

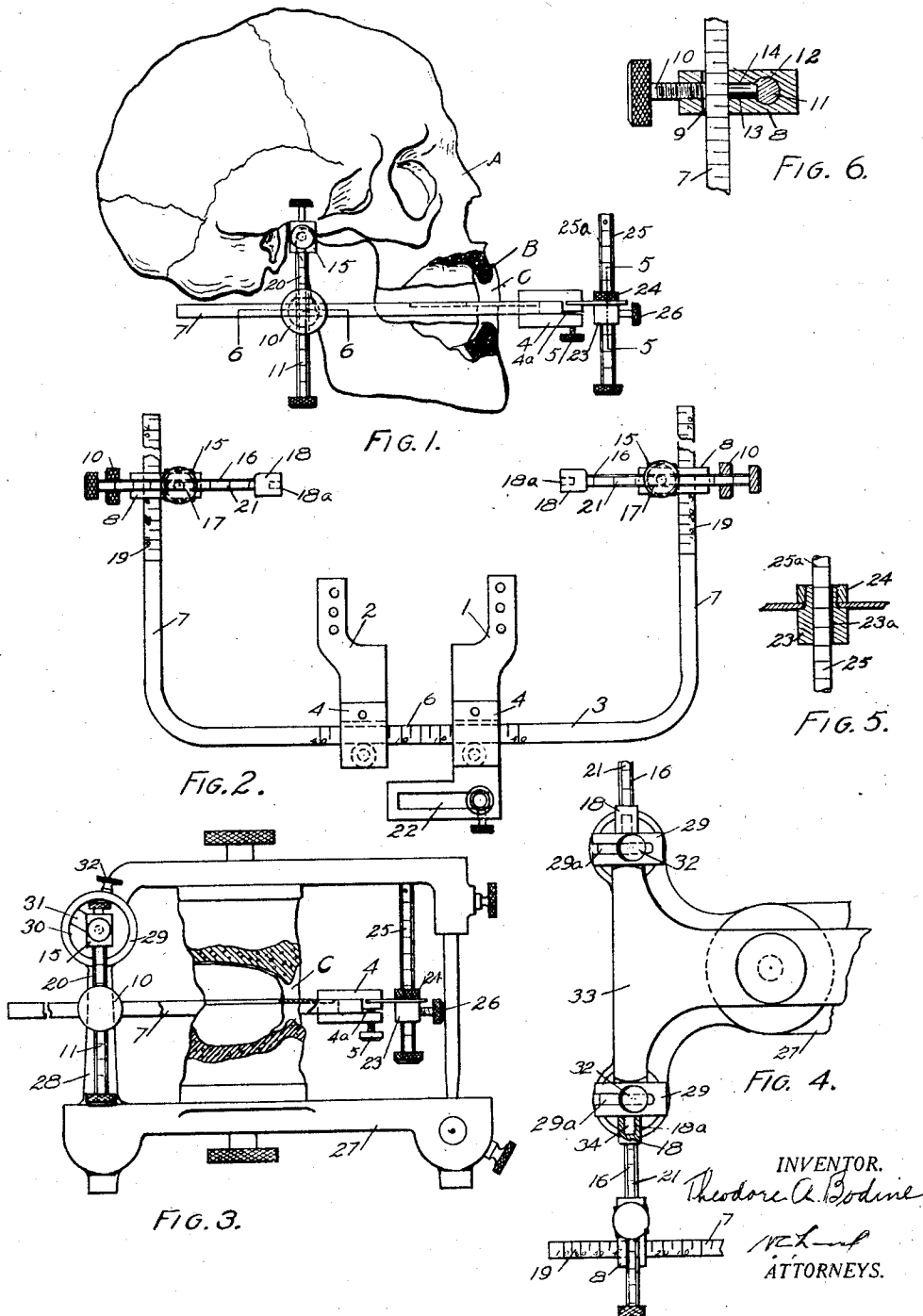
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DENTAL FACE BOW

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Heretofore face bows have been provided which permit of a certain adjustment of the matrix-holding plate relatively to the pivot blocks locating such plate in the articulating machine and adjusting such blocks to correspond with the temple mandibular joint. Such bows, however, have not been so provided as to permit of adjustment to all variations of the relation between the plane of the maxillary ridge and consequently have not afforded in the articulator a possibility of the same relation of condyle movement as occurs in the mandible of the patient. The present invention permits of a complete adjustment of the pivotal blocks of the bow so as to make it possible to control the relation between the matrix-holding plate and the matrix thereon so that the condyle action of the patient's mandible may be with approximate accuracy duplicated in the articulator. Features and details of the invention will appear from the specification and claims.

The invention is illustrated in the accompanying drawings as follows:—

Fig. 1 shows a side elevation of the bow in position for measurement and a skull indicating its general location relatively to the mandible.

Fig. 2 a plan view of the bow.

Fig. 3 a side elevation of an articulator with the bow in place therein, the bow being broken away to better show construction.

Fig. 4 a plan view of a portion of the articulator with a part of the bow in place.

Fig. 5 a section on the line 5—5 in Fig. 1.

Fig. 6 a section on the line 6—6 in Fig. 1.

1 and 2 mark the matrix-holding plates.

These are adjustably mounted on the U-bar

of the bow 3. Each plate is provided with

a block 4 having an opening therethrough

through which the bar extends to permit

the sliding movement of the plate on the bar,

each block having a slot 4^a and a clamping

screw 5 so that the block may be clamped

to the U-bar and thus the plates adjusted

relatively thereto. A scale 6 is arranged

on the U-bar so that a reading may be taken

as to the position of the plates both for

centering and for repeating adjustments.

The rearward branches 7 of the U-bar extend

through openings 9 in the block 8 and

set screws 10 are provided in the blocks 8

by means of which they may be locked in

any adjustment along the bar. Upright

pins 11 are arranged in vertical openings 12

in the blocks 8. These are slidingly mounted in the openings and are clamped by clamping pins 13 arranged in openings 14 so that as the set screws 10 are set to clamp the blocks on the branches the same clamping action, operating through the bar 7 against the pins 13, clamps the vertical pins 11 in their desired adjustment in the block so that there is a single locking of both adjustments.

Heads 15 are arranged on the tops of the pins 11 and the pivotal rods 16 extend through cross openings 17 in the heads 15. The rods 16 are provided with pivotal blocks 18 at their ends, these being each provided with a trunnion-receiving socket 18^a. Scales 19 are provided on the U-bars indicating a reading as to the position of the blocks 8 longitudinally of the plates 1 and 2. Scales 20 are provided on the vertical rods by means of which the vertical adjustments of the pivots relatively to the plane of the plates 1 and 2 may be indicated and scales 21 are provided on the rods 16

by means of which the axial position of these rods may be indicated. After the matrix is

formed and the plates 1 and 2 adjusted to the plane of the maxillary ridge the pivotal

blocks 18 are each independently adjusted to the focal point of the mandibular joint

and this adjustment read and recorded. In

Fig. 1 the skull A with an occlusal plane B

along the maxillary ridge is clearly indicated and a matrix is indicated in place

therein. After the removal of the bow it is

placed, as usual, in the articulator but in

accomplishing this a post or stop is adjusted

relatively to the vertical adjustment of the

vertical rods 11. This is accomplished in

the present structure as follows: The plate 1

has a slot 22 and a mounting 23 has a screw-

threaded extension extending through this

slot. A nut 24 is arranged on the upper end

of the extension by means of which the

mounting may be clamped on the plate 1

as adjusted along the slot 22. A stop rod

25 is slidingly mounted in an opening 23^a in

the mounting 23 and is locked in adjustment

relatively to the plate 1 by a set screw 26.

A scale 25^a is provided and this scale corresponds with the scale on the vertical rod 11

so that the plate when placed in the articulator will have the same angular relation

to the swinging pivotal points of the articulator as it did in the denture space of the

patient.

The bow is shown in place in an articu-

lator, the articulator being one of common from and has a base 27 with two upright posts 28 at its rear end. These carry the ring bearings 29 at their upper ends in which rotative blocks 30 having the condyle slots 31 are arranged, the blocks being locked in adjustment to vary the inclination of the slot 31 by screws 32 extending through slots 29^a. The articulator is provided with trunnion extensions 34 which correspond to the axes of the mandibular joint and the sockets 18^a in the pivot blocks 18 are adjusted on these extensions 34, the scales on the rods 16 being utilized to center the plates 1 in the articulator. The stop rod 25 is adjusted with its scale corresponding to the adjustment of the vertical rods 11 so that the plate assumes a parallel position relatively to the base and consequently is in the same relation to the pivotal point of the articulator as in the patient under all conditions, it being understood that the posts 28 are rotatable so that the blocks 30 not only are swung to vary the inclination of the slot 31 but are also swung to incline these blocks to a central vertical plane.

With this adjustment of the pivotal point of the bow vertically and longitudinally, each adjustment being possible independently of the other, it is possible to get an exact relation in the articulator between the plate mounted therein and the pivoted mountings for the plate as is the mandible in the patient from which the matrix is taken and conse-

quently a movement approximating exactly the condyle paths of the mandible is made possible and an adjustment of the dental structures corresponding thereto is also made possible.

What I claim as new is:—

1. In a dental face bow, the combination of a matrix-carrying plate; a U-bar on which the plate is mounted; pivotal blocks on each branch of the U-bar adjustable vertically and longitudinally relatively to the plate; and a vertically adjustable stop connected with the plate.

2. In a dental face bow, the combination of a matrix-carrying plate; a U-bar on which the plate is mounted; vertical rods mounted on each branch of the U-bar and adjustable vertically relatively to the U-bar; pivot blocks carried by the vertical rods; and a vertically adjustable stop connected with the plate.

3. In a dental face bow, the combination of a matrix-carrying plate; a U-bar on which the plate is mounted; vertical rods mounted on each branch of the U-bar and adjustable vertically relatively to the U-bar; pivot blocks carried by the vertical rods; a vertically adjustable stop connected with the plate; and corresponding scales on the rods and stop.

In testimony whereof I have hereunto set my hand.

THEODORE A. BODINE.