

W. J. BRADY.  
DENTAL ATTACHMENT.  
APPLICATION FILED APR. 17, 1909.

957,032.

Patented May 3, 1910.

Fig. 1.

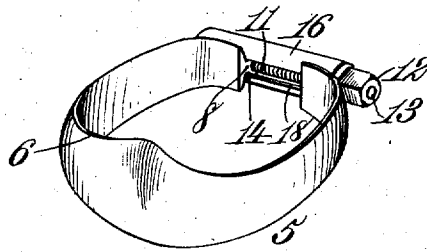


Fig. 3.

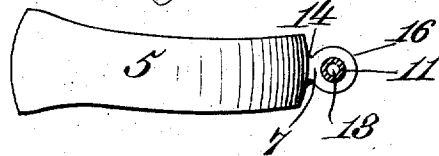


Fig. 2.

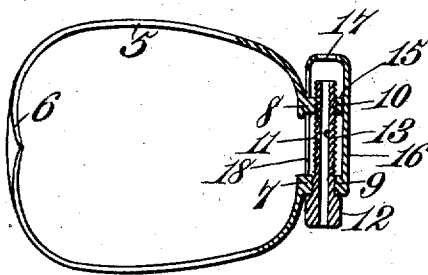


Fig. 4.

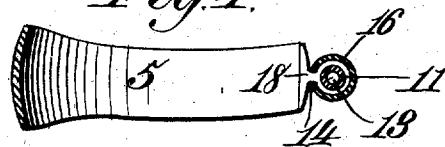


Fig. 5.

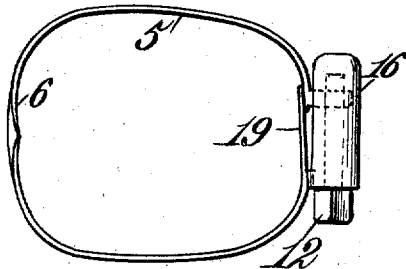
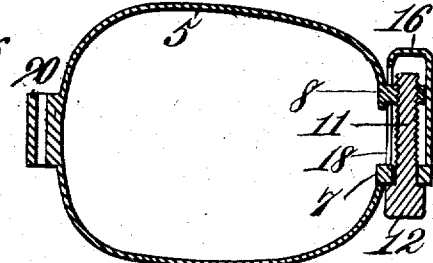


Fig. 6.



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# UNITED STATES PATENT OFFICE.

WILLIAM J. BRADY, OF KANSAS CITY, MISSOURI.

## DENTAL ATTACHMENT.

957,032.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed April 17, 1909. Serial No. 490,489.

*To all whom it may concern:*

Be it known that I, WILLIAM J. BRADY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented new and useful Improvements in Dental Attachments, of which the following is a specification.

This invention relates to dental attachments and particularly pertains to devices for regulating teeth, and embodies a thin band of metal of proper size and width to surround a tooth, combined with devices for clamping the band tightly about the tooth, protecting the cheeks, lips and tongue from irritation by the clamping parts, and incidentally providing means for the support or attachment of other tooth regulating appliances.

The primary object of the invention is to provide simple and effective means for moving and straightening or regulating teeth capable of being readily applied in operative position and disconnected or detached without material inconvenience or annoyance to the patient.

In the drawing: Figure 1 is a perspective view of a band embodying the features of the invention. Fig. 2 is a plan view of the same partially in horizontal section. Fig. 3 is a side elevation showing a part of the clamping means in section. Fig. 4 is a transverse vertical section through the band and clamping means. Fig. 5 is a top plan view showing a slight modification. Fig. 6 is a horizontal section showing a further modification.

The numeral 5 designates a band which is constructed of suitable non-corrosive metal, preferably gold, and adapted to be drawn around a tooth, the band being initially constructed to give it a contour or configuration corresponding to the tooth to which it is to be applied and also having an edge construction as at 6 to conform to the gum line and avoid excoriation or injury to the portion of the gum adjacent to the applied band. A tooth-like contour may be given to the band by preliminarily applying heavy pressure thereto over a die or by other suitable means, and a band thus contoured grasps a tooth much better than a plain flat ribbon of metal and greatly reduces the tendency of the band to slip off the tooth or

move upwardly too far thereon, the latter being a common fault of unshaped flat bands and causing much pain and soreness.

All of the bands shown have common features of construction and each is provided with perforated lugs 7 and 8 soldered or otherwise fastened to the ends of the band and having openings 9 and 10, the opening 9 in the lug or ear 7 being smooth or unthreaded and the opening 10 in the lug or ear 8 being screw-threaded, as clearly shown by Fig. 2. A clamping device engages the openings of the lugs or ears 7 and 8 and consists preferably of a tubular bolt having a screw-threaded shank 11 and a polygonal head 12, the bore 13 extending fully through opposite extremities of the said clamping device. The opening 9 in the lug or ear 7 is of greater diameter than the screw-threaded shank 11, and hence said shank is free to slip through the said lug or ear, but the threads of the shank engage the threaded opening 10 and by this means the lug is drawn toward the lug 7 and necessarily the latter lug is moved toward the said lug 8 during the clamping operation by the head 12 bearing against or engaging the outer side of the said lug 7. Each of the lugs has a deep constriction 14, as shown by Fig. 1, which forms a neck between the outer enlarged portion of each lug and the base or flattened foot-piece of the latter which is secured to the end of the band 5. A tubular capsule or sheath 16, normally open at one end and the other end closed with the exception of a central aperture 17, is applied over the lugs or ears 7 and 8, said capsule or sheath being secured or fixed by any suitable means to the lug or ear 7 and having an inner longitudinal slot 18 in which the neck or constricted portion of the lug 8 is engaged, the remaining part of the lug from the neck outwardly being inclosed and free to slide within the said capsule or sheath.

In some structures the aperture 17 in the one end of the capsule or sheath may be dispensed with, as shown for instance by Fig. 6, but when the sheath is formed with this aperture it will align with the bore 13 of the clamping device engaging the lugs 7 and 8.

It will be seen that the capsule or sheath 16 fully incloses the screw-threaded shank 11 of the clamping device as well as the movable lug 8 and covers up also the lug 7 so

that these parts are inclosed and prevented from coming in contact with the cheeks, lips or tongue. The tubular shank 11 and head 12 of the clamping device provide means for the support of other regulating appliances, such as jack-screws or wires of various kinds, and when the aperture 17 is formed in the capsule or sheath 16, bars or wires may be inserted entirely through both the clamping device and the capsule or sheath for use in various regulating operations.

The regulating appliance that may be used in connection with the clamping device or with the band and adjusting means therefor as explained form no part of the present invention.

As shown by Fig. 5, the band 5 is provided with a tongue extension 19 to overlap the opposite end of the band and completely close the gap between the lugs 7 and 8. When a band of this construction is tightened, the extension tongue slips between the tooth and the remaining end of the band and entirely encircles the tooth and gives an additional grasp upon the tooth and greater stability to the band, and also protects the tooth against the lodgment of food between the lugs 7 and 8 and obviates any tendency to decay.

As shown by Fig. 6, the clamping device is shown solid and the end of the capsule or sheath 16, illustrated by Fig. 2 as having an opening therein, is closed and rounded. In this form of the device also a suitable piece 20 of hollow tubing is shown secured to the band at a point diametrically opposite the location of the capsule or sheath 16 for use in applying and supporting other regulating attachments.

Bands have heretofore been used to clamp around teeth to support regulating appliances, but so far as known none have ever been provided with a sheathing to cover the clamping means and protect the cheeks and tongue. The dental appliance herein disclosed will be found exceptionally advantageous for the purpose for which it has been devised and it is obvious that each band may be shaped as desired or to conform to the contour of different teeth to which it may be desired to apply the same. Furthermore, a number of the bands may be used at one time and the proportions thereof varied in accordance with the dimensions of the teeth to which they are to be applied.

What is claimed is:

1. In a dental attachment of the class specified, a band to encircle a tooth, a tubular sheath secured to one extremity of the band and having the remaining band extremity freely movable therein, and a clamping means engaging the band extremities and inclosed by the tubular sheath.

2. In a dental attachment of the class specified, a band to encircle a tooth, a tu-

bular sheath mounted on the band extremities, and a clamping means engaging the band extremities and having a screw-threaded surface which is covered by the said sheath.

3. A dental attachment having a band to encircle a tooth and provided with clamping means, and a tubular sheath fixed to a part of the band and inclosing the major portion of the clamping means.

4. A dental attachment having a band to encircle a tooth and provided with clamping means, and a tubular sheath fixed to the band and inclosing the major portion of the clamping means, the clamping means being out of contact with relation to the sheath.

5. A dental attachment having a clamping band to encircle a tooth and provided with a tubular sheath to which one extremity of the band is fixed, the opposite extremity of the band being movable in the sheath, and a clamping means engaging the extremities of the band and projecting into and having the major portion thereof covered by the sheath, the part of the clamping means within the sheath being out of contact with relation to the latter.

6. A dental attachment involving a band to encircle a tooth, threaded clamping means engaging the extremities of the band, and a tubular inclosure carried by a portion of the band and covering the threaded part of the said clamping means to prevent contact therewith of the lips, tongue and cheek, the one extremity of the band being movable in the inclosure toward and from the opposite band extremity.

7. A dental attachment involving a band to encircle a tooth and provided with clamping means engaging the extremities thereof, and a tubular inclosing means for the clamping means and in which the latter operates without contact therewith.

8. A dental attachment involving a band to encircle a tooth provided with means for engagement with a clamping device, a threaded clamping device engaging said means, and a tubular inclosure for said means and the threaded portion of the clamping device.

9. A dental attachment involving a band to encircle a tooth and having projecting portions for engagement with a clamping device, a tubular clamping device cooperating with said projecting portions, and a protective tubular sheath fixed to one of said projecting portions and inclosing the other of the latter portions and into which the tubular clamping device extends, the threaded portion of the clamping device being covered by the sheath.

10. A dental attachment involving a band to encircle a tooth and having projecting portions for contracting the extremities thereof, a tubular clamping device cooperating

ating with said projecting portions, and a protective tubular sheath fixed to one of said projecting portions and inclosing the other of the latter portions and into which  
5 the tubular clamping device extends, the tubular clamping device being covered for a greater portion of its extent by the sheath to prevent contact with the parts of the mouth therewith and the sheath having an

opening in one end in alinement with the 10 bore of the tubular clamping device.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM J. BRADY.

Witnesses:

DRURY J. McMILLEN,  
FRANK G. WORTHLEY.