DENTAL FASTENING FOR REMOVABLE BRIDGES AND PARTIAL PLATES.

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To all whom it may concern:

Be it known that I, William L. Withers, a citizen of the United States, and a resident of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and useful Improvement in Dental Fastenings for Removable Bridges and Partial Plates, of which the following is a specification.

My invention relates to dental fastenings for removable bridges and partial plates, and one of its objects is to provide a small compact and very strong fastening adapted to occupy a minimum space between the abutment tooth and the tooth or teeth to be replaced.

Another object is to provide a dental fastening for removable bridges or partial plates that will have a free and normal movement during mastication without straining or breaking the joint between the fastening elements, or their respective connections to the abutment tooth and bridge or partial plate.

Another object of my invention is to provide a dental fastening for bridge or partial plates, having an anchor so constructed that all wear between the anchor and keeper can be taken up laterally by bending or forcing out the loop in the bottom end of the anchor and at the same time causing no strain on the abutment tooth as is the case with the attachments now used.

Another object of my invention is to provide a dental fastening for the abutment tooth and bridge to be placed close to the occlusal surface of the tooth and away from the gum so that food will not collect between the fastening and the gum.

My invention further comprises the novel details of construction and arrangement of parts illustrated in the drawings forming part of this specification, in which:

Figure 1 is an enlarged view showing the anchor in front elevation.

Fig. 2, is a side view of Fig. 1.

Fig. 3, is an enlarged view showing the keeper in front elevation.

Fig. 4, is a side view of Fig. 3.

Fig. 5, is an enlarged view of one of the bridge teeth showing the anchor in place.

Fig. 6, is a side view of Fig. 5.

Fig. 7, is an enlarged front view of the abutment tooth showing the keeper secured within the inlay.

Fig. 8, is a side view of Fig. 7.

Fig. 9, is an enlarged view showing the anchor attached to a bridge carrying two teeth.

Fig. 10, is an enlarged view of the abutment tooth with the inlay and the keeper attached therein.

Fig. 11, is a plan view showing the bridge work secured to the abutment teeth.

Fig. 12, is an enlarged view showing the abutment tooth covered with a gold crown and the keeper attached to the gold crown.

Fig. 13, is a front elevation showing the anchor and keeper interlocked.

In the use of my invention, a detachable bridge B is attached to the abutment teeth A by means of an inlay 2 set therein, and the keeper 1 secured within the inlay or to a gold crown over the abutment teeth to which the keeper 1 is secured, as may be best suited for the individual case, while the anchor is secured to the detachable bridge.

The keeper 1 is formed out of hard metal and pressed in the shape of a box having an opening 3 and a slot 4. The bottom of the keeper 1 being rounded at 6 while the sides 90 are bent inward and then outward at 50 so that the anchor 8 will fit therein.

The anchor is round at the bottom 9 and bent in at the sides and then outward at 10. In making the anchor an opening 11 is formed at the bottom and from the metal pressed out of this opening lug 12 is formed to which is secured the bridge or partial plate.

The sides of the anchor are connected together by the bar 13 which is left in the metal in the making of the anchor. In case of wear between the keeper and anchor the opening 11 in the anchor is spread outward just enough to take up all the wear between the keeper and anchor.

It will be noted that when the keeper and anchor are interlocked, the anchor is free to rock within the keeper a predetermined limit in either direction as indicated by the
arrow Fig. 13, to allow the normal movement of the abutment tooth during mastication. It is conversely true that the bridge or partial plate will have a like limited rocking movement of the anchor within the keeper which is sufficient to prevent an unnatural strain on the abutment teeth during hard biting, and to allow the keeper and anchor to have a limited rocking movement to take care of the natural movements between the abutment teeth and the bridge or partial plate in chewing. By contracting the loop in the anchor it will slip into the keeper and can only be removed by a strong pull upward when located on the lower jaw, and downward when located on the upper jaw. Thus doing away with too much play between the keeper and anchor, for a joint that would permit too much play between the keeper and anchor would be a very unsatisfactory fastening.

I have designed my invention so that the keeper and anchor will have only sufficient rocking movement to avoid undue strain, and decrease the rocking movement by spreading the loop or increase this rocking movement by compressing the loop.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a dental fastening, in combination, a keeper and an anchor, said keeper having an opening therein and a slot down the side for receiving said anchor, the bottom of said keeper being round, the sides of said keeper being bent inward and then outward, the bottom of said anchor being round and a loop formed therein, the sides of said anchor being bent inward and then outward to fit snugly within said keeper and to allow for a slight rocking movement.

2. In a dental fastening, in combination, with a keeper and an anchor, an opening in said keeper, a slot in said keeper, said opening and slot for receiving said anchor, said keeper and said anchor being round at the bottom and bent inward and then outward at the edges in such a manner that they will interlock each other and be held firmly together with a rocking movement.

3. In a dental fastening, in combination, a keeper and an anchor, said keeper having an opening and a slot therein, said opening and slot for receiving said anchor, said anchor being rounding at the bottom bent in at the sides and then outward at the top, a bar connecting the sides of said anchor together, said bar being integral with said sides of said anchor, a lug on said bar for securing said anchor to the bridge or partial plate, a loop in said anchor below said bar to allow said anchor to compress as it enters said opening in said keeper to allow the sides of said anchor to expand after being placed within said keeper and to take up all wear between said keeper and said anchor.

In witness whereof I affix my signature.

WILLIAM L. WITHERS.