

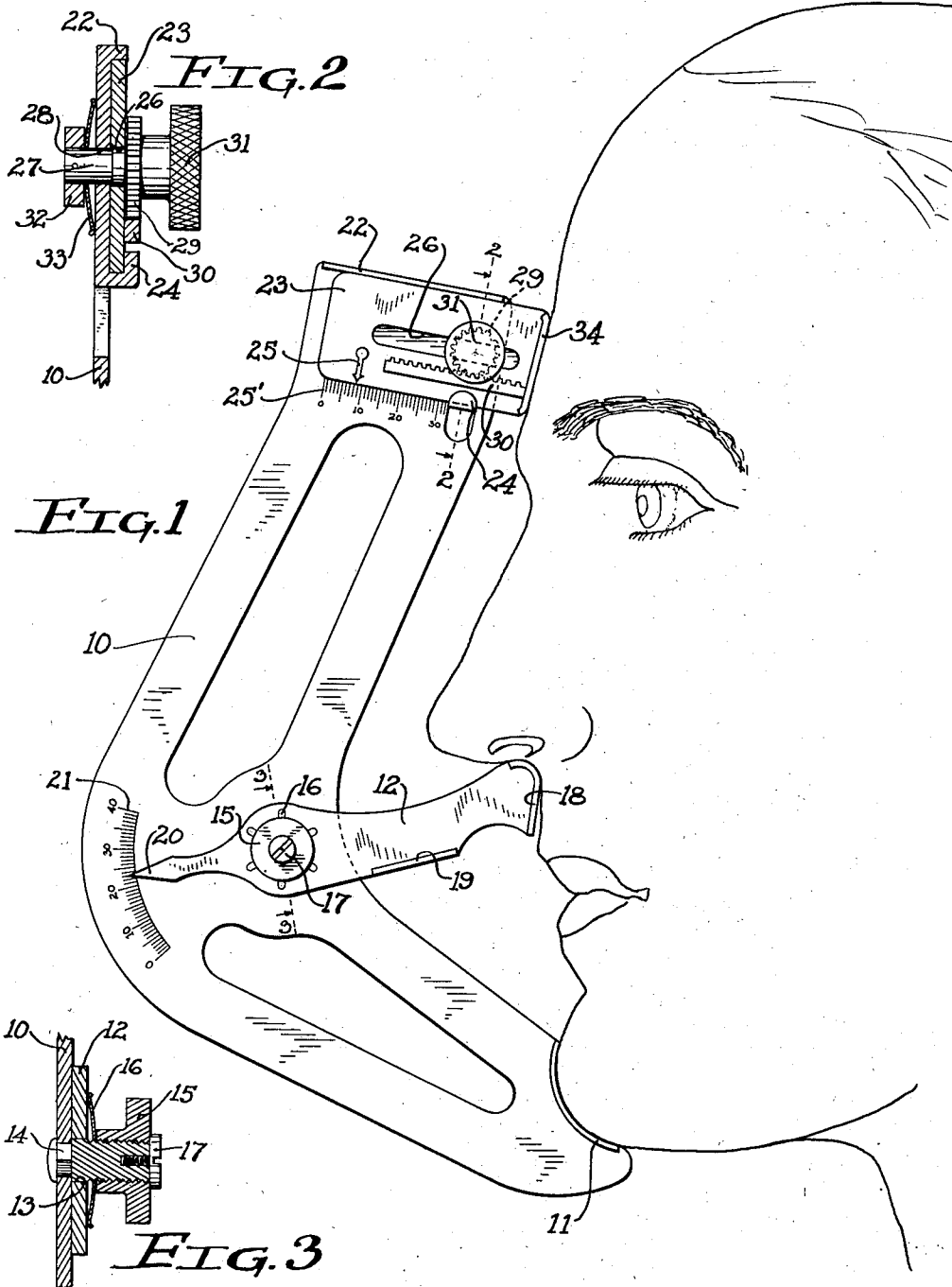
May 12, 1931.

L. A. PRAY

1,804,567

DENTAL GAUGE

Original Filed Nov. 16, 1927



WITNESSES
M. E. Downey
Livingstone

INVENTOR
Lucian C. Pray,
By R. S. Caldwell
ATTORNEY

UNITED STATES PATENT OFFICE

LUCIAN A. PRAY, OF RACINE, WISCONSIN

DENTAL GAUGE

Application filed November 16, 1927, Serial No. 233,632. Renewed January 19, 1931.

The invention relates to gauges for fitting and adjusting artificial teeth, and an object of the invention is to provide a simple, durable and rugged gauge by means of which the normal facial profile of a patient can be insured when artificial teeth are fitted.

Another object of the invention is to provide a gauge of this character which can be readily and conveniently manipulated and accurately adjusted in position.

A further object of the invention is to perfect details of construction generally.

The invention further consists in the several features hereinafter set forth and more particularly defined by the annexed claims.

In the accompanying drawings, Fig. 1 is an elevation of a dental gauge embodying the invention and showing the application of the gauge to the face of a patient;

Fig. 2 is a detail sectional view taken on the line 2—2 of Fig. 1; and

Fig. 3 is a detail sectional view taken on the line 3—3 of Fig. 1.

In these drawings, the numeral 10 designates a rigid frame conveniently formed of sheet metal and suitably apertured to reduce weight. The frame is of angular shape and has an integrally-formed laterally-extending arcuate flange 11 at its lower end presenting a concave surface engageable with the chin of a patient.

A lever 12 has a transverse bore 13 formed therein at an intermediate portion, and a stud 14 rigidly secured to an intermediate portion of the frame 10 and projecting laterally therefrom extends through the bore 13 to pivotally support the lever 12 on the frame. The projecting portion of the stud 14 is threaded to receive a thumb nut 15, and a star spring or washer 16 is interposed between the lever 12 and the inner end of the thumb nut 15 to frictionally retain the lever 12 in adjusted position. A stop screw 17 threaded into the outer end of the stud 14 limits the outward movement of the thumb nut for determining the normal tension of the star spring, and the thumb nut is capable of rotation inwardly from such position to further compress the star spring and fric-

tionally lock the lever 12 in adjusted position.

One end of the lever 12 projects from the frame 10 and is provided with an integrally-formed laterally-extending arcuate flange 18 which presents a convex surface adapted to bear firmly against the upper lip of the patient immediately below the nose. Another integrally-formed flange 19 on the lever 12 provides a fingerhold for moving the lever. The other end of the lever 12 includes an arrow-head 20 which is movable over an arcuate scale 21 on the flat surface of the frame 10.

The upper edge of the frame 10 is provided with a narrow laterally projecting flange 22 against which bears the upper edge of a slide member 23, a hooked ear 24 being struck out from the frame to engage the opposite edge portion of the slide member and thus guide the slide member against lateral movement. The lower edge portion of the slide member carries an index mark 25 registering with a scale 25' engraved on the frame 10 below the lower edge of the slide member.

The slide member 23 includes a longitudinal slot 26 through which projects a shaft 27 journaled in a bore 28 formed in the frame 10. The shaft 27 carries a pinion 29, the inner face of which bears against the slide member 23 and the toothed periphery of which meshes with a rack 30 secured to the slide member. The end of the shaft 27 adjacent the pinion carries a knurled thumb wheel 31, while the opposite end carries a collar 32 which places under compression a star spring 33 interposed between the collar and the frame and serving to frictionally retain the slide member in adjusted position on the frame.

The end of the slide member 23 is provided with an integrally-formed laterally-extending flange 34 which is adapted to bear against the forehead of the patient, and the longitudinal adjustment of the slide member is effected by turning the thumb wheel 31.

The instrument of this invention is applied to the face of a patient in the manner indicated in Fig. 1 and this is done before extraction and with the teeth meeting normally so that the lower jaw of the patient

assumes its normal position. During this initial application of the instrument the thumb screw 15 is loosened to permit displacement of the lever 12 as required, and the lever and slide member 23 are then conjointly adjusted in position until the flanged end of the slide member rests firmly against the forehead, the flanged end of the lever 12 rests firmly against the upper lip and against the bottom of the nasal septum, and the flange 11 of the frame 10 rests against the point of the chin. The instrument is then removed from the face of the patient and the readings of the scales 21 and 25' are then noted and recorded. Sometime later, when an impression is to be taken, the instrument is again set at the recorded positions and the thumb screw 15 is turned down to lock the lever 12 against movement. The "bite" is then taken with the lower jaw in such position that the three contact points of the instrument engage with the proper places on the face. In this manner, the lower jaw will remain in its natural original position after the subsequently prepared dentures are placed in service, and the normal facial profile of the patient will accordingly be preserved.

What I claim as new and desire to secure by Letters Patent is:

1. In a dental gauge, the combination of a support, and face-engaging means including a forehead-engaging part and an upper-lip-engaging part and a chin-engaging part, the upper-lip-engaging part being formed by a lever pivotally mounted on said support for movement in the plane of the facial profile and one of the other two parts being formed by a movable member adjustably mounted on said support for displacement toward and away from the face.

2. In a dental gauge, the combination of a support having a fixed chin-engaging part, a movable upper-lip-engaging lever pivotally mounted on the support for movement in the plane of the facial profile, and a forehead-engaging slide member adjustably mounted on said support for displacement toward and away from the face.

3. In a dental gauge, the combination of a frame, movable face-engaging members adjustably mounted on said frame and including a lever movable in the plane of the facial profile, a pivot stud secured to said frame and passing through said lever, a nut member threaded on said stud, a resilient washer disposed in compression between said nut and lever for frictionally retaining said lever in adjusted position on said frame, and a stop on said stud limiting the outward movement of said nut thereon for determining the normal tension on said resilient washer, and said nut being movable inwardly on said stud for placing said resilient washer under greater compression to frictionally

lock said lever in adjusted position on said frame.

4. In a dental gauge, the combination of a frame having a fixed chin-engaging part, a lever pivotally mounted intermediate its ends on an intermediate portion of the frame to swing in the plane of the facial profile and having an upper lip-engaging end portion projecting from said frame and an opposite end portion movable adjacent the surface of said frame, there being a graduated scale on said frame adjacent the latter end portion of said lever, and a forehead-engaging member adjustably mounted adjacent the upper portion of the frame and projecting from said frame for displacement toward and away from the face.

5. In a dental gauge, the combination of a support of sheet material, a chin-engaging part carried on said support, a lever lying laterally adjacent said support and pivotally mounted thereon and having a projecting upper-lip-engaging portion, and a forehead-engaging member disposed laterally adjacent said support and movably secured thereto and having a projecting forehead-engaging portion.

6. In a dental gauge, the combination of a support and three face-engaging members carried on said support for contact with the facial profile of a patient at the forehead and at the chin and at the junction of the upper lip with the base of the nose, one of said members being adjustably mounted on said support for in-and-out movement with respect to the facial profile, and another of said members being adjustably mounted for up-and-down movement with respect to the facial profile.

7. In a dental gauge, the combination of a support having a chin-engaging part, and a pair of members movably secured to said support and engageable with the facial profile of a patient respectively at the forehead and at the junction of the upper lip with the base of the nose, said forehead-engaging member having an in-and-out movement with respect to the facial profile, and said second movable member having an up-and-down movement with respect to the facial profile.

8. In a dental gauge, the combination of a support of sheet material, a chin-engaging part carried on said support, a forehead-engaging member disposed laterally adjacent said support and movably secured thereto and having a projecting forehead-engaging portion, and a second member disposed laterally adjacent said support and movably secured thereto for up-and-down movement with respect to the facial profile and being engageable with the base of the nose at its junction with the upper lip.

In testimony whereof, I affix my signature.

LUCIAN A. PRAY.