Nov. 19, 1946. R. A. DE ROME 2,411,194

DENTIST'S BITE DETECTOR

Filed Feb. 5, 1944

Fig. 1.

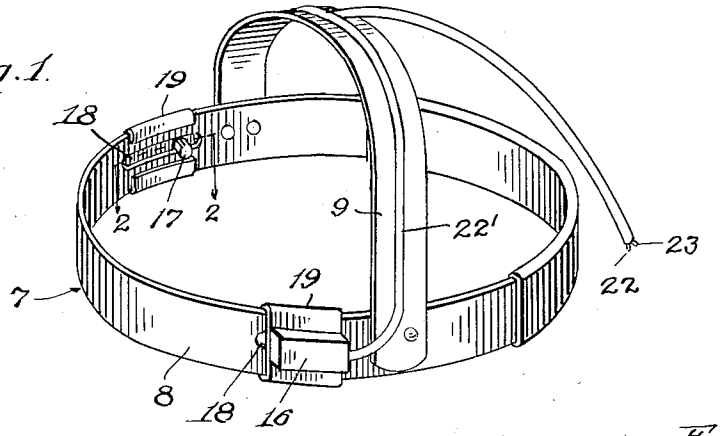


Fig. 2

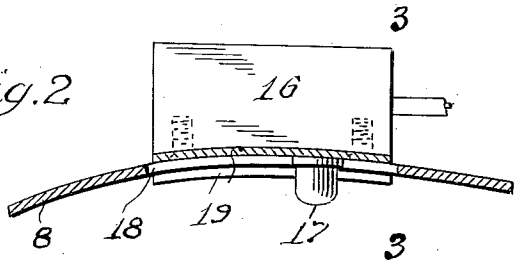


Fig. 3.

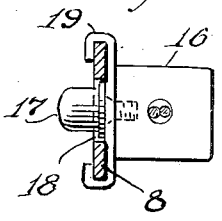


Fig. 4

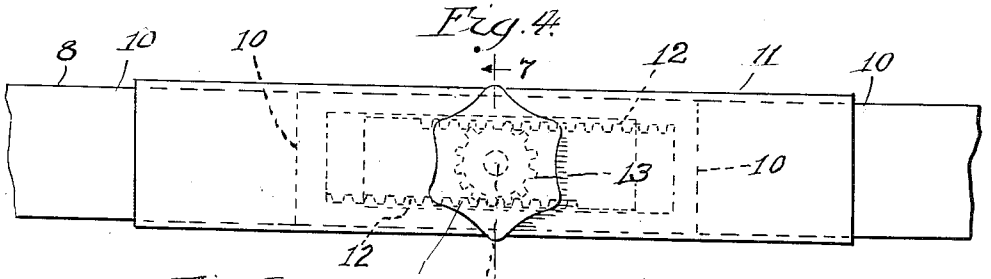


Fig. 5.

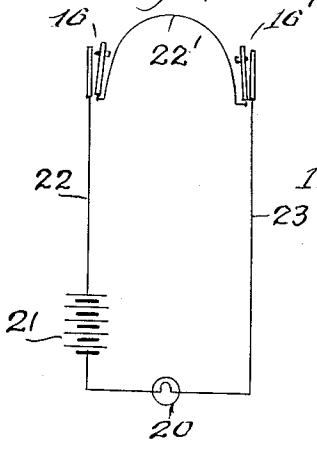


Fig. 7.

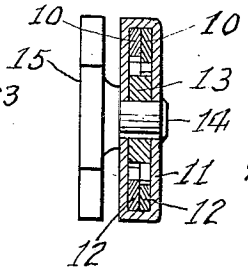
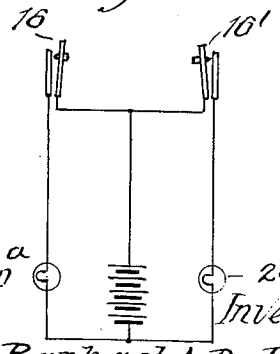


Fig. 6.



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DENTIST'S BITE DETECTOR

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3 Claims. (Cl. 177—311)

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This invention relates to a dentist's bite detector, namely, an instrument adapted for use by dentists to detect the proper bite relation to the upper and lower jaws.

It is well known among the dental profession that too frequently patients do not take a proper bite and the dentist does not get the proper relation between the upper and lower jaws. This results in making a false bite and the denture or dentures will not fit the patient properly and must be modified to make them fit and frequently they cannot be used at all, thereby causing a financial loss to the dentist, and a loss of time and annoyance to the patient.

The principal object of the present invention is the provision of a simple instrument, capable of detecting whether or not the patient is biting properly in the proper relation between the upper and lower jaws, and apprise the dentist by a visible, audible or other signal, so that if the bite is not proper he can admonish the patient to bite properly.

Another object is the provision of an instrument of the above character which is adjustable to accommodate different sized heads and which has adjustably mounted sensitive electric switches for closing a circuit or circuits to the signaling device or devices, whereby the dentist may properly locate the actuating buttons of the switches in proper position over the patient's temporal muscles so as to be acted on thereby.

With these and other objects and advantages in view this invention consists in the several novel features hereinafter fully described and claimed.

The invention is clearly illustrated in the drawing accompanying this specification, in which:

Fig. 1 is a perspective view of the head gear parts of the apparatus.

Fig. 2 is a detail horizontal section taken on the line 2—2 of Fig. 1.

Fig. 3 is a detail vertical section taken on the line 3—3 of Fig. 2.

Fig. 4 is a rear elevation of a fragment of the head band of the head gear.

Fig. 5 is a diagrammatic view of one form of the electric circuit of the apparatus.

Fig. 6 is a diagrammatic view of a modified form of the electric circuit; and

Fig. 7 is a detail cross section taken on the line 7—7 of Fig. 4.

Referring to said drawing, the reference character 7 designates, as a whole, a head gear adapted to be applied to the head of the patient. The head gear may be constructed in various ways, and it is here shown as comprising a head band 8

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adapted to be placed around the head of the patient so as to pass over the temporal muscles, and a crown strip 9 secured to the head band and adapted to extend over the top of the patient's head. The head band is extensible and contractible so that it may be fitted to heads of different sizes. Any suitable means may be provided for this purpose, and as shown in Figs. 4 and 7 the overlapping ends 10 of the band are contained in a sleeve 11 and provided with rack bars 12 that mesh with a pinion 13, mounted on a shaft 14 carried by a hand wheel 15. By turning the hand wheel the dentist may adjust the head band to snugly fit the head of the patient.

Mounted for longitudinal adjustment on the head band are two sensitive electric switch units 16, 16' which have switch actuating buttons 17 protruding through slots 18 in the head band and adapted to engage the temporal muscles of the patient. Conveniently the switch units may be mounted on slides 19 which have flanges that embrace the edges of the head band. This arrangement provides means whereby the switch buttons 17 may be precisely located over the temporal muscles of the patient.

The switches 16, 16' control an electric circuit for a signal 20 (see Fig. 5) in one form of the invention which may comprise an incandescent electric lamp. The lamp is in series with both switches as shown in Fig. 5, of which the circuit may be traced from the source of electric supply 21 through conductor 22, switch 16, conductor 22', switch 16', conductor 23, lamp 20 and back to the source of electric supply 21. Instead of the battery shown, the circuit may be completed by plugging into an outlet of the house wiring system.

In Fig. 6 two signals 20*a*, 20*b* are illustrated, each controlled by a switch, whereby when a switch is closed the signal controlled thereby is activated.

In use the head gear is applied to the patient and the head band is adjusted, and the switch units are adjusted along the head band to bring the switch buttons into firm contact with the temporal muscles and a bite plate or plates or trying plate or plates having been placed in the patient's mouth, he is requested to bite down on them. As is well known by persons skilled in the art to which this invention pertains, the temporal muscles are coordinated with the jaw muscles, so that if the patient bites down properly, both temporal muscles will expand, but if the bite is wrong only one or neither temporal muscle will expand; consequently if the patient

bites down properly both temporal muscles will expand and actuate the buttons of both switch units and close the circuit through the lamp **20** as in Fig. 5 or through both lamps **20***a* and **20***b* as in Fig. 6 thereby indicating to the dentist that the patient has taken a proper bite.

If the patient has not taken a proper bite only one or neither temporal muscle will be expanded and in accordance with the circuit of Fig. 5, the circuit will be left open at the switch unit whose button was not actuated, and the signal will not be activated. In the circuit of Fig. 6 if the bite is off only one signal will be activated, and the dentist can caution the patient to bite properly and when this is done both signals will be actuated.

From the above it is apparent that I have provided a very simple means whereby dentists may be apprised when a proper bite has been or has not been taken.

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

1. A dentist's bite detector comprising a pair of electric switches, remotely located signaling means and electrical connections therewith controlled by said switches, and a head gear having a slotted band and a crown strip secured thereto, said head gear being arranged to be applied to a person's head, and adjustable to the size thereof, said switches being supported by said head band with their buttons protruding inwardly through the slots in the head band in close contact with the person's temporal muscles.

2. A dentist's bite detector comprising a pair of switches, remotely located signaling means and electrical connections therewith controlled by said switches, a head gear adapted to be applied to a person's head, said head gear having a head band and a crown strip, and means to adjust the switches along the length of the head band to locate the buttons of the switches over the person's temporal muscles.

3. A dentist's bite detector comprising a head gear comprising a head band and a crown strip secured thereto, a pair of electric switches adjustably mounted along said head band and remotely located signaling means in electrical connection with said switches.

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