May 8, 1945. W. W. BAADE 2,375,512

DENTAL IMPRESSION BAND REMOVING TOOL

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Fig. 1.

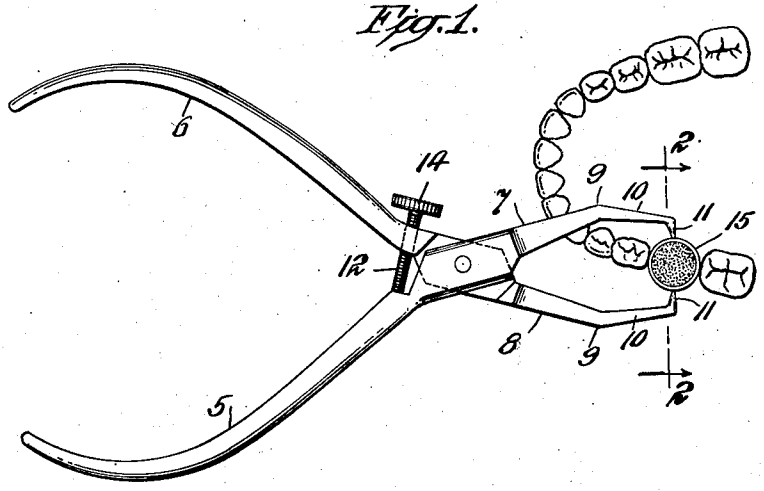
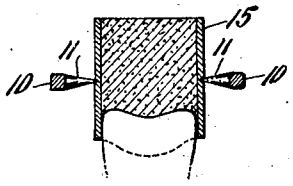


Fig. 2.



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DENTAL IMPRESSION BAND REMOVING TOOL

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2 Claims. (Cl. 81—5.1)

The invention herein disclosed relates to the taking of the impressions necessary for making dental crowns.

In taking such impressions, the band or ring carrying the modeling compound, has to be forced over the tooth. This causes it to stick more or less, resulting in the present practice of having to wiggle it one way or another, to loosen it sufficiently to permit its withdrawal from the tooth. The angular motion thus applied in loosening the band effects a lateral displacement or offsetting of the impression and these inaccuracies are transferred to and become part of the crown.

In addition, the inner edges of the band, where they have been trimmed to fit about the base of the tooth, present sharp edges, which many times will cut the dentist's fingers when applying the force required to pull the band off the tooth.

These impression bands usually are of soft, thin copper, readily distorted by the squeezing pressure necessarily exerted by the fingers in loosening and pulling the band off the tooth.

Objects of the present invention are to provide means in the form of a practical tool for effecting removal of such impression bands and which will accomplish the removal without injuring or impairing either the band or the impression formed within the band.

Other objects are to provide a tool having the characteristics outlined, which will be readily understood and used by dentists and which will be of simple and inexpensive design and construction.

The foregoing and other desirable objects are attained by the novel features of construction, combinations and relations of parts hereinafter described, illustrated by way of example in the accompanying drawing and broadly covered in the claims.

In the drawing, there is shown a practical and at present preferred embodiment of the invention, but structure may be modified and changed in certain respects, all within the true intent and broad scope of the invention as hereinafter defined and claimed.

Fig. 1 in the drawing is a plan view of the tool as in use for the removal of an impression band.

Fig. 2 is an enlarged detail view.

As here disclosed, the tool is of the pliers or forceps type, embodying pivotally connected crossed handles **5** and **6**, but carrying jaws cooperative to accomplish the results above outlined.

Specifically, the jaws or jaw extensions **7** and **8**, of the handles are relatively long, thin and tapering, so as to be able to reach all portions of the mouth, but are rigid and strong enough to apply any force that may be required for pulling an impression band straight off a tooth.

These jaws are shown as elbowed at **9**, to provide approaching or convergent reduced end portions **10**, which by reason of such relation and construction, will freely enter smaller cavital portions of the mouth.

The tips of the smaller convergent end portions of the jaws carry oppositely disposed sharply angled inwardly extending points **11**, sharp enough to readily penetrate and take hold in the soft metal of the impression bands.

These band penetrating points are shown as relatively short and abruptly tapered, so as to be amply strong enough to bite into the band material and to carry the transverse load which they must sustain in pulling the band longitudinally of the tooth axis.

The intermediate bend or angle in the jaws maintains the substantially straight line relation of the points throughout the normal range of use and provides ample space between the jaws in back of the points to reach over and around adjoining tooth structure.

To prevent penetration beyond that degree where the points will take firm hold on the band and to avoid any possibility of the jaws closing to such an extent as to deform or crush the band or the impression material, stop means are provided, adjustable to instantly set the jaws and hence the points to the proper approach for the particular band to be gripped and removed.

The stop means illustrated, comprises simply a fine thread set screw **12**, operating through one of the handles **6**, in back of the pivot center and engaging a stop shoulder **13**, at the inside of the other handle **5**. The head **14**, of this set screw may be disposed so as to be readily accessible and operable at the outside of the mouth.

In use the instrument may be introduced and adjusted through the medium of the set screw **12**, to more or less caliper the band **15**, in position on the tooth. Then with the assurance that the points will not approach closely enough to indent or crush the band, the handles may be given just enough pressure to cause the points to impinge and bite into the surface of the band sufficiently to attain a firm grip without actually displacing the wall material or applying displacing pressure to the modeling compound confined by the wall. Upon attainment of this firm but non-collapsing grip, any necessary force may be applied on the handles to lift the band straight off the tooth. In some cases, a fulcrum block

may be slipped under the jaws at a convenient place back of the gripping points, to use the tool as a lever, but with the exercise of care to avoid any appreciable lateral movement of the band on the tooth. Usually, a very slight longitudinal movement will be sufficient to start the band, it ordinarily coming loose freely after this initial release.

The measured gripping engagement of the impression band effected by the invention provides a quick and convenient means for removing such bands, without injuring or spoiling impressions and enables better impressions to be taken because of the fact that the bands can be pressed into place with any force needed to make a firm, true impression.

What is claimed is:

1. An impression band removing tool of the forceps type and comprising pivoted handles and connected long, thin tapering jaws, said jaws being elbowed in their intermediate portions and having at their tip ends laterally extending oppositely disposed inwardly projecting, rigid, tapered points sharp and strong enough to penetrate the surface of band material used for taking impressions and stop means on the handle portions of the tool in back of the jaws and adjustable to set the closing extent of the jaws to that distance where the points will penetrate only sufficiently to take a firm enough grip to enable removal of an impression band by said forceps, without deforming the material of the band.

2. A dental tool for removing impression bands of thin soft copper, without deforming such bands or the contained modeling compound carrying the impressions, said tool comprising long tapering thin jaws having oppositely disposed, laterally extending, inwardly angled rigid sharp copper penetrating points at the ends of the same and handles by which said points may be separated and approached and adjustable stop means back of said jaws for accurately limiting the approach of said points to such extent as will enable them to bite into the material only far enough to effect a firm grip sufficient for accomplishing removal of the bands from the teeth without deforming the bands or the modeling compound within the same.

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