a pencil in the usual manner. Each of the temples of the support are then carefully adjusted to the wearer by means of the pins 16; after which the thumb screws 32 are loosened and the disks 20 moved in such position that the pencil marks over the condyles will appear through the openings 23. Each thumb screw 32 is then tightened and the studs 26 moved into position over the openings 23, and thereupon the ends of the face bow 28 suspended therefrom. It will then be obvious that once the studs 26 are locked in proper position over the condyles of the patient, there is but little danger of said studs being dislodged, or of the ends of the face bow working out of place as has heretofore often been the case.

What I claim and desire to secure by Letters Patent is,—

1. A support for a dental face bow, consisting of a frame, means for securing the same to the human nose and ears, downwardly depending arms adjustably affixed to said frame and positioned to extend over the condyles of the jaw, and means for pivotally suspending from said arms the ends of a face bow.

2. A support for a dental face bow, consisting of a frame composed of a nose piece two temple pieces and ear attachments, a downwardly depending arm adjustably affixed to each temple piece a portion of each arm being positioned to extend over one of the condyles of the jaw, and means for pivotally suspending from said arm portions the ends of the face bow.

3. A support for a dental face bow, consisting of a frame composed of a nose piece, two adjustable temple pieces and ear attachments, a downwardly depending arm adjustably affixed to each temple piece, a disk at the lower end of each arm provided with a hole in the center thereof, a strip pivotally supported upon each disk and adapted to be moved to cover the said hole, and a stud secured to each of said strips and adapted to suspend therefrom one of the ends of the face bow.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses, this 30th day of July 1913.

FREDERIC H. BROWN.

Witnesses:
F. H. HOSFORD,
M. F. TARBELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."