

J. STEINBRUGGE.
TOOTH REGULATOR.
APPLICATION FILED JAN. 7, 1910.

956,218.

Patented Apr. 26, 1910.

Fig. I.

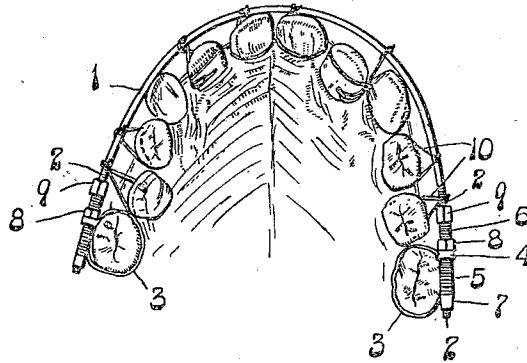


Fig. II.

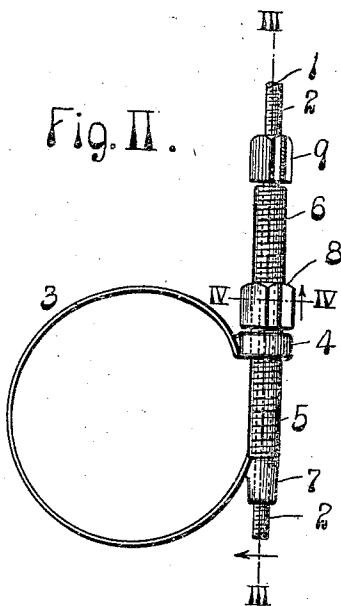


Fig. III.

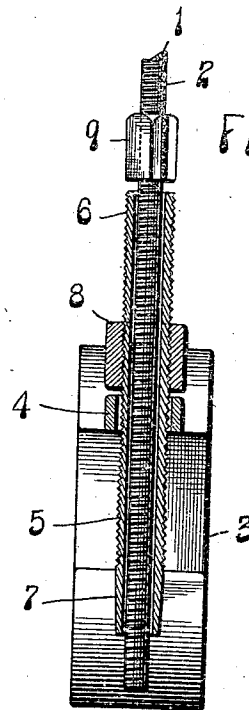
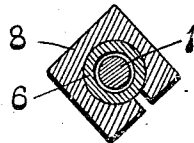


Fig. IV.



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UNITED STATES PATENT OFFICE.

JULIUS STEINBRUGGE, OF ST. LOUIS, MISSOURI.

TOOTH-REGULATOR.

956,218.

Specification of Letters Patent.

Patented Apr. 26, 1910.

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To all whom it may concern:

Be it known that I, JULIUS STEINBRUGGE, a citizen of the United States of America, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Tooth-Regulators, of which the following is a full, clear, and exact description; reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a device for correcting the irregularities of teeth in the human mouth and it has for its object the construction of a device of this character containing certain advantageous features, the chief among which is an arrangement whereby the clamping nut for setting the anchor band and the adjusting nut upon the expansion arch are widely separated so that there is no liability of the operator applying the implement used to turn the nuts of the clamp nut; when it is the intention to actuate the adjusting nut; and further to so make the rear end of the draw rods as to avoid rough surfaces thereat.

Figure I is a plan view of my tooth regulator illustrated as applied to a set of teeth. Fig. II is an enlarged plan view of the parts at one end of the tooth regulator. Fig. III is an enlarged view partly in elevation and partly in longitudinal section taken on line III—III, Fig. II. Fig. IV is a cross-section taken on line IV—IV, Fig. II.

In the accompanying drawings:—1 designates an expansion arch, the arms of which are provided adjacent to their ends with screw threads 2. This expansion arch is designed to partially encircle the set of teeth on which the tooth regulator is to be used, as seen in Fig. I.

3 designates the anchor bands which are intended to be applied to the molars of the set of teeth and each of which is provided at one end with an eye 4 having a plain bore extending therethrough.

5 are tubular draw rods rigidly secured at one end to the end of the anchor band opposite to that provided with the eye 4. Each draw rod is provided with an external screw thread 6 and the bore extending therethrough is adapted to receive one of the arms of the expansion arch which is loosely arranged in the draw rod.

8 designates clamping nuts fitted to the draw rods 6 and which are adapted to be

moved upon said draw rods for the purpose of moving the eyes 4 of the anchor bands 3 toward the opposite ends of said anchor bands whereby the anchor bands are contracted in diameter to cause them to be closely fitted to the teeth they are applied to and their escape from such teeth. The draw rods are of such length as to extend forwardly to a considerable degree from the eyes of the anchor bands in order that the clamping nuts thereon may be constantly separated to a material degree from the forward ends of the draw rods. Each of the clamping nuts is of split construction, being slit longitudinally and the bore in each nut is made slightly less than the diameter of the draw rod on which the nut is arranged for the purpose of causing the nut to tightly hug the draw rod at all times and with the consequence that there is no liability of accidental movement of the nut.

9 designates adjusting nuts arranged upon the threaded arms of the expansion arch and each of which is of split construction similar to the clamping nuts 8 and has a bore that is slightly less in diameter than the diameter of the expansion arch, in order that the nut may hug the expansion arch and prevent accidental movement. The adjusting nuts 9 are placed upon the arms of the expansion arch in front of the forward ends of the draw rods 5 and they are, therefore, in position to press against said draw rods when they are moved rearwardly, with the result that they impart forward movement to the expansion arch, due to the resistance offered by the draw rods.

The teeth to be corrected in position are connected to the expansion arch in the usual manner, such as by the means of loops 10 which may be either of wire or bands of flat material fitted to the teeth and extending around the expansion arch.

It will be noted that the adjusting nuts 9 are entirely separated from the clamp nuts 8 by reason of the clamp nuts being mounted on the draw rods and adapted to perform their office at a distance from the forward ends of the draw rods, while the adjusting nuts perform their office at the forward extremities of said draw rods. Therefore, when the operator has once secured the anchor bands to the teeth they are fitted to by manipulation of the clamping nuts, he may thereafter manipulate the adjusting nuts 9 with-

out any liability of applying the wrench or implement used to the clamping nuts by mistake, an act he is extremely liable to do in tooth regulators where the clamping nuts 5 and adjusting nuts are located in close proximity to each other. It is very important to provide against such mistakes for the reason that they are extremely liable to take place due to the difficulty in 10 access to the clamping nuts and adjusting nuts, owing to the location of these parts at the rear of the mouth of a person in which the tooth regulator is being used.

A further feature of merit in my tooth 15 regulator not hereinbefore specifically described is that of providing the draw rods 5 with unthreaded and smooth rear ends 7, thereby eliminating liability of injury to the mouth of the wearer of my tooth regulator 20 as compared with injury likely to occur in the use of tooth regulators utilizing screws or bolts that extend through two eyes upon the anchor bands. This meritorious feature is made possible due to the rigid connection

of the rear end of the draw rods 5 to the 25 anchor bands and not extending the ends beyond the same and providing for the clamping of the anchor bands by the clamping nuts arranged upon the forward ends of the draw rods to cause tightening of the 30 anchor bands around the teeth by movement of one end only of each anchor band.

I claim:

A tooth regulator comprising an anchor band having an eye at one of its ends, a 35 tubular draw rod secured to the other end of the anchor band and extending through said eye, a clamping nut upon said draw rod for moving the eye of the band upon said rod, an expansion arch operable in said 40 draw rod, and an adjusting nut on said expansion arch bearing against the forward end of said draw rod.

JULIUS STEINBRUGGE.

In the presence of—

E. B. LINN,

A. J. McCauley.