

J. E. CANNING.
TOOTH REGULATOR.

APPLICATION FILED MAY 2, 1904.

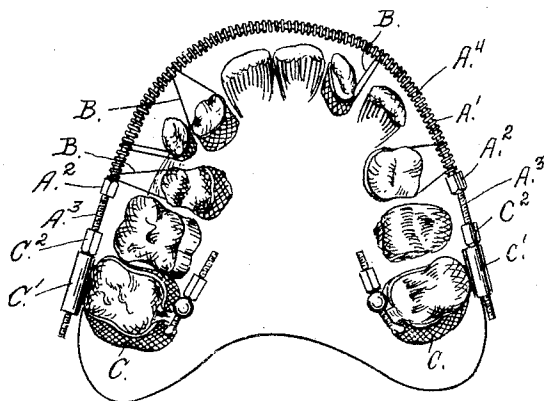


Fig. 1

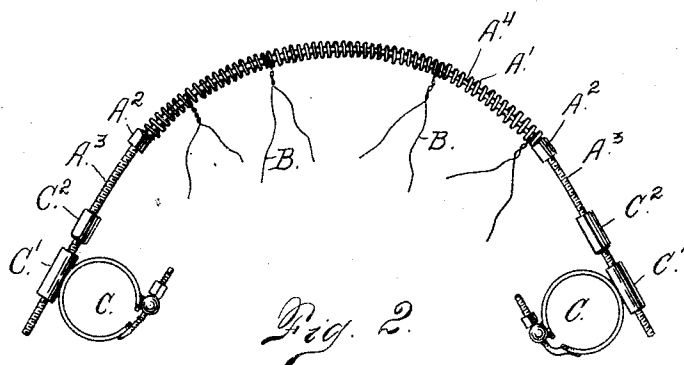


Fig. 2



Fig. 3

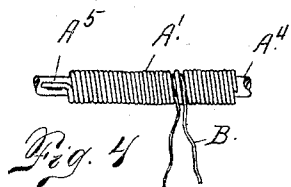


Fig. 4

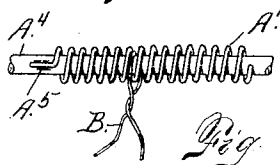


Fig. 5

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Witnesses
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UNITED STATES PATENT OFFICE.

JOHN E. CANNING, OF DENVER, COLORADO.

TOOTH-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 783,609, dated February 28, 1905.

Application filed May 2, 1904. Serial No. 206,066.

To all whom it may concern:

Be it known that I, JOHN E. CANNING, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Tooth-Regulators; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in tooth-regulators of the class adapted for use where ligatures are employed in returning the teeth to their normal position when for any reason they have become displaced from their normal or true position. It is often necessary in work of this class to so position the ligatures that there is what may be called a "lateral" pull in one direction or the other, whereby there would be a tendency for the ligature to slip upon the arch or bow shaped wire or bar inserted in the mouth of the patient.

An important object of my invention is to provide an arch adapted to prevent lateral displacement of the ligature from the position upon the arch in which it has been placed whereby the ligature may be relied upon to remain positively in the position in which it is located, whereby the work of regulating the tooth or bringing it to its proper or normal position may be properly accomplished. Heretofore, so far as I am aware, arches have been employed provided with a notched rib adapted to hold the ligatures in place.

My improvement consists in surrounding the wire or bar of the arch by a coil-spring the extremities of which may be either stationary or bear against tension-nuts, as may be desired, whereby the tension of the spring may be regulated at will. If desired, the convolutions of the coil on the arch may be stationary as distinguished from movable, as in a coil-spring proper. In either event the ligament-holding function will be performed, and instead of being held by a notch on one side of the bar, as in the old construction, the liga-

tures are engaged at all points around the bar, thus making an ideal ligature-holding arch.

Having briefly outlined the more important features of my improved construction, as well as the function they are intended to perform, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a view illustrating my improved tooth-regulator in use. Fig. 2 is a detail view of the complete device. Fig. 3 is a plan view of the band material which I employ. Figs. 4 and 5 are detail views, on a larger scale, illustrating the ligature-holding coil.

The same reference characters indicate the same parts in all the views.

Let A designate what I will term the "arch," which consists of a bow-shaped wire or small rod A¹, whose forward portion is surrounded by convolutions of wire, (designated A',) between which the ligatures B are placed when employed, as illustrated in Fig. 1. The convolutions A' may be a coil-spring proper, having tension-nuts A² engaging the threaded portion A³ of the arch, or the extremities of the coil may be soldered to the rod A¹, as shown at A⁵, (see Figs. 4 and 5,) or the convolutions of the coil may be soldered to the rod A¹ the entire distance, in which event the spaces between them will be regulated to suitably hold the ligatures. When the tension-regulated coil-spring is employed, the convolutions may be close together, as shown in Fig. 4, or more open, as shown in Figs. 1, 2, and 5, since the vital feature of my improvement consists of an arch-shaped or bow-shaped rod surrounded by wire or other convolutions either circularly or spirally applied.

In the drawings clamping-bands C, mounted on sleeves C' and held in place by nuts C², are shown. These bands are composed of roughened material, as shown at D in Fig. 3, whereby their holding capacity is increased. This is very important where the bands are cemented to the tooth, since the roughened or milled surface D' holds much better than the smooth surface or the style of material heretofore employed. The roughened band ma-

terial is indicated in Fig. 1 of the drawings, since this material is roughened on both surfaces, being very thin and rolled out to produce the roughened effect.

5 Having thus described my invention, what I claim is—

1. In a tooth-regulator, the combination of an arch-shaped bar, and a spiral spring mounted thereon for ligature-holding purposes.

10 2. The combination of an arch-shaped bar,

a spiral spring mounted thereon for ligature-holding purposes, and tension-nuts threaded on the bar and engaging the extremities of the spring.

In testimony whereof I affix my signature in 15 presence of two witnesses.

JOHN E. CANNING.

Witnesses:

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DENA NELSON.