

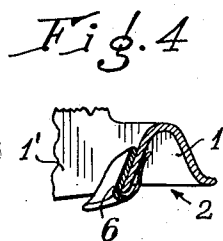
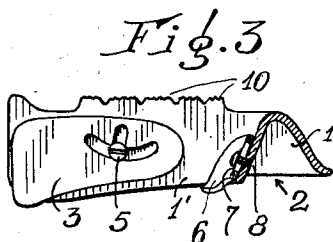
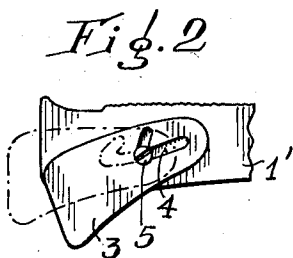
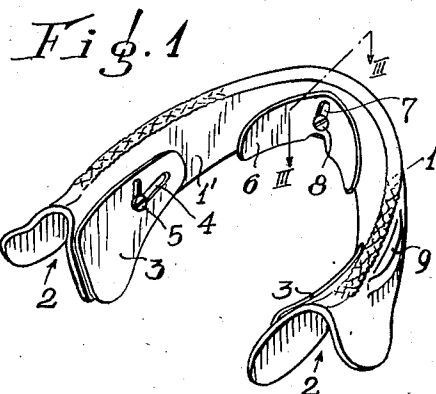
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E. STERN

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DENTAL IMPRESSION TRAYS

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INVENTOR
EZRIEL STERN

BY

[Signature]

ATTORNEY

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DENTAL IMPRESSION TRAYS

Ezriel Stern, Tel-Aviv, Israel

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6 Claims. (Cl. 32-17)

The present invention relates to a dental tray as used by dentists for taking impressions of the mouth of a patient, which impressions serve as negatives for making the pattern according to which prosthetics are eventually made. More particularly the present invention relates to a tray used for taking impressions of the lower gums.

In practice the horseshoe shaped tray which for the lower gum constitutes a suitably curved inverted channel section is provided with a handle attached to the outer side of the bow, such handle projecting out of the mouth of the patient during the process of taking an impression. However a tray of this kind, while serving the purpose of holding the plaster or other mass in which the impression is taken, must conform more or less also to the dimensions and conditions present in the mouth of a patient so that the prosthetic, especially the base plate which eventually comes to rest on, and is supported by, the gums in the labial region fits properly in the mouth of a patient and does not become loose which would result in chafing of, or undue pressure on, the gums. For this reason a tray of this kind must fit properly in the retromolar pad region of the mouth and must also be adapted to the sublingual portion.

The present trays are far from satisfactory in this respect. In order to be able to use a tray which has a more or less fitting size and shape the dentist must be able to choose from a great number of models which he must therefore hold available. But even having found a model which in his view fits the particular case, the actual and proper fit can never be absolutely ascertained in view of the fact that the handle sticking out from the mouth of the patient does not permit the latter to close his mouth or to make lip movements or chewing movements so as to demonstrate to the practitioner the actual conditions to which the dentures would be subjected in use.

I have now devised a new tray of the kind referred to and it is the object of this invention to provide a tray which can serve as a safe indicator of the actual conditions in the mouth of a patient. It is a further object of the invention to provide a tray which comes near in shape to the final shape of the prosthetic and quasi constitutes a replica of it.

It is a further object of the invention to provide a tray which can be inserted and removed without taking recourse to a handle.

It is yet another object of the invention to provide a tray which can serve to show both the conditions in the retromolar pad and the sublingual regions of the mouth.

It is yet another object of the invention to provide a tray the upper side of which serves as a bite and permits the closing of the mouth with the upper teeth or upper prosthetic in biting position.

These and further features of the invention will become clear from the following description which refers to the annexed drawing, in which Figure 1 is a perspective view

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of the new tray, Figure 2 a fractional side elevation of the rear part of the new tray, while Figure 3 is a section on line III—III of Figure 1. Figure 4 is a modification of Figure 3.

It is understood that the annexed drawings are by way of example only and are not intended to limit the invention to the particular form shown.

The tray which may be either of metal or moulded from opaque or transparent plastic material comprises a roughly horseshoe shaped channel section 1 the cavity 2 of which is at the lower side and serves for the reception of the mass in which the impression of the gums is to be taken. At the inner side of the section 1 and near the two free ends thereof there are attached to the inner flange 1' roughly wing shaped extensions 3 which have an angular slot 4 through which extends a screw 5 screwed into flange 1'. The angular slot 4 permits a movement of the extension 3 both in rearward direction as well as downward. In addition thereto every extension 3 can pivot about screw 5. Instead of the angular slot a curved one could be provided. It will be clear to those experienced in the art of dentistry that with such a tray and with screws 5 loosened a dental practitioner will be able to adjust the extensions 3 in the mouth of the patient so that they rest on the tissue in the retromolar region. In other words the tray is firmly supported and has a proper fit in the mouth. The practitioner has only to fix the extensions in the position by tightening the screws and to take the imprint. In view of the fact that no handle is attached to the new tray the patient can close his mouth, can move his lips and make chewing movements, i. e., perform acts which the person wearing a prosthetic has to perform and which should not be interfered with by the prosthetic.

Fig. 3 illustrates a position of an extension 3 where it is almost coextensive with, and does not substantially extend beyond the borders of the tray itself.

According to Fig. 2 an extreme position is shown where extension 3 reaches far down beyond the border of the tray.

In many cases the practitioner might desire to have means for ascertaining to which extent a base plate can reach down into the sublingual region of the mouth. For this purpose a curved plate 6 is attached to flange 1' at its front portion. Plate 6 has a vertical slot 7 through which extends into flange 1' a screw 8. Thus plate 6 can be fixed to the flange 1' at a lower or higher level. In cases where the conditions in the mouth do not allow the tray and consequently the eventual base plate to extend deep down into the mouth below the tongue, plate 6 can be removed and may be dispensed with. In all cases such a plate as well as the extensions 3 could be clamped onto the channel piece instead of being screwed thereto as shown in Figure 4. Instead of screws or clamps rivets could be used as well, cooperating with suitable slots.

The outer flange of section 1 is provided with laterally extending protrusions 9 which serve for gripping the tray and lifting it from the gums after having taken the impression.

As seen in Figure 3 two ridges 10 (only one of which is seen) are provided on the upper side of the tray, these ridges having preferably a roughened upper surface and ending short of the rear ends and of the middle portion of the tray. The thickness of the material of the tray plus the height of ridge 10 is nearly equal to the height the lower teeth would have; thus a patient having still his upper teeth or having already a prosthetic in his upper jaw, can firmly bite on the mould as if his lower teeth were already present. Instead of the two ridges there may be provided one throughgoing ridge. For satisfactory

results the said roughened surface may be covered by a layer of wax. It will be clear to those skilled in the art that the feature of providing the ridge is highly important in dental practice.

The tray as a whole may be perforated as is well known in trays for analgetic impressions.

It will be seen that with the new dental tray a practitioner is not compelled to stock a large number of trays and he is not expected to guess and choose the right size by repeated trials. Ordinarily two or three of the new trays, a larger and one or two smaller ones, will be sufficient, the correct fitting being achieved by appropriate adjustment of the extensions.

I claim:

1. In a tray such as used in dentistry for taking impressions of gums and more particularly the lower gums, said tray comprising a horseshoe shaped inverted channel section with an inner flange, the provision of extensions movably and pivotally affixed to and flat against the inner flange of the ends of said channel so that said extension is movable transversely to and along the section and is, further, angularly adjustable.

2. A tray according to claim 1 comprising a screw for engaging the inner flange and wherein said extensions are provided with a slot through which extends said screw.

3. A tray according to claim 1, comprising a rivet for engaging the inner flange and wherein said extensions are provided with an angular slot through which extends said rivet.

4. A tray according to claim 1 comprising an extension movably affixed to the inside of the inner flange at the middle of the horseshoe.

5. A tray according to claim 1, comprising grips on the outside of the flange.

6. In a tray according to claim 1 a thickened ridge along the upper side of the tray.

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