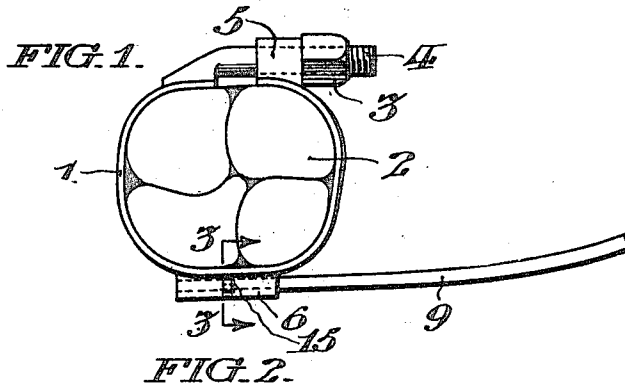
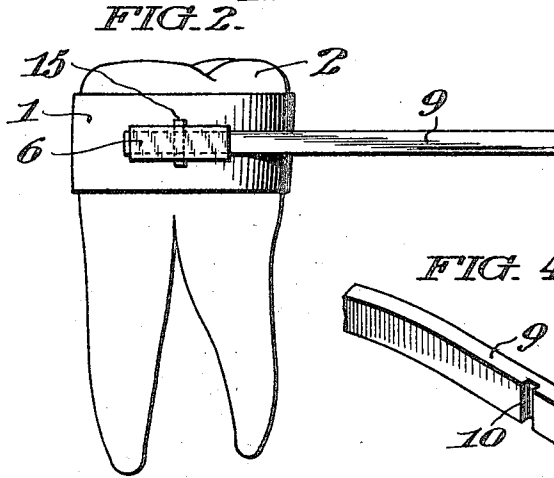
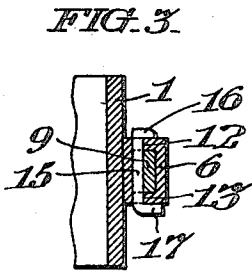
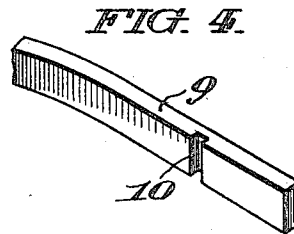
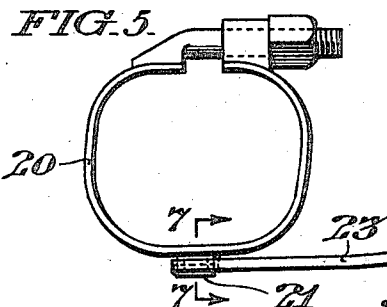
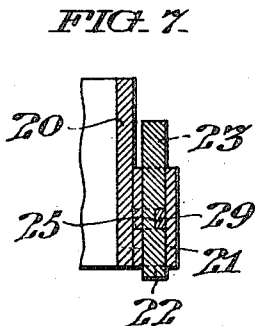
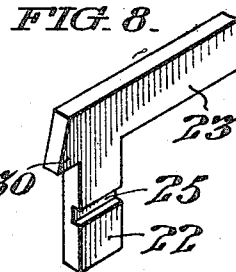
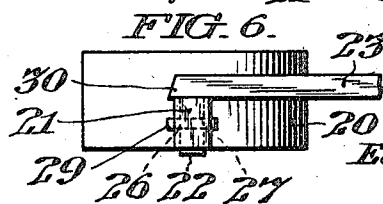


E. H. ANGLE.
ORTHODONTIC APPLIANCE.
APPLICATION FILED NOV. 28, 1916.

1,322,994.

Patented Nov. 25, 1919.



Inventor

Edward H. Angle

Witness

William J. Russell

384

Clifton C. Hallows

Attorney

UNITED STATES PATENT OFFICE.

EDWARD H. ANGLE, OF PASADENA, CALIFORNIA.

ORTHODONTIC APPLIANCE.

1,322,994.

Specification of Letters Patent.

Patented Nov. 25, 1919.

Application filed November 28, 1916. Serial No. 133,854.

To all whom it may concern:

Be it known that I, EDWARD H. ANGLE, a citizen of the United States, and a resident of Pasadena, in the county of Los Angeles, State of California, have invented certain new and useful Improvements in Orthodontic Appliances, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates particularly to the means of attachment of the arch-bar with the tooth engaging bands, and is especially directed to the connection between the arch-bar and the terminal anchorages.

The principal objects of my invention are, to provide terminal anchorages so constructed and arranged as to not only afford a rigid connection with the arch-bar, but which permits said arch-bar to be readily connected with the anchorages and as quickly released therefrom.

Other objects of my invention are, to so simplify the connection between the arch-bar and terminal anchorages as to both reduce the cost of manufacture and materially lessen the discomfort to the wearer.

Specifically stated, the form of my invention as hereinafter described comprehends a terminal anchorage comprising a tubular sheath having a keyway, and an arch-bar provided with a keyway extended transversely thereof and arranged to register with the keyway in said tubular holder, and to receive a key for rigidly locking the terminal anchorage and arch-bar together.

My invention also includes all of the various novel features of construction and arrangement as hereinafter more definitely specified.

In the accompanying drawings, Figure 1 is a plan view of a convenient embodiment of my invention as applied to a lower molar serving as an anchorage abutment; Fig. 2 is a side elevational view of the structure shown in Fig. 1 as applied to said molar; Fig. 3 is an enlarged fragmentary sectional view taken on the line 3—3 in Fig. 1; Fig. 4 is an enlarged perspective view of a fragment of the arch-bar, showing the keyway therein; Fig. 5 is a plan view of a modification of the form of my invention shown in Figs. 1 and 2; Fig. 6 is a side elevational view of the structure shown in Fig. 5; Fig. 7 is an enlarged fragmentary sectional view taken on the line 7—7 in Fig. 5; and Fig. 8 is an enlarged fragmen-

tary perspective view of the arch-bar adapted to be employed in connection with the anchorage illustrated in Figs. 5 and 6.

In said figures, the anchor-band 1 is arranged to be attached to a molar tooth 2, as indicated in Figs. 1 and 2, by the adjusting nut 3, which is rotatably mounted on the threaded stem 4 projecting from one end of said anchor-band 1, and extends through the eye 5 on the opposite end of said anchor-band, whereby the ends of the anchor-band may be drawn together to clamp it upon said molar.

As illustrated in Figs. 1, 2 and 3, the tooth-band 1 is provided with the anchor tube 6 which may be of any desired form, preferably rectangular as shown, to form a sheath for the reception of the end of the arch-bar 9, which, as best shown in Fig. 4, is provided in close proximity to its ends with a transversely extended keyway 10.

The keyway 10 is arranged to register with alined apertures 12 and 13 in the upper and lower walls of the sheath or tube 6, forming a keyway, through which apertures and keyway a suitably formed key 15 may be extended to prevent the accidental withdrawal of said arch-bar from said tube.

While the key 15 may be of any desired form, I have chosen to illustrate a key having an overhanging head 16, and having its opposite end capable of being bent laterally, as shown at 17 in Fig. 3.

Although I have shown but one keyway in the arch-bar 9, it is to be understood that as many of such keyways as may be desired for the longitudinal adjustment of the arch-bar may be provided.

In the form of my invention illustrated in Figs. 5 to 8, inclusive, the tooth-band 20 is provided with the anchor tube 21, forming a sheath extending parallel with the axis of said tooth-band, and arranged to receive the laterally extended projection 22 forming the end of the arch-bar 23 and having the transverse keyway 25, as best shown in Fig. 8.

The keyway 25 is arranged to register with the alined apertures 26 and 27 in the opposite walls of said sheath or tube 21, forming a keyway, through which apertures and keyway the key 29 may be extended to prevent the accidental displacement of the arch-bar from said tube.

Although the arch-bar 23 may have its

end bent laterally to form the projection 22, said projection may preferably extend from the arch-bar at a position approximating the end of said arch-bar, to provide a slight
5 overhang 30, as shown in Figs. 6 and 8, and thereby afford a more stable support upon the end of the sheath.

It will be obvious that the anchorage structures herein disclosed not only afford
10 a rigid abutment for the arch-bar, but provide for its ready attachment and removal.

I do not desire to limit my invention to the precise details of construction and arrangement as herein set forth, as it is ob-
15 vious that various modifications may be made therein without departing from the essential features of my invention as defined by the appended claims.

Having thus described my invention, I
20 claim:

1. An orthodontic appliance comprising an anchorage, having a tubular sheath provided with a keyway, comprising alined apertures in the opposite walls of said sheath.

25 2. An orthodontic appliance comprising an anchorage having a tubular sheath provided with a transversely extending keyway, and an arch-bar adapted to be received in said sheath and having a keyway arranged
30 to register with the keyway in said sheath and be keyed thereto.

3. An orthodontic appliance comprising a tubular anchor sheath arranged in parallel

relation with the axis of the tooth to which it may be applied, and having a keyway 35 comprising alined apertures in the opposite walls of said sheath.

4. An orthodontic appliance comprising an anchor sheath arranged in parallel relation with the axis of the tooth to which it
40 may be applied, and having a keyway extending transversely thereof, and an arch-bar having its end portion extended laterally and having a transversely extending keyway therein arranged to register with 45 the keyway in said sheath.

5. An orthodontic appliance comprising an arch-bar having its end portion angularly extended and provided with a transversely extending slot in the lateral extension.
50

6. An orthodontic appliance comprising an arch-bar having its end portion angularly extended and provided with a transversely extending slot in the lateral extension, and having an extension projecting slightly beyond said laterally extended portion.
55

In witness whereof I have hereunto set my hand this 20th day of November, A. D. 60 1916.

EDWARD H. ANGLE.

Witnesses:

M. FAY,

V. M. MORGAN.