J. L. YOUNG.

ORTHODONTIA APPLIANCE.

APPLICATION FILED DEC. 5, 1918.

1,323,141. Patented Nov. 25, 1919.

Fig. 1.

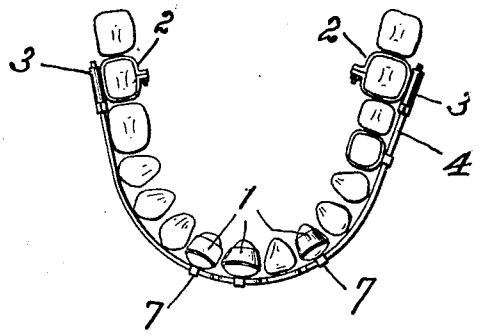
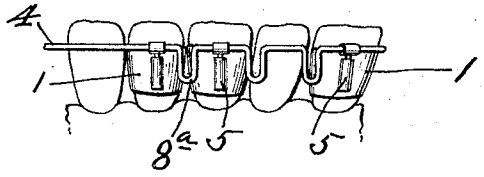


Fig. 2.



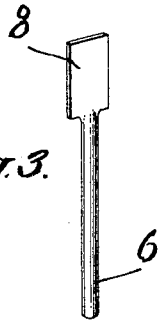


Fig. 3.

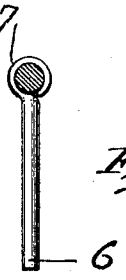


Fig. 4.

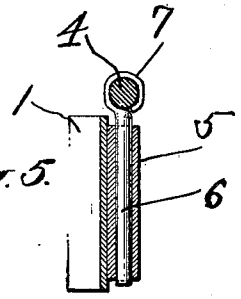


Fig. 5.

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UNITED STATES PATENT OFFICE.

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ORTHODONTIA APPLIANCE.

1,323,141. Specification of Letters Patent. Patented Nov. 25, 1919.

Application filed December 5, 1918. Serial No. 265,364.

To all whom it may concern:

Be it known that I, JACOB LOWE YOUNG, a citizen of the United States, and a resident of New Rochelle, county of Westchester, and State of New York, have invented certain new and useful Improvements in Orthodontia Appliances, (Case 5,) of which the following is a specification.

This invention relates to improvements in orthodontia appliances, more particularly to improvements in tooth-regulating and retaining appliances of the arch wire type. Appliances of this type comprise a curved arch wire or delivery member of approximately the same form as the dental arch, means for connecting the arch wire to a tooth or to the teeth to be treated, and means for anchoring the arch wire at or adjacent its ends to suitable anchor teeth, such as molars. The teeth to be treated are usually provided with rigidly attached bands, and these bands are connected to the arch wire by means of sockets and posts or pins, the posts or pins being connected to the arch wire. In the arch wire appliances heretofore used, it has been very difficult to solder the posts or pins to the arch wire with the absolute accuracy required in devices of this kind. Whenever the pins or posts are not secured to the arch wire with the degree of accuracy required in work of this kind, they must be removed from the wire and again soldered in position. Frequently this operation is repeated a number of times before the pins are properly placed upon the arch wire.

It is the main object of this invention to provide an arch wire and pins which may be preliminarily but rigidly secured to the arch wire with absolute accuracy, and then subsequently soldered or otherwise permanently secured.

Another object of the invention is to provide an arch wire with pins or posts connected thereto and longitudinally slidable thereon, in order that they may be accurately placed for entrance into the sockets secured to the tooth bands, said pins being so constructed and arranged that they may be temporarily secured to the arch wire while still engaged in the sockets on the tooth bands and may then be removed and soldered or otherwise permanently connected to the arch wire.

In the drawing, Figure 1 is a plan view of the appliance complete, showing the arch wire attached to the teeth;

Fig. 2 a fragmentary front elevation, showing the arch wire connected with the tooth bands;

Fig. 3 a detail view of one of the posts before it is attached to the arch wire;

Fig. 4 a transverse sectional view of the arch wire, showing the posts loosely connected thereto; and

Fig. 5 a transverse sectional view, showing the post engaged in a tooth band socket, the post being preliminarily crimped or pressed into rigid engagement with the arch wire.

Referring to the various parts by numerals, 1 designates the usual metal bands fitted about the malposed teeth, and 2 designates the usual anchor bands fitted about the molar or anchor teeth. The anchor bands 2 have soldered or otherwise secured thereto, the sockets 3, which are adapted to receive the ends of the arch wire 4. These sockets may be of any suitable construction, and any suitable means for adjustably connecting the ends of the arch wire to said sockets may be employed, it being the purpose of these connections to mount the arch wire for movement in either direction for bringing the desired strain upon the malposed teeth.

The tooth bands are provided with suitable sockets 5. As shown in the drawings, these sockets are in the form of tubes connected to the bands in such manner as to be on the outer sides of the teeth. The posts 6 are slidably connected to the arch wire by means of the loops 7, formed at the upper ends of the posts. These loops are formed by bending around the arch wire the upper flattened end 8 of the posts. The connection between the posts 6 and the arch wire is comparatively loose, so that the posts or pins may be moved longitudinally of the arch wire to bring them into accurate register with the sockets 5. When the pins have been placed in the sockets and properly positioned on the arch wire, the loop 7 is crimped or pressed about the arch wire to rigidly connect the post to the wire to prevent any subsequent lateral shifting of the post. When the pins have thus been rigidly connected to the arch wire, the arch wire may be removed and the pins 6 permanently soldered in position thereon.

It will, of course, be understood, that the sockets secured to the tooth bands may be of any suitable form, and that the posts may be of the required shape to fit the selected form of socket.

The arch wire, of course, may be of any suitable construction; usually they are provided with loops 8^a, between the pins or posts to provide a ready means for lengthening or shortening the arch wire, as may be necessary in the development of the treatment of the teeth.

What I claim is:—

An orthodontia appliance comprising an arch wire, and a pin loosely connected thereto and movable longitudinally thereof, the connecting means between the pin and the arch wire being compressible to permit the pin to be rigidly secured to the arch wire.

This specification signed this second day of December, A. D. 1918.

JACOB LOWE YOUNG.