Oct. 20, 1925. 1,557,988

J. A. DEVINE

DENTAL GAUGE

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Fig. 1.

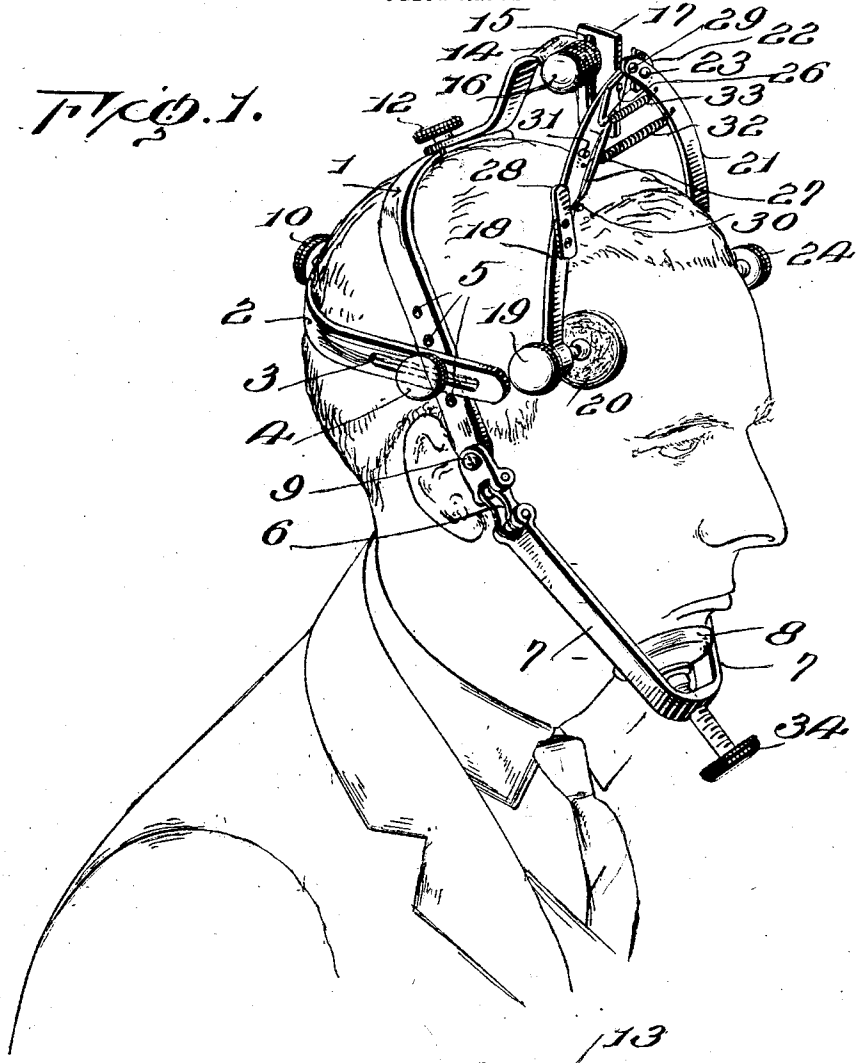
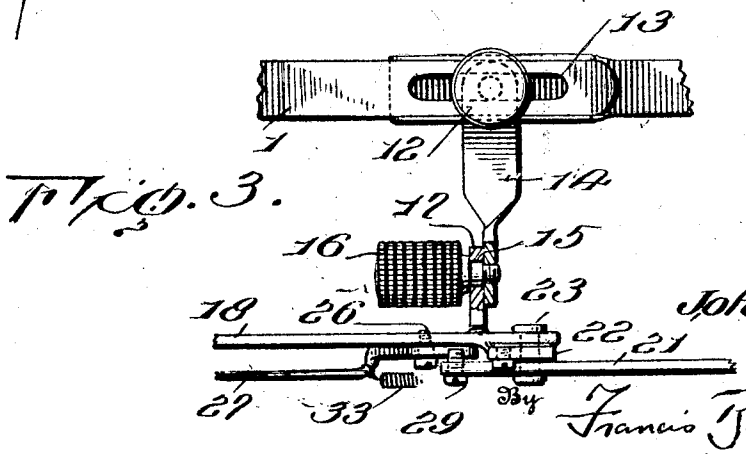


Fig. 3.



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Fig. 2.

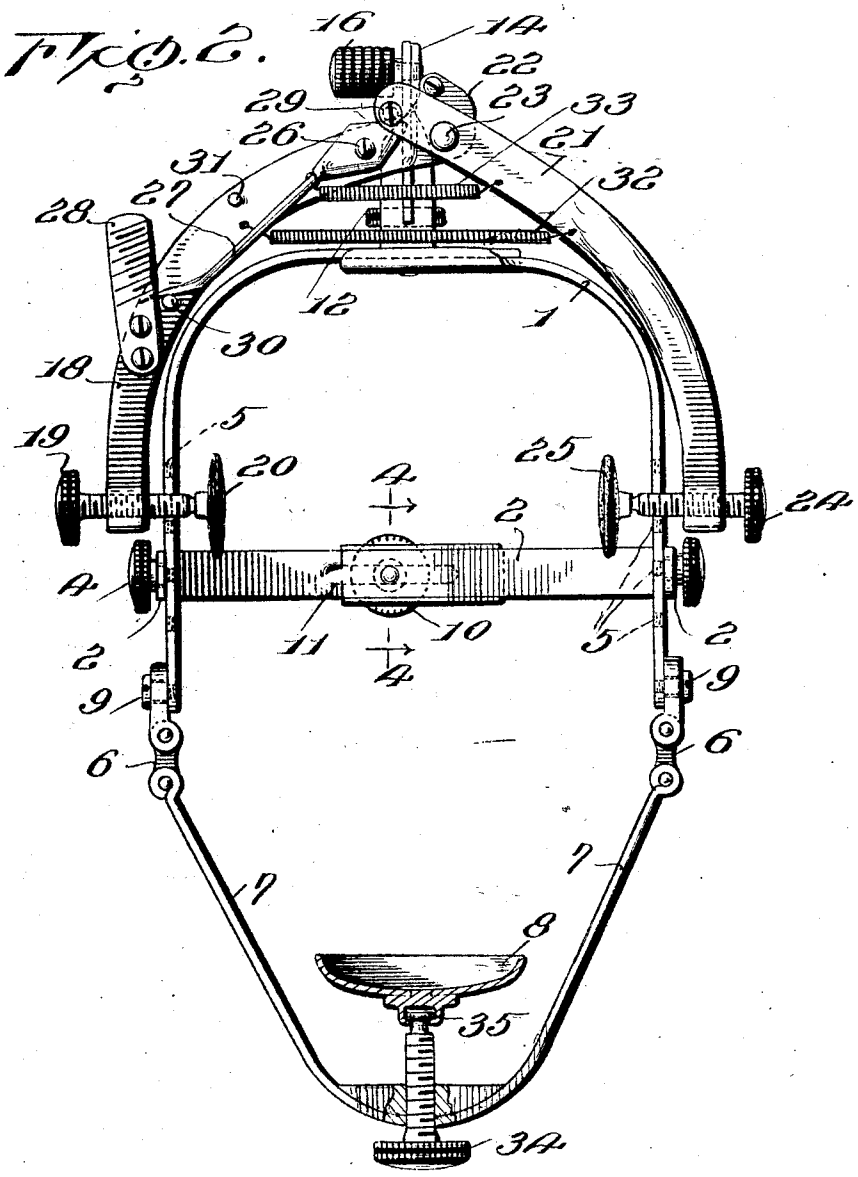
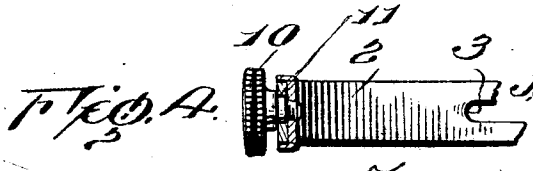


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN A. DEVINE, OF CHEYENNE, WYOMING.

DENTAL GAUGE.

Application filed March 28, 1924. Serial No. 702,604.

To all whom it may concern:

Be it known that I, JOHN A. DEVINE, a citizen of the United States, residing at Cheyenne, in the county of Laramie and State of Wyoming, have invented certain new and useful Improvements in Dental Gauges, of which the following is a specification.

My invention relates to dental gauges, and more particularly to gauges for determining and indicating the contraction of the muscles located in the region of the temporal fossa.

By the use of my gauge it is possible to accurately ascertain the natural position of the jaws, both when at rest, and when in the act of chewing.

An object of the invention is to provide a dental gauge that will quickly and accurately determine the occlusion of the patient.

Another object is to provide a simple and rugged gauge for registering the amount of contraction of the muscles in the temporal fossa.

With the foregoing and other objects in view which appear as the description proceeds, it will be seen that the invention resides in the novel combination and arrangement of parts and details of construction hereinafter described and claimed. It will be understood that while I have shown and described only one form of gauge, changes may be made therein, from this precise embodiment, limited only by the scope of the appended claims.

In the drawings:—

Figure 1 is a perspective view of the gauge when applied to the head of a patient;

Fig. 2 is a front elevation thereof, the chin cup being shown in section;

Fig. 3 is an enlarged top plan view of the indicating mechanism; and

Fig. 4 is an enlarged section taken on line 4—4 of Fig. 2.

Similar numerals refer to similar parts throughout the several views.

1 is a two piece U shaped adjustable band or frame adapted to encompass the top of the patient's head, 2, a two piece adjustable band for encircling the back of the patient's head and attached to band 1 by thumb screws 4 which pass through the elongated slots 3 formed in 2. Band 1 has a plurality of screw holes 5 formed in its sides for positioning band 2 in respect to band 1 on the side of the patient's head.

Attached to the ends of band 1 by screws 9 are the link hinges 6 which support chin band 7. This chin band has a chin cup 8 positioned at its lowermost portion carried on adjustable thumb screw 34. The chin cup 8 is secured to thumb screw 34 by a swivel connection 35 so that the chin cup may be easily adjusted to the chin.

As before stated, the back head band 2 is attached to top head band 1 by thumb screws 4 placed in elongated slots 3, the screws 4 being positioned in screw holes 5 for adjustment of the gauge on the patient's head. At the back of band 2, and more clearly set forth in Figure 4, is a thumb screw 10, threaded to one section of the band and riding in an elongated slot 11 formed in the second section thereof.

Band 1 also has an adjusting means as shown in Figure 3, the two sections of the band being held together by thumb screw 12, which rides in the elongated slot 13 of the upper section and is screw threaded into the lower section.

Thus it will be seen that I have provided a frame for position on the patient's head which acts as a support for holding the indicating mechanism in the desired location. This frame or support is so constructed that it can be adjusted as to size so as to fit any patient's head.

Upwardly and outwardly extending arm 14 is secured to band 1 by thumb screw 12, heretofore mentioned. Said arm 14 carries the indicating and registering mechanism, which is fastened thereto through slot 15 by thumb screw 16.

The backwardly projecting portion 17 of the gauge mechanism, in which the slot 15 is formed, is permanently fastened to downwardly curving arm 18.

The arm 18 extends downwardly and terminates approximately opposite the right

temple. The arm is rigidly secured to portion 17 and has no lateral movement. Near the downward terminal thereof is the thumb screw 19, threaded transversely through the arm, and carrying the non-compressible pad member 20.

The opposite arm 21 extends downwardly and terminates approximately opposite the left temple of the patient. The arm 21 is pivotally connected to the extension 22 of arm 18 at the point 23. Arm 21 carries a thumb screw and pad similar to those attached to arm 18, the thumb screw and pad being numbered 24 and 25, respectively.

Pivotally connected at 26, on arm 18, is an indicating pointer 27 which cooperates with the graduated scale 28 also fastened to rigid arm 18. Outward movement of pivoted arm 21 causes the shank of screw 29 to strike against the rear portion of the indicating pointer 27, giving it movement on its pivot and resulting in its rising in a vertical plane. Thus, the pointer indicates the distance it moves on the gauge, this of course being the movement also of the arm 21.

The indicating pointer is limited in its total movement by suitable stops 30 and 31. Arm 21 is held in depressed position by coil spring 32, while the indicating pointer is held down by spring 33.

In operation, a cork or similar article is placed between the patient's teeth so that he may bite thereon. This cork keeps the jaws a proper distance apart and allows the lips to come together normally.

The head bands are next placed on the patient's head and adjusted so that they fit snugly, the various adjusting means having been fully set forth. The chin cup is then positioned beneath the chin of the patient, who during the operation keeps his mouth open. The chin cup is then raised by means of the thumb screw until it is firmly in place over the patient's chin. The screwing of the chin cup into place closes the patient's mouth and brings the teeth into engagement with the cork.

The indicating or measuring mechanism is positioned over the patient's forehead, as shown in Figure 1, and the pads brought into firm contact with the temporal muscles by tightening upon the thumb screws.

The patient then bites upon the cork, which causes the temporal muscles to contract and force the pivoted arm outwardly to operate the registering mechanism and indicate on the scale the amount of contraction or bite.

This indication or measurement will be of great value to the dentist in making up false plates, crowns, etc., by quickly and accurately furnishing data on the proper occlusion of the teeth and by giving the amount of the normal bite.

The use of the gauge eliminates the necessity of making up the usual "bite plates" and the trouble of "setting up."

A further advantage is that when my improved dental gauge is used for finding a patient's correct bite, no trouble with protrusion or lateral movement of the jaws is experienced as is the case in using "bite plates."

What I claim is:

1. A dental gauge comprising adjustable means encompassing the head of a patient for maintaining the gauge thereon, means pivotally connected to said adjustable means for engaging and supporting the chin of the patient, and a bite registering device carried by said adjustable means.

2. A dental gauge comprising adjustable means encompassing the head of a patient for maintaining the gauge thereon, a yoke pivotally connected to said adjustable means and provided with a cup adjustably arranged therein for engaging and supporting the chin of the patient, and a bite registering device carried by said adjustable means.

3. A dental gauge comprising adjustable means encompassing the head of a patient for maintaining the gauge thereon, means pivotally connected to said adjustable means for engaging and supporting the chin of the patient, and relatively movable members carried by said adjustable means for indicating the contraction of the temporal fossa muscles of the patient.

4. A dental gauge comprising adjustable means for maintaining the gauge upon the head of a patient, means pivotally connected to said adjustable means for engaging and supporting the chin of the patient, and relatively movable members adjustably carried by said adjustable means for indicating the contraction of the temporal fossa muscles of the patient.

5. A dental gauge comprising adjustable means for maintaining the gauge upon the head of the patient, means pivotally connected to said adjustable means for engaging and supporting the chin of the patient, a rigid arm and a pivoted arm carried by said adjustable means, and a member pivoted upon said rigid arm and operatively associated with said pivoted arm for indicating the contraction of the temporal fossa muscles of the patient.

6. A dental gauge comprising adjustable means for maintaining the gauge upon the head of the patient, means pivotally connected to said adjustable means for engaging and supporting the chin of the patient, a rigid arm and a pivoted arm carried by said adjustable means, a stationary member and a pivoted member carried by said rigid arm, and means operatively connecting said pivoted arm and said pivoted member whereby said pivoted member cooperates

with said rigid member to indicate the contraction of the temporal fossa muscles of the patient.

7. A dental gauge comprising adjustable means for maintaining the gauge upon the head of the patient, means pivotally connected to said adjustable means for engaging and supporting the chin of the patient, a rigid arm and a pivoted arm carried by said adjustable means, and adjustable pads carried by said rigid arm and said pivoted arm for engaging the temporal fossa muscles of the patient.

In testimony whereof I affix my signature.

JOHN A. DEVINE.