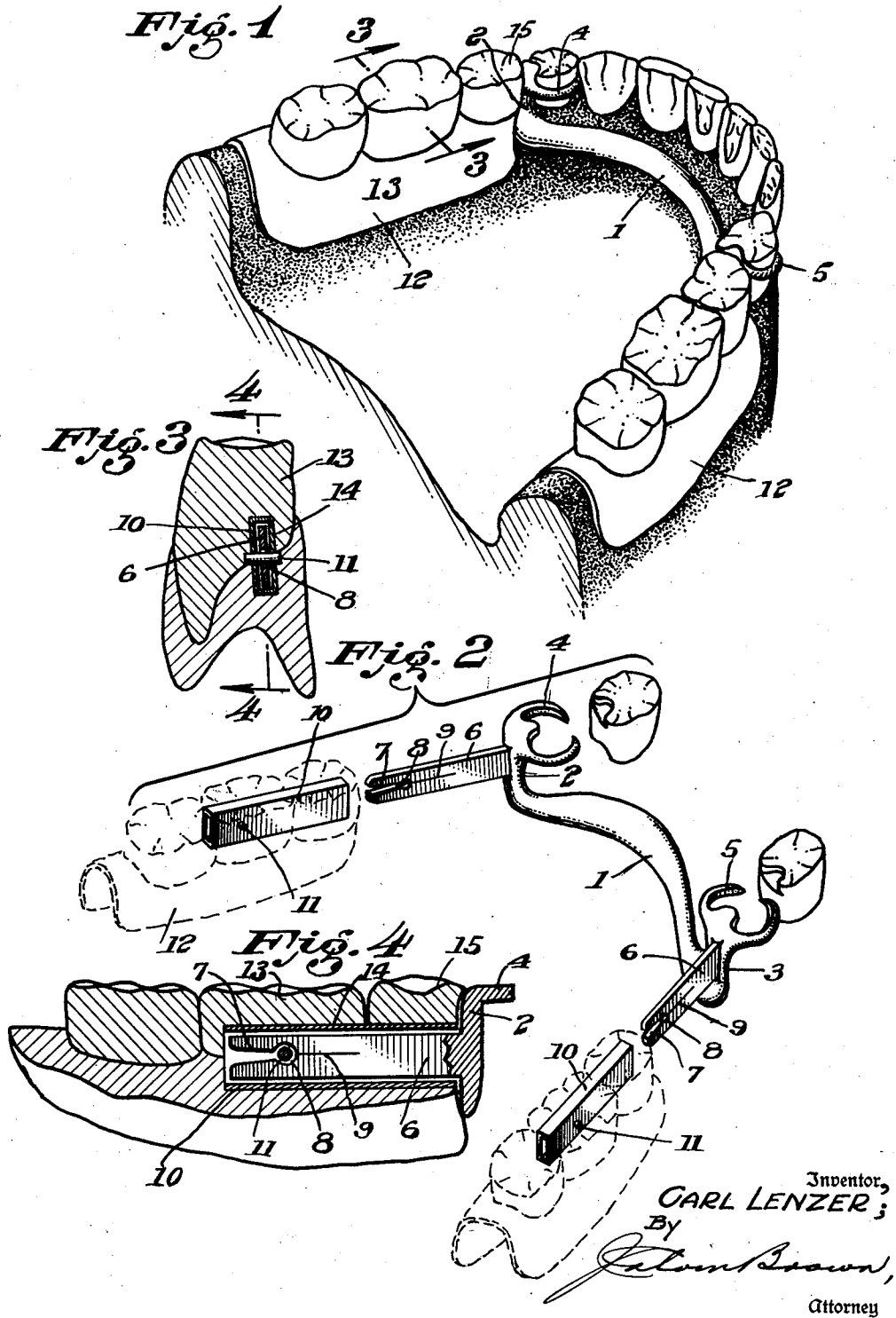


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DISTAL EXTENSION STRESS BREAKER
ATTACHMENT FOR PARTIAL DENTURES
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DISTAL EXTENSION STRESS BREAKER ATTACHMENT FOR PARTIAL DENTURES

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5 Claims. (Cl. 32-7)

1

The present invention has for an object the provision of a distal extension stress breaker attachment for partial dentures which releases downward stress on abutting teeth.

At the present time, it is customary in partial dentures to provide a lingual bar having clasps at the ends thereof for engaging the first bicuspid on each side of the lower jaw and which lingual bar is attached to some form of saddle carrying teeth, which takes the place of lost or missing teeth. Such an attachment may carry a saddle for one side of the jaw or there may be two saddles provided with teeth, the teeth usually being molars. The lingual bar is provided with clasps which engage permanent teeth. However, it has been found that the connection between the lingual bar and the partial denture often results in loosening the permanent teeth due to movement of the saddle or saddles on the condyle, which imposes downward stress on the permanent teeth.

An object of the present invention is to relieve strain on the permanent teeth to which a lingual bar is secured and which lingual bar secures a partial denture.

A further object is the provision of an attachment of the character stated which permits mobility of a partial denture.

A further object of the invention is to provide a device wherein only the partial denture is removable.

A further object is the provision of a device wherein the saddle carrying false teeth rides freely in any direction, thus permitting free articulating excursions.

A further object is the provision of a partial denture construction wherein the saddle carrying the false teeth functions to give a massaging effect to the tissue.

Other objects will readily suggest themselves to dentists skilled in the art.

In the drawing:

Figure 1 is a perspective view partly in section of the lower jaw and its teeth with partial dentures on each side of the jaw to the rear of the first bicuspid, the invention being shown as securing said partial dentures to the first bicuspid;

Figure 2 is a separated view illustrating in perspective the invention and its relationship to partial dentures and to permanent teeth;

Figure 3 is an enlarged sectional view on the line 3-3 of Figure 1; and

Figure 4 is a sectional view on the line 4-4 of Figure 3.

Referring now with particularity to the draw-

2

ing, the invention is adapted to act in cooperation with a lingual bar 1, which in the present instance, is placed below the front teeth at the lingual aspect of the mouth. As shown in Figure 1, the said bar is quite rigid, so as to provide a truss. This bar, at its ends, is provided with portions which are substantially at right angles to the bar, as shown at 2 and 3, and which portions 2 and 3 each are provided with clasps or abutment attachments 4 and 5, which attachments are formed to embrace the first bicuspid, as shown in Figure 1. It is assumed that the first bicuspid are the permanent teeth, and that the molars are lacking and are to be replaced by partial dentures. Each portion 2 and 3 is countersunk so as to receive an elongated shank 6, the said shanks being fixedly secured to portions 2 and 3, and extending substantially at right angles to the portions. Extending inwardly from the outermost end of each shank 6 is a V-slot 7, the base of the V being at the outermost end of said shank with the apex of the V terminating in a substantially circular bore 8, transverse to the shank, and beyond the bore 8, the shank is provided with a narrow longitudinal slit 9, which slit, however, does not extend the full length of the said shank. The depth of the shank is substantially uniform, as is likewise the width of said shank, as illustrated in Figures 2 and 4.

The shank is adapted to cooperate with, and be received within a housing or sleeve 10, and said housing or sleeve is rectangular in cross-section, as shown in Figure 3. The internal depth and width of said housing or sleeve is slightly greater than the width and depth of the shank 6, so as to allow free reception of said shank within said housing or sleeve. The housing or sleeve is provided with a transverse pin 11 which extends beyond the sides of the housing, as shown in Figure 3. The pin position is such as to allow a complete reception of the shank within the housing, in the manner shown in Figure 4, in which position the pin enters the transverse bore 8. The slit of the shank allows the end of the shank to separate and to snap-lock the pin within the transverse bore 8.

The missing teeth, whatever their number, three in the present illustration, are then processed with a plastic material over the housing 10. To accomplish this, molar 13 is grooved at 14, as is likewise molar 15, to receive a portion of the housing 10, while the plastic which forms the saddle 12 is worked around the teeth, and around the housing. The third molar is encased within the plastic which forms the saddle 12. It

3

will be observed that the molar 15 abuts the portion 2, which carries the clasp 4. Thus this particular molar is stabilized by its engagement with the part 2, as well as by having the housing 4 engage the part 2, both above and below the shank 6. The saddle, with its housing, may then be finished in the usual manner, and so that it rests easily upon the edentulous area or ridge. There is a clearance between the housing and the shank of approximately one millimeter, which permits the saddle to ride freely upon the edentulous area or ridge, thereby taking the strain of the abutment teeth, with longer life to the teeth, and greater comfort. It is to be observed in Figure 3 that extensions of the pin 11 beyond the sides of the housing permit the pin to be received both within the tooth structure, and the plastic saddle, thus assisting in holding the parts together.

The operation, uses and advantages of the invention just described are as follows: One of the difficulties encountered when wearing dentures of the removable type, is that the fixed teeth often become loosened due to movement of the dentures, which imposes stress on the fixed teeth. With the present device, however, mobility of the denture is permitted without placing strain on the abutting teeth, which in the present instance are the first bicuspid. As shown, the lingual bar, through the clasps, or abutment attachments, is secured to the first bicuspid, and is comparatively rigid. The shanks 6 extend for some length from the portions 2 and 3 of the lingual bar and the zone of movement between the housing members 10 and said shanks is at a remote point. By this, I mean that the housing members are secured to the distal ends of the shanks by the pins 11. Thus, a rocking movement is permitted at quite a distance from the portions 2 and 3 of the lingual bar. As the shank is spaced from the side, top and bottom walls of the housing, approximately one millimeter all around, movement of the saddle is permitted, the saddle rocking at the pin connection with shank. Therefore, the bicuspid teeth are not stressed, and the saddle moves freely in any direction.

I claim:

1. Means of the character disclosed, including: a partial denture, a sleeve embedded within the denture, a lingual bar, a shank extending from the lingual bar, and received within said sleeve, and means for detachably locking the shank to said sleeve at the distal end of said shank.

2. In means of the character disclosed, a partial denture having a saddle and false teeth carried by said saddle, an elongated rectangular sectioned housing embedded between the teeth and the saddle, a lingual bar provided with clasps

4

for engaging a pair of spaced apart permanent teeth, a shank extending from said lingual bar adjacent the clasp thereof, said shank provided with a slot extending inwardly from the distal end thereof, and a pin transversely carried by the housing, the said shank being adapted for reception within the housing to position the said pin within the slot of the shank.

3. In means of the character disclosed, a partial denture having a saddle, and false teeth carried by the saddle, certain of said false teeth being grooved, an elongated rectangular housing positioned within the grooves of said teeth and embedded within the saddle, one end of said housing being open, a lingual bar provided with clasps for engagement with a pair of spaced apart permanent teeth, an elongated shank of lesser width and height than the internal dimension of the rectangular housing, the said shank adapted for reception in the rectangular housing and means for rockably securing the distal end of said shank in said rectangular housing to allow the saddle to move freely in any direction when resting on the edentulous area.

4. In means of the character disclosed, a lingual bar provided with upright end portions, clasps carried by said upright end portions for engaging a pair of spaced apart permanent teeth, elongated shanks extending from said upright portions and in substantially right angular relationship thereto, each shank provided with a V slot extending inwardly from the distal end thereof with the apex of the V slot merging with a transverse bore, and elongated rectangular sectioned housings for reception on each shank, each housing being provided with a transverse pin for reception within the V slot, and the transverse bore to affect detachable engagement therewith.

5. In means of the character disclosed, a partial denture comprising a saddle and teeth carried by the saddle, a rectangular housing embedded between the saddle and the teeth, said housing provided with a transverse pin positioned substantially mid-center of the row of teeth of said denture, a lingual bar provided with clasps for engaging a pair of permanent teeth, an elongated shank of lesser width and depth than the internal dimensions of the housing and means for locking the shank to the housing pin in such a manner that articulating excursions of the partial denture are free.

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