

Aug. 14, 1951

N. McLAUGHLIN
DENTAL IMPRESSION TRAY

2,564,167

Filed June 20, 1947

Fig. 1

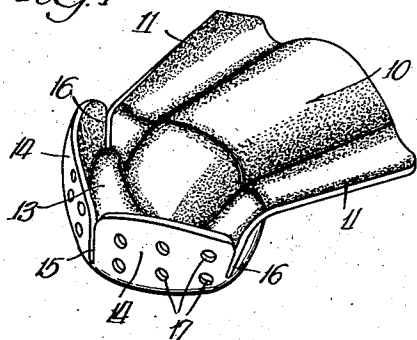


Fig. 2

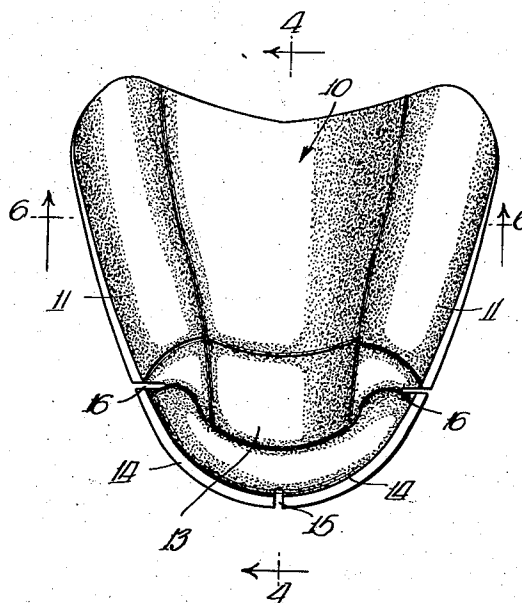


Fig. 3

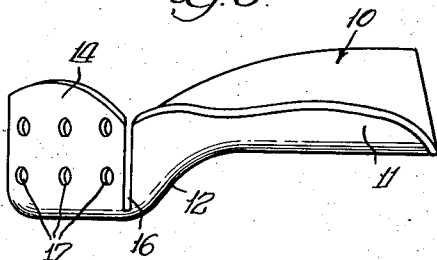


Fig. 4

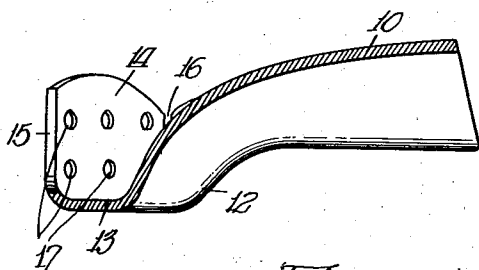


Fig. 5

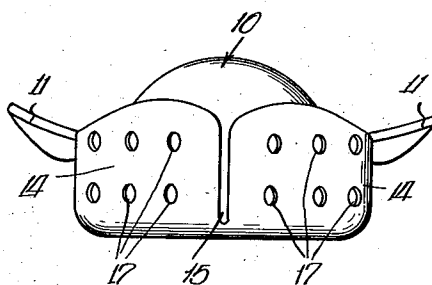
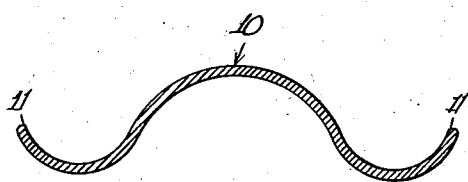


Fig. 6



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2,564,167

DENTAL IMPRESSION TRAY

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Application June 20, 1947, Serial No. 756,024

2 Claims. (Cl. 32-17)

1

My invention, specifically stated, relates to a tray more especially intended for immediate upper denture impressions; the invention having for its object the provision of a tray which is contoured to the muscle and ligament attachments or elements of a normal mouth with six or less anterior teeth remaining; my improved tray being designed to compensate for the labial fraenum and muscle attachments in the cuspid regions and to permit easy adjustment in the incisor and cuspid regions to avoid improper impingement.

My improved tray, which preferably is made of suitable semi-rigid or moldable material—such as aluminum, lead alloy, or a suitable plastic material—to permit it to be easily trimmed by hand shears and bent to meet individual mouth peculiarities and also contemplates providing the labial flanges of the tray with impression material holding or retaining surfaces.

The invention also has for its object the provision of a tray provided with a comparatively deep cavity disposed beneath the plane of the main body portion, said cavity being provided with upstanding labial flanges which are spaced from each other and from the main body portion; while the posterior end of the tray is formed with a smooth or plane perimeter in the hamular notch region. That is to say, the labial flange of the tray at predetermined points is provided with vertical slots extending from top to bottom, namely at the incisor region and rearward of both cuspid regions, whereby a pair of independently bendable labial sections is provided which enables easy adjustment of the tray to be made in keeping with variations in mouth or gum contour; the tray in the anterior region being what may be termed oversize so as to completely cover or compensate for six anterior teeth. In my improved tray, the area of the tray forward of the first bicuspid area is dropped below the general plane or level of the major portion of the tray to provide clearance for the anterior teeth.

The aforementioned objects and advantages, as well as other advantages inherent in the improved structure, will all be readily comprehended from the following detailed description of the accompanying drawing, wherein:

Figure 1 is a perspective view of my improved tray.

Figure 2 is a top plan view.

Figure 3 is a side elevation of the tray.

Figure 4 is a longitudinal sectional view taken on the line 4-4 of Figure 2.

Figure 5 is a front end elevation.

2

Figure 6 is a cross-sectional view taken on the line 6-6 of Figure 2.

The tray, which preferably is formed of semi-rigid yet pliable material such as aluminum or a lead alloy, consists of the rearwardly flared and arcuate palate constituting body portion 10, provided with the side marginal upwardly curved flanges 11, 11, of somewhat gradual and greater flare toward the inner or posterior end of the tray as shown in Figures 1, 2 and 6, and without upward curvature in the hamular notch region and thus preventing cutting of the tissues.

The forward portion of the tray, namely the portion of the tray anterior to the first bicuspid areas is arranged in a plane below the longitudinal plane or level of the body portion 10, as shown by the downwardly disposed and forwardly sloping wall 12 to provide the incisor and cuspid receiving cavity or comparatively deep socket portion 13 which terminates in the substantially perpendicular and transversely curved and upwardly extending labial flanges 14, 14.

The labial flanges 14, 14, which are substantially of equal dimensions, are separated from each other by the vertical slot 15 which extends from top to bottom; and these labial portions 14, 14 are each separated from the side flanges 11, 11 by the vertical slots 16, 16. The slot 15 provides space for the tissue attachment or labial fraenum while the slots 16, 16 make provision for muscle and ligament attachments and permit trimming of the portions 14, 14 adjacent the upper ends of the slots 16, 16 when required to compensate for abnormal attachments.

With the labial portions 14, 14 separated from each other and from the flanges of the body portion 10, the portions 14, 14 may be independently bent to accommodate peculiar irregularities in the incisor and/or cuspid regions of a mouth without interfering with the normal or desired contour of the main or palate portion of the tray.

As previously stated, my improved tray is especially intended and constructed for what is known as immediate dentures, namely when only six anterior teeth or less are remaining, and provides a lowered or dropped down deep cavity to receive the six anterior teeth, as clearly shown in Figures 3 and 4.

The cavity or socket at 13 receives the usual impression forming plastic material and in order that the impression material may be properly held in the cavity, the upstanding walls or labial flanges 14, 14 are provided with suitable retention or interrupted surfaces which, in the exem-

plification shown in the drawing, consist of the perforations or holes indicated at 17, of which any suitable number are provided.

The tray preferably is made of some semi-rigid yet pliable material which will enable the dentist or operator to properly bend the labial flanges and/or permit slight trimming with suitable shears of the flange perimeters to meet individual mouth peculiarities. The tray, which may be made in different sizes, viz. small, medium and large, has no upward curve in the hamular notch region and thus prevents cutting of the tissues.

Certain detail modifications in the specific exemplification may be possible without, however, departing from the spirit of my invention as defined in the appended claims.

What I claim is:

1. A dental impression, single piece tray of moldable sheet material formed to provide a body or palate portion having a plane posterior perimeter and side peripheral outwardly flaring flanges and with an anterior end disposed below the horizontal plane of the deepest part of the posterior section of the body portion to provide an incisor, cuspid and impression material receiving arcuate cavity, the outer wall of said cavity portion being vertically slit from top to bottom to provide separately and independently bendable upstanding labial flanges unconnected at the ends with each other and with the flanges of the body portion, but in close edgewise relation, said labial flanges being separated from each other at the longitudinal median line of the tray to extend upwardly on opposite sides of the labial fraenum and provided with rounded outer corners to accommodate the labial fraenum and

permit the respective sections to extend substantially flush with the anterior teeth and gum.

2. A single piece dental impression tray formed to provide a transverse arcuate body or palate portion, without an upward curvature in the hamular notch region, but having laterally flaring side flanges tapering toward the front end and said end disposed downwardly and thence forwardly in a plane beneath the horizontal plane of the body portion to provide a cavity adapted to receive impression material and anterior teeth and having a substantially flat-bottom, the outer forward wall of said cavity being formed to provide a pair of upstanding labial flanges of transverse curvature separated from each other and from the side flanges of the body portion by ligament and tissue receiving vertical slits extending from top to bottom to permit freedom of motion of the entire perimeter of the tray, both bucal and labial, to conform to mouth conditions, said labial flanges having arcuate perimeters and being provided with plastic material retention surfaces.

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The following references are of record in the file of this patent:

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