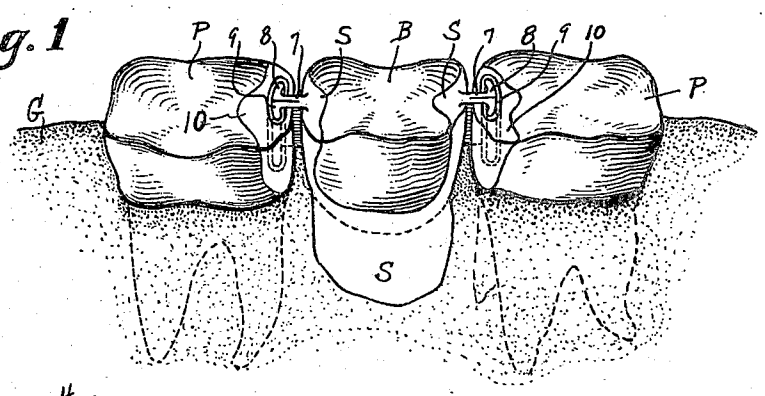
Aug. 14, 1928. 1,680,305

I. STERN

DENTURE ATTACHMENT

Filed Sept. 2, 1926

Fig. 1



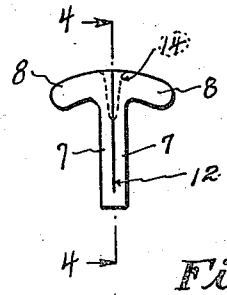
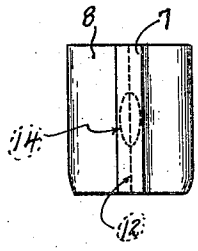
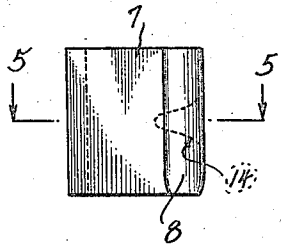


Fig. 2





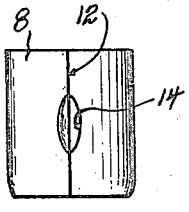


Fig. 3

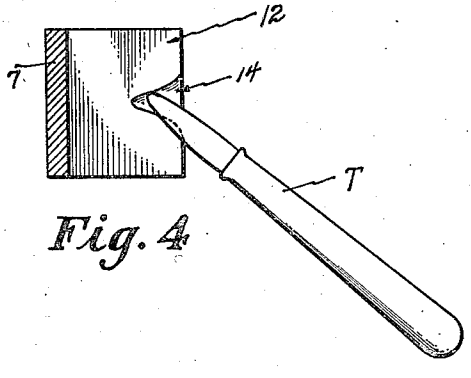


Fig. 4

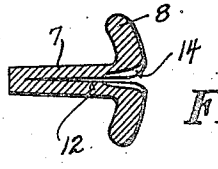


Fig. 5

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Patented Aug. 14, 1928. 1,680,305

UNITED STATES PATENT OFFICE.

ISIDORE STERN, OF NEW ROCHELLE, NEW YORK.

DENTURE ATTACHMENT.

Application filed September 2, 1926. Serial No. 133,121.

This invention relates to dentistry and more particularly to improvements in adjustable denture attachments for use in connection with removable bridgework.

An object of the invention is to produce an improved adjustable denture attachment for removable bridgework, which attachment may be conveniently adjusted by a spreading operation so as to make the attachment fit more snugly into the pier tooth socket and take up wear occasioned by use and service of the bridge, and the adjustment may be made by the wearer himself without the aid of a dentist.

It is a further object of the invention to produce an adjustable denture, the adjustable features or elements of which are not anchored to the denture head and therefore do not detract from the strength of the device. In this respect it is an object to make use of the shank of the denture and so construct it that adjustment occurs in the shank as well as in the head.

With the above and other objects in view, reference is now made to the accompanying drawing for a general understanding of the invention and for a description of one suitable form thereof.

Figure 1 shows a general assembly view of two spaced pier teeth or natural teeth in the gum structure of the patient with a removable bridge mounted therebetween which bridge carries the improved adjustable denture attachment forming the subject of this invention.

Figure 2 shows a cluster view of the denture itself, being a top, rear and side elevation thereof.

Figure 3 shows a front or face view of the denture attachment looking straight into its front surface where a tool receiving socket is combined with a cleavage plane to produce a new denture attachment.

Figure 4 shows a longitudinal section through the denture attachment as for example on the line 4—4 of Figure 2, together with a spreading or adjusting tool illustrating the manner of adjusting the denture by a spreading action.

Figure 5 illustrates a cross-sectional view taken on the line 5—5 of Figure 2 and shows the denture in adjusted or spread open position to cause it to tightly fit into a pier tooth socket.

Referring first to the general assembly view, there is shown the patient's gum structure G in which natural teeth P are used as bridge supporting piers which may be found in suitable spaced relation requiring and permitting bridgework restoration and adapted to carry the bridge B therebetween. The bridge B is made in any satisfactory form comprising a saddle S carrying an artificial porcelain tooth or teeth B, and a bridge shank 7 of my new denture is anchored or built into the saddle S and becomes a rigid integral part of the bridge saddle. A head 8 forms part of the denture attachment and is slidable into a socket 9 embedded within a metallic inlay 10 built into the side of the pier teeth B.

The above paragraph is a general description of the principles and structure of one type of bridgework with which my invention may be used, and a description of my new adjustable denture attachment will now be given.

The denture attachment comprises a bridge anchorage shank 7 and a head 8 integral thereon. The shank in reality comprises cooperating adjacent shank plates 7 forming a rigid shank with a cleavage plane or split 12 defining the two shank plates. The cleavage plane 12 extends parallel and substantially centrally through the head 8 back to a point near the end of the shank 7 but terminating short of cutting therethrough, so that the shank may be spread or pried apart at the head end.

The head 8 may if desired be formed on a contour or on an arc described from a center located at any suitable point on or in the shank 7. In other words, the front and rear concentric faces defining the head 8 may be slightly arched so that when the denture is adjusted by spreading the shank plate 7 apart it follows that the two separated head portions 8 will slide easily into the socket 9. Upon entering the socket the head parts 8 will yieldingly be brought together under slight spring tension resistance offered by the two shank plates 7 which are joined at the rear end. Since the device is made of selected hard tempered stock, there exists the desired degree of temper and spring properties by which the spread open portions come together under stiff resistance of the spring shank.

With particular reference to an important feature of this invention, there is formed a tool receiving socket 14 in the end of the head 8 and through and in connection

with the cleavage plane 12. The socket 14 is made in the head 8 about midway thereof from each end so that the dental mechanic may cut away as much of the head and shank as desired above and below the socket 14 thus not interferring with the socket and leaving it intact for reception of a spreading tool.

The socket 14 may gradually slope back and terminate in a reduced point 15 so that the socket tapers and becomes smaller as it extends back into the head 8 and into the shank 7. The socket may be made elliptic in shape thereby affording a substantially long vertical entry portion and a relatively narrow mouth for the reception of the end of a similarly shaped spreading tool. The major axis of the elliptic mouthed socket is preferably coincident with the cleavage plane 12, and the narrow elliptic shaped socket extends back into the shank and this is sufficiently deep to receive a tool, the full length thereof, so that leaverage if needed may be obtained to spread the denture portions.

Any suitable form of spreading tool T may be used for the purpose of adjusting this denture attachment as suggested in Figure 4 wherein the point of the tool is projected into the socket 14 and the blade rocks in and against the socket as the tool edge is entering the cleavage plane 12 thereby spreading apart the shank plates 7 and the head parts 8 to make the head of the attachment snugly fit into the pier tooth socket 9.

This new adjustable denture fills the need for a rugged though flexible and adjustable denture attachment. It is easy to adjust by inserting a pointed tool into the tool receiving adjusting socket 14, whereupon the tool is pried against the wall of the socket causing the shank plates 7 to uniformly open and this opening up of the denture is carried out until the desired spread apart relation exists so that the head is slightly larger than the inlay socket and thus slides into the socket with a snug spring tension and positive fit.

What I claim is:—

1. An adjustable denture attachment comprising, a bridge connecting shank provided with a cleavage plane paralleling the shank surfaces and dividing it into two parts which are joined at one end and separably free for adjustment at the other end, and provided with a spreading tool receiving socket at the free end, and said receiving socket having an elliptical mouth, the major axis of which is coincident with the cleavage plane.

2. An adjustable denture attachment comprising, a bridge connecting shank provided with a cleavage plane paralleling the shank surfaces and dividing it into two parts which are joined at one end and separably free for adjustment at the other end, and provided with a spreading tool receiving socket at the free end, said receiving socket having an elliptical mouth, the major axis of which is coincident with the cleavage plane, and the said socket mouth tapering gradually back into the shank and ending with a bottom of restricted size.

3. An adjustable denture attachment comprising, a bridge anchorage shank including a head on one end adapted to slidably fit into an inlay socket, said head being provided with a tool receiving socket formed in its face opposite the shank and which tool receiving socket extends through the head back into the shank, and said attachment being provided with a cleavage plane which cuts through the head and part way through the shank and centrally through said tool receiving socket.

4. An adjustable denture attachment comprising, a bridge anchorage shank including a head on one end adapted to slidably fit into an inlay socket, said head being provided with a tool receiving socket formed in its face opposite the shank and which socket extends through the head back into the shank, said socket formed of an elliptically shaped mouth at the surface of the head and the major axis of which is parallel to the plane of the shank and which socket is defined by a rearwardly converging wall terminating in a socket bottom smaller in size than the mouth, and said attachment being provided with a cleavage plane which cuts through the head and part way through the shank and centrally through said socket.

In testimony whereof I affix my signature.

ISIDORE STERN.