

April 13, 1954

G. W. TAITER

2,674,808

CENTRIC OCCLUSION INDICATOR

Filed Oct. 31, 1952

Fig. 1

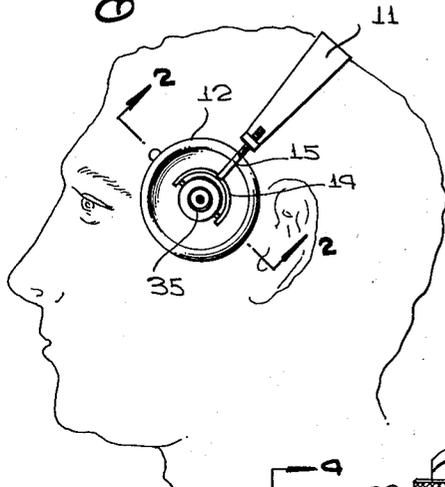


Fig. 4

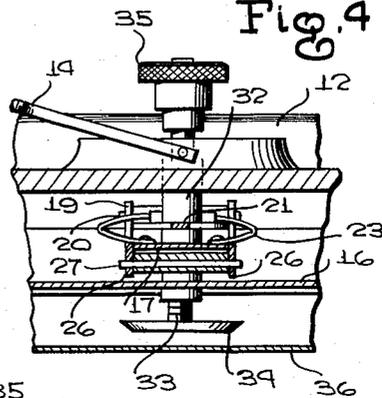


Fig. 2

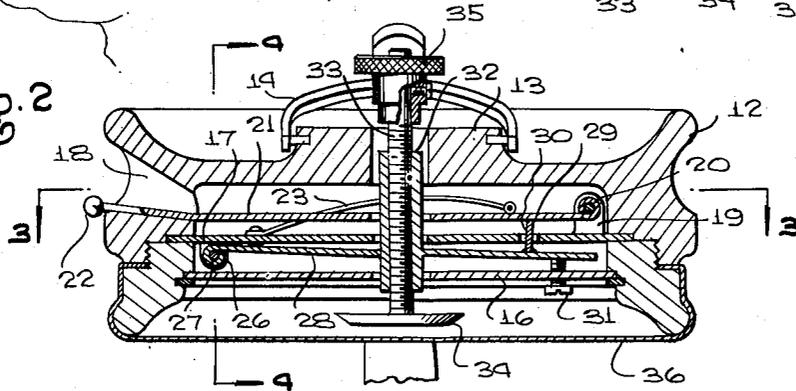
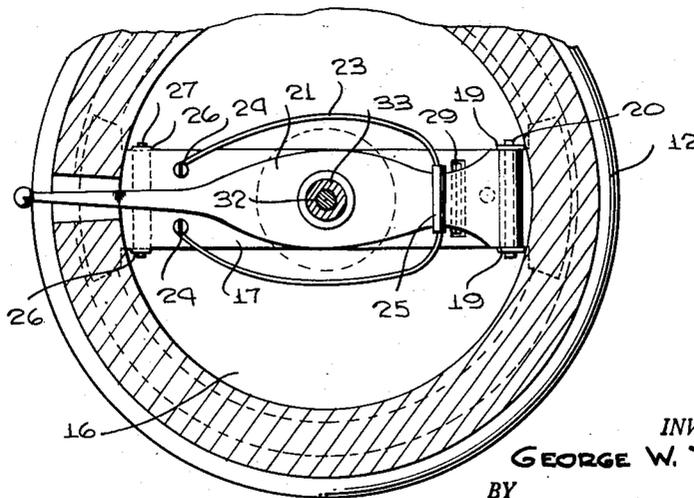


Fig. 3



INVENTOR.
GEORGE W. TAITER
BY

McMorrow, Burman + Davidson
ATTORNEYS

UNITED STATES PATENT OFFICE

2,674,808

CENTRIC OCCLUSION INDICATOR

George W. Tainter, St. Charles, Mo.

Application October 31, 1952, Serial No. 318,025

2 Claims. (Cl. 33—169)

1

This invention relates to dental apparatus, and more particularly to means for indicating the alignment of the jaws of a patient and in determining the centric relation of the jaws, as in the construction of artificial dentures.

A main object of the invention is to provide a novel and improved centric occlusion indicator which is simple in construction, which is easy to apply to a patient, and which provides an accurate and highly amplified indication of the degree of outward movement of the temporal muscle of a patient which occurs when a properly centered bite is obtained by the patient.

A further object of the invention is to provide an improved centric occlusion indicator which involves inexpensive components, which is entirely extra-oral, which is compact in size, which provides accurate indications, and which is adapted to be engaged by the temporal muscle of a patient and to respond to an outward pulsation or movement of the temporal muscle which occurs whenever the jaws are closed properly in centric occlusion, the movement of the temporal muscle being highly amplified by the device and providing an accurate indication of centric occlusion.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a side elevational view of a patient shown with an improved centric occlusion indicator according to the present invention operatively mounted on the patient's head in the vicinity of the patient's temporal muscle.

Figure 2 is an enlarged cross sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary cross sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a fragmentary transverse vertical cross sectional view taken on the line 4—4 of Figure 2.

Referring to the drawings, 11 designates a head band to which is secured the circular housing 12, said circular housing being formed with the central boss 13 which is pivotally engaged by the ends of the arms of a yoke 14, said yoke being rigidly connected to a stem 15 which is threadedly and pivotally connected to the end of the head band 11, to support the housing 12 at a position in the vicinity of the patient's temporal muscle, as illustrated in Figure 1.

Secured in the lower portion of the housing 12 is a disc 16, and secured above disc 16 in spaced relationship thereto and substantially parallel

2

thereto is a plate member 17. The side wall of the housing 12 is formed above the plate member 17 with a vertical slot 18, as viewed in Figure 2. Plate member 17 is formed opposite the slot 18 with the upstanding marginal lugs 19, 19 through which extends a hinge pin 20. Pivoted on the hinge pin 20 is the elongated lever 21 which extends through the slot 18 and which is provided at its free end with an indicator ball 22. Lever 21 is biased downwardly, as viewed in Figure 2, by a resilient U-shaped spring 23 having its ends secured at 24, 24 to the plate 17 and having its bight portion received in a transverse hollow roller 25 which bears on the lever 21 and exerts a downward force on said lever. The plate member 17 is formed adjacent the slot 18 with depending lugs 25, 26 supporting a transverse hinge pin 27. Rotatably supported on the hinge pin 27 is a second lever member 28 which underlies the plate member 17. Rigidly secured to the free end portion of the lever 28 is the upstanding projection 29 which extends through an aperture 30 in plate member 17 and which engages the bottom surface of the lever 21 adjacent its hinged connection to the pin 20. The free end portion of lever 28 engages the top end of an adjusting screw 31 which is threadedly engaged through the disc member 16, as illustrated in Figure 2.

Rigidly secured to the intermediate portion of the lever 28 is the vertical, internally threaded sleeve member 32 which contains the threaded shank 33. Rigidly secured to the lower end of the threaded shank 33, as viewed in Figure 2, is the contact disc 34. Secured to the top end of the shank 33 is the knurled adjusting knob 35. Shank 33 may be adjusted by means of knob 35 to move the disc 34 into engagement with the patient's temporal muscle, whereby outward expansion of the temporal muscle when the patient tests his bite will be transmitted to the lever 26, causing said lever to rotate counterclockwise, as viewed in Figure 2, and causing the lever 21 to be rotated clockwise by the force transmitted to lever 21 by projection 29. It will be apparent that the upward movement of the indicating ball 22, as viewed in Figure 2, will be greatly multiplied in relation to the upward movement of the disc 34 caused by expansion of the patient's temporal muscle because of the substantial length of the lever 21 as compared to the distance between the projection 29 and the pivot pin 20 of said lever.

Thus, an accurate indication of the degree of expansion of the patient's temporal muscle will be obtained by observing the amount of move-

3

ment of indicator ball 22 relative to slot 18 which occurs when the patient makes a test bite, the maximum movement of the ball 22 being obtained when the bite is properly centered.

A removable cover pad 36 of flexible material such as fabric sheet material or the like may be secured around the lower portion of the housing 12 for hygienic reasons. Said lower portion is preferably threadedly secured to the main body of the housing, as shown, to facilitate changing the flexible cover pad 36.

The adjusting screw 31 is employed to move the projection 29 into engagement with the bottom surface of lever 21 at the beginning of a test, namely, to eliminate lost motion between projection 29 and lever 21.

While a specific embodiment of an improved centric occlusion indicator has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A centric occlusion indicator comprising a housing adapted to be supported on a patient's head adjacent the temporal muscle, a first lever element pivotally mounted in said housing, an internally threaded sleeve rigidly secured to said first lever element substantially at right angles thereto, a shank threadedly engaged with said sleeve, a contact disc secured to the end of said shank and adapted to be adjusted to engage the temporal muscle, a second lever element pivotally mounted in said housing substantially parallel to said first lever element, and means adjacent the free end of the first lever element engaging the second lever element adjacent the pivotal connection of said second lever element to the housing, said second lever ele-

4

ment extending through the wall of the housing and providing an amplified indication of the outward movement of the temporal muscle which occurs when the patient's bite is tested.

2. A centric occlusion indicator comprising a housing adapted to be supported on a patient's head adjacent the temporal muscle, a first lever element pivotally mounted in said housing, an internally threaded sleeve rigidly secured to said first lever element substantially at right angles thereto, a shank threadedly engaged with said sleeve, a contact disc secured to the end of said shank and adapted to be adjusted to engage the temporal muscle, a second lever element pivotally mounted in said housing substantially parallel to said first lever element, an up-standing projection rigidly secured on the free end portion of the first lever element engaging the second lever element adjacent the pivotal connection of said second lever element to the housing, said second lever element extending through the wall of the housing and providing an amplified indication of the outward movement of the temporal muscle which occurs when the patient's bite is tested, and spring means secured to said housing and engaging said second lever element to urge said second lever element against said projection.

References Cited in the file of this patent
UNITED STATES PATENTS

Number	Name	Date
807,555	Henrikson	Dec. 19, 1905
843,043	Sigrist	Feb. 5, 1907
1,192,697	Smith	July 25, 1916
2,130,269	Dietert	Sept. 13, 1938

FOREIGN PATENTS

Number	Country	Date
310,370	Germany	June 19, 1918
591,332	Germany	Jan. 26, 1930