

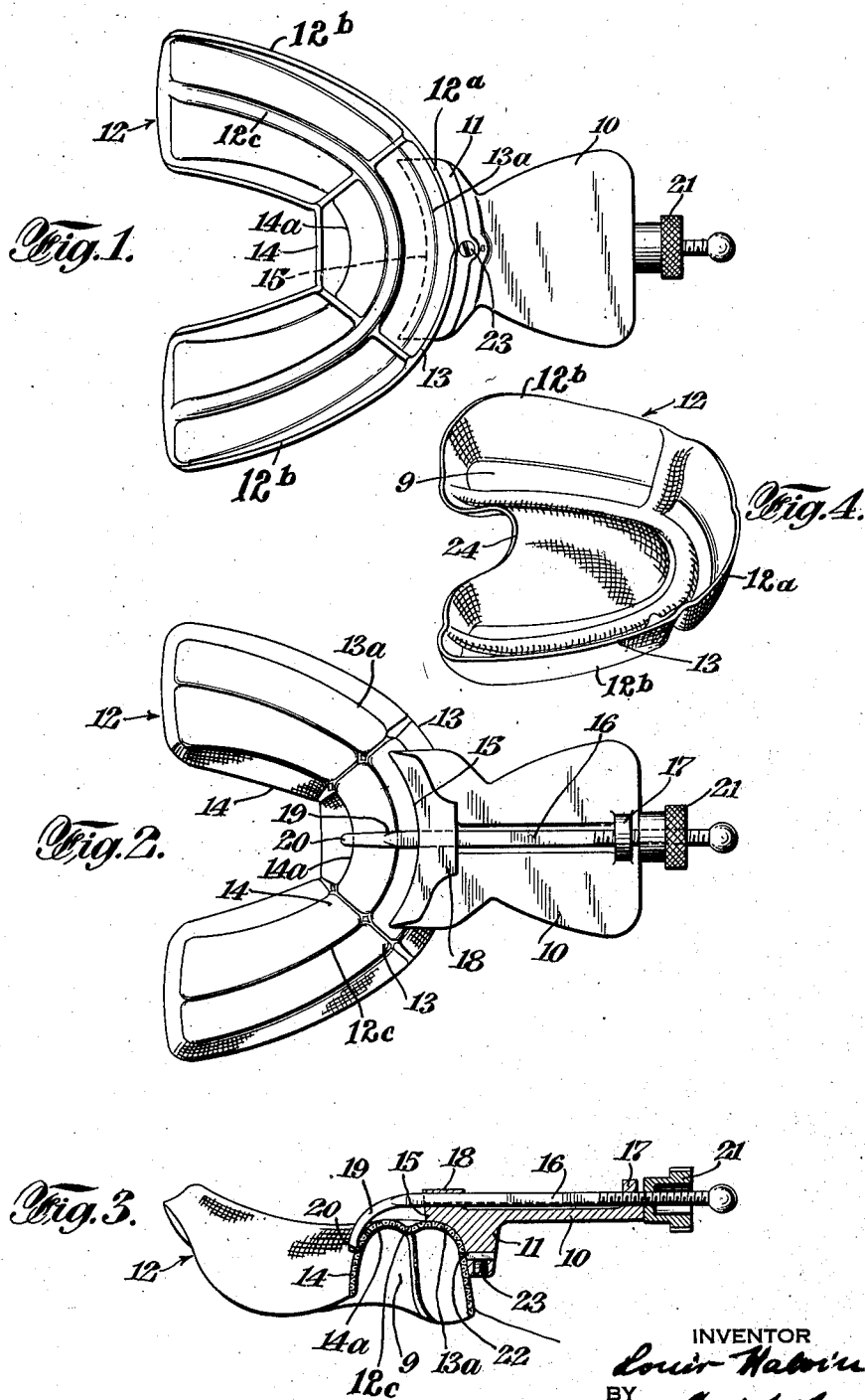
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DENTAL IMPRESSION TRAY AND HOLDER

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DENTAL IMPRESSION TRAY AND HOLDER

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1 Claim. (Cl. 32—18)

This invention relates to devices for taking dental impressions, of the general type illustrated in my prior Patent No. 2,024,526, of which the present invention is an improvement. The features which constitute the improvement are directed primarily toward making the entire device less cumbersome and easier to manipulate, both at the time of insertion into the mouth and in certain operations which follow.

5 An important feature of the improved device is a substantially rigid tray, that can be supported by a holder which engages it only at the apex portion, which conforms to the front of the dental arch. This makes it possible to confine the holder, with the exception of the thin end of a single prong, to an area wholly forward of the rear wall of the apex portion of the tray and wholly outside of a ridge in the bottom of the trough of the tray which serves to weaken the casting so that it will break upon a predetermined line. By this construction the ridge area of the tray is left unobstructed throughout its length, to allow the insertion of an instrument along the ridge line into those portions of the casting where the absence of teeth results in the formation of a solid portion of the casting which would not break along the ridge line unless weakened by the insertion of the said instrument before the casting sets.

30 The holder is applicable to lower impression trays as well as to upper impression trays.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which—

35 Figure 1 represents a top plan view of the holder with the attached tray.

Figure 2 represents a bottom plan view of Figure 1.

40 Figure 3 represents a longitudinal central section through the holder with the attached tray for taking a lower impression; and

Figure 4 represents a tray for taking an upper impression.

Referring to Figures 1, 2, and 3, a tray 12 for lower dentures is shown, comprising an apex portion 12a conforming to the front of the dental arch and leg portions 12b conforming to the sides of the dental arch. The tray comprises a horse-shoe-shaped trough having an outer wall 13 and inner wall 14, in the bottom of which stands a ridge 12c following the line of the teeth when the tray is inserted in the mouth.

55 The tray is supported by a holder consisting principally of a holder body 10 which may be made of a casting of suitable material. Near its end, facing the mouth of the patient, the

holder is provided with an arcuate transverse wall 11 adapted in its curvature to the outer wall curvature of the tray near its apex, this wall being disposed sufficiently close to that end of the holder to only provide a narrow ledge 15 on which the outer bottom edge of the tray apex rests, the outer wall resting against wall 11, as clearly shown in Figure 3.

Wall 11 is provided with at least one prong 22 projecting near the outer edge of the wall transversely through the latter, so that when the tray wall 13 is pressed against the wall this prong will penetrate into the fabric of the tray and position it so as to prevent it from sliding off the wall in vertical as well as in lateral direction. Prong 22 may be held in position by means of a set screw 23.

On the opposite surface of the holder, which in Figure 3 is the upper side, are provided two central guide lugs 17 and 18, one at each end, which have square holes in which a square prong bar 16 is guided. This bar protrudes beyond the tray and into the central portion of the space enclosed by the trough as shown at 19. At its outer end this prong member is provided with a sharp hook 20. The other end of bar 16 is threaded and a nut 21 is threaded on to this end, so that when this nut is tightened the prong member 19 with its hook 20 is moved to the right, whereby the hook 20 penetrates the inner wall of the tray, as is also shown in Figure 3.

In this manner the tray is located and positioned firmly, being prevented by its three point support—by the prong member 19 and by the two ends of wall 11—from lateral movement, and being prevented by the prong member 19 and by prong 22 from tilting upwardly or downwardly with respect to the holder. A few turns of nut 21 will lock or unlock the tray.

It should be noted in particular that even in the modification of the tray, Figure 4, which serves for taking an upper impression, the trough 9 has a well defined contour following the dental arch, leaving even in this case, owing to the vaulted portion 24, convenient room for the patient's tongue. It will also be noted that, owing to the ledge 15 terminating forward of the ridge 12c this ridge area is unobstructed throughout its length, so that an instrument can be driven into the solid portions of the casting where gaps in the teeth occur, before the casting sets, in order to weaken the casting along the ridge line in these parts, as well as in the parts where the combined action of the teeth and the ridge 12c weaken it along a definite line. It will also be

noted that the upper tray, shown in Figure 4, can be as conveniently attached to the holder as the tray for the lower impressions, shown in Figures 1, 2 and 3.

5 I claim:—

10 In combination with a substantially rigid dental impression tray comprising a horseshoe-shaped groove consisting of an apex portion conforming to the front of the dental arch and rear-
15 wardly extending leg portions conforming to the sides of the dental arch, the bottom of said groove containing an upstanding ridge curved to conform to the line of the teeth; a holder for said tray comprising a holder body having a horizontal ledge adapted to receive the bottom of said

apex portion and an upright wall adapted to abut against the front wall of said apex portion in at least two horizontally spaced points; at least one prong protruding from said upright wall to engage the front wall of said apex portion; an adjustable prong positively guided on said holder, and having a thin inner end portion extending below said apex portion and provided with a re-curved point to hook into the rear wall of said apex portion; said horizontal ledge terminating in a rear wall forward of said ridge, and said entire holder, with the exception of the inner end of said adjustable prong, being located forward of the rear wall of said horizontal ledge.

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