

C. S. CASE.

TOOTH REGULATING DEVICE.

APPLICATION FILED APR. 8, 1907. RENEWED AUG. 23, 1909.

934,958.

Patented Sept. 21, 1909.

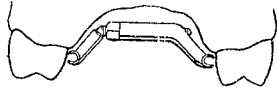


Fig 1.

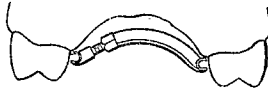


Fig 2.

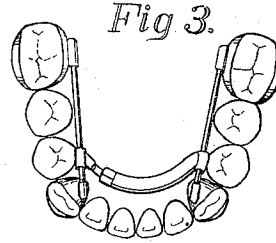
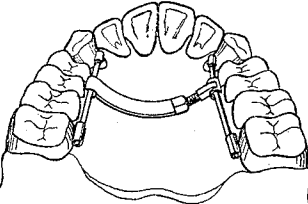
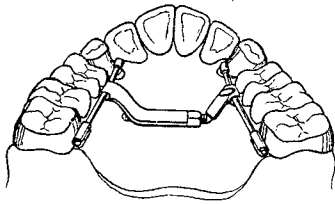


Fig 3.



Fig 4.



Fig 6.

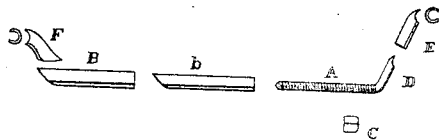


Fig 5.

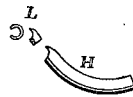


Fig 7.

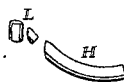


Fig 8.



WITNESSES:

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TOOTH-REGULATING DEVICE.

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To all whom it may concern:

Be it known that I, CALVIN S. CASE, a citizen of the United States, residing at Chicago, in the State of Illinois, have invented a certain new and useful Improvement in Tooth-Regulating Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to dentistry, and has for its object an improvement in the art of regulating teeth, specifically in the operation of expanding the dental arch by means of jack screws extending across the arch and engaging with bands cemented to the teeth.

The principle of screw jack force in expanding dental arches has always been one of the most important and popular methods in orthodontia. Heretofore all jacks employed for this purpose have been straight between the two points of engagement; in consequence of which, these jacks are frequently a source of considerable irritation and obstruction to the free action of the tongue.

The object of my invention is to avoid this very objectionable feature by placing the body of the jack to one side of its line of force so that its position in the mouth will conform to the curve of the dental arch, or to the roof of the mouth, thereby removing it from immediate interference with the tongue. I accomplish this by two forms of jacks as illustrated in the drawings which accompany and form a part of this application, in which like letters refer to like parts.

Figures 1, 2 and 3 are perspective and sectional views of my invention in the position of active operation.

In Figs. 1 and 2 the curve of the jacks conform to the shape of the roof of the mouth, and in Fig. 3 it conforms to the curve of the front of the dental arch. It will be seen that they are held firmly in place by their terminal ends clasping bars on each side of the arch, attached to bands cemented to the teeth, and which being forced outward under the stress of the jacks expands the dental arch in exactly the same manner

as would obtain were the jacks straight. In like manner the curved jacks provided with proper means of attachment for communicating their power, may be employed for the movement of a single tooth, and are particularly designed for any position or action where the line of force crosses the arch and where a straight jack would interfere with the action of the tongue.

In the arc jack shown in Figs. 2, 3, 6 and 7 the screw threaded shaft G, and tubular resistance sheath H, which constitute the body of the jack is curved throughout, so that the shaft glides within its sheath along the arc of a perfect circle, the ends of the jack being provided with proper means of attachment etc.

Another form of the arch jack is shown in Figs. 1, 4 and 5, in which the body of the jack,—composed of the threaded shaft and surrounding sheath,—is straight, but which is enabled to be placed to one side of the line of force by rigidly extending its ends in a diagonal direction, as shown in the drawings of disassembled parts. It should be understood that the terminal engaging attachments may be made in any form required to sustain the jack in its several positions, and that no claim is made upon this feature of the invention, but upon the special methods which enable the body of a push jack to curve from its line of force and thus be placed in comfortable relations in the mouth, and still subserve the purposes accomplished by a straight screw jack for expanding the dental arch.

What I claim, and desire to secure by Letters Patent, is:—

1. In a tooth regulating device of the jack-screw order, composed of extensible parts, a screw threaded shaft with an adjusting nut as one of its parts, fitted to and reacting against a tubular sheath as another of its parts, both parts of which—thus forming the body of the jack—are bent upwardly to be removed from contact with the tongue between the two end points of its attachment as for the purposes set forth.

2. In a tooth regulating device of the jack-screw order with extensible parts, a screw

threaded shaft which is curved throughout its length in the form of an arc of a true circle, and fitted with an adjusting nut working on the said shaft, and reacting against a
5 curved tubular sheath into which the shaft is fitted to glide easily, as another of its parts, the whole forming a jackscrew which

is curved in the form of an arc, between the two resisting points of its attachment, as and for the purposes set forth.

CALVIN S. CASE.

Witnesses:

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