

M. O. THEIN.
DENTAL IMPRESSION TRAY.
APPLICATION FILED OCT. 24, 1912.

1,054,999.

Patented Mar. 4, 1913.

Fig. 1.

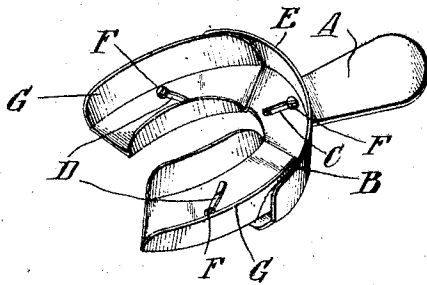


Fig. 2.

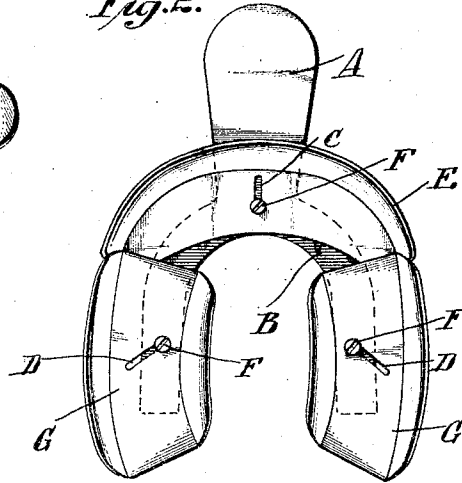


Fig. 3.

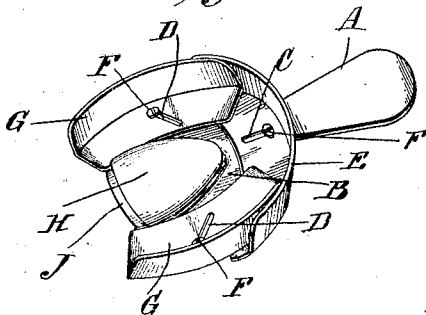


Fig. 4.

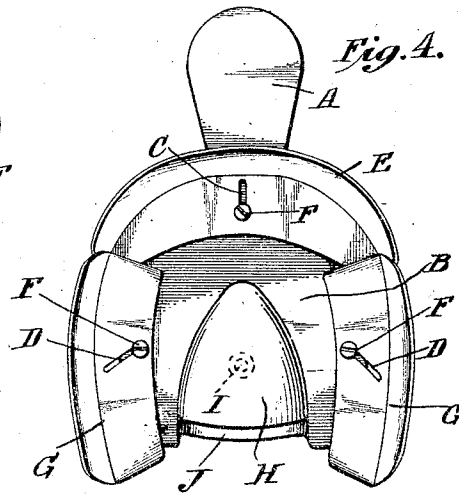
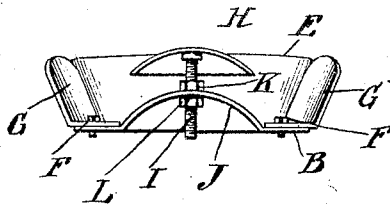


Fig. 5.



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DENTAL IMPRESSION-TRAY.

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To all whom it may concern:

Be it known that I, MAXIMILIAN O. THEIN, a subject of the Emperor of Germany, residing in the borough of Manhattan, in the city, county, and State of New York, have invented new and useful Improvements in Dental Impression-Trays, of which the following is a specification.

This invention relates to dental trays or cups for the purpose of carrying a suitable impression material in which to make an impression of the mouth and jaws, or dentition of the jaws.

It is the principal object of the invention to provide an adjustable dental impression tray which is readily and quickly adjustable to the conformation of different sizes of mouths and jaws, and to provide a device of this character which is simple and cheap in construction and efficient in operation.

In carrying out the invention I provide a supporting base having a handle, and adjustably mount on said base a sectional carrier for the impression material, these sections being preferably three in number comprising substantially flat members bent up at the lateral edges to form vertical walls, one section being curved and constituting the forward section of the tray and the other two sections the sides, and all adjustable relatively to each other on the support to increase or decrease the size and to change the conformation of the tray adapting the same to a large or small mouth and readily applicable to determine the width of the arch.

A further object of the invention relates to the provision of an adjustable gage to determine the height of the palate, and means to lock it in its adjusted positions.

In the drawing accompanying and forming a part of this specification, Figure 1 is a perspective view of an impression tray illustrating an embodiment of my invention adapted to take an impression of the lower jaw, the parts being adjusted to provide an impression tray of the smallest size. Fig. 2 is a plan view of the tray illustrated in Fig. 1 with the parts adjusted to provide an impression tray of the largest size. Fig. 3 is a perspective view of an impression tray embodying my invention adapted to take an impression of the upper jaw, the parts being adjusted to provide an impression tray of the smallest size; said view

also illustrating the adjustable gage for determining the height of the palate. Fig. 4 is a plan view of the tray illustrated in Fig. 3 with the parts adjusted to provide an impression tray of the largest size; and Fig. 5 is an end elevation of the tray illustrated in Figs. 3 and 4.

Similar characters of reference designate like parts throughout the different views of the drawing.

In Figs. 1 and 2 of the drawing I have illustrated an embodiment of my invention adapted to take an impression of the lower jaw or the dentition of such jaw, comprising a supporting base B substantially of U-shape having a handle A. The member for carrying the molding composition is adjustably supported on said support and consists of a front section E comprising a flat plate bent up at the forward end to form a substantially vertical wall circular in formation. This section is adjustably secured to the base B by a set screw F engaging in a slot C in the flat portion of said section. By loosening the screw the section may be adjusted longitudinally in a plane parallel with the legs and handle of the support, or rotatably adjusted with the set screw as a pivot. The sides of the tray consist of a pair of sections G, G, comprising a flat portion with the sides bent up to form substantially channel sections with the outer wall constituting a continuation of the wall E of the front section. By constructing the sections in this manner the impression material will be in the form of a ridge in which the impression can be readily made. These sections are adjustably connected to the support B by set screws D, D, engaging in slots F, the slots being diagonal or at an angle to the slot in the section E, whereby as the sections are adjusted in a plane parallel with the longitudinal adjustment of the section E to increase or decrease the length of the tray, they will also be laterally adjusted to increase or decrease the width of the tray and thereby determine the width of the arch of the mouth.

In Figs. 3, 4 and 5 I have illustrated an embodiment of my invention in connection with an impression tray adaptable for taking an impression of the upper jaw or the dentition of such jaw. The construction illustrated in these figures is substantially the same as shown in Figs. 1 and 2 with the exception that the supporting base instead

of being U-shaped is substantially flat with a portion centrally of the end arched or recessed, as at J, for a purpose to be hereinafter described. Also the side sections G, G, are provided only with the outer vertical wall. The connection of the sections to the support and the adjustment thereof is the same as in Figs. 1 and 2.

To determine the height of the palate or roof of the mouth I provide an adjustable gage comprising a substantially dome-shaped member H, coming to a point at the forward end, said member H being fixed to a threaded stem I adapted to pass through an opening in the elevated portion J in the support. The gage is locked in its adjusted position by a pair of nuts K, L, having screw threaded connection with the stem one at either side of the elevated portion J.

The operation of my improved dental impression tray is substantially as follows: When an impression is to be made, the set screws F are loosened and the sections E, G, adjusted to conform to the mouth and jaw when the set screws are tightened and the sections secured in adjusted positions. The impression material, which may consist of wax, plaster-of-Paris or any other suitable composition, is then placed in the tray when the tray is placed in the mouth and the impression made in the composition. When plaster-of-Paris or the like is used as the molding composition the tray is preferably first coated with a wax or like composition to prevent the plaster from entering into the crevices of the tray sections.

It will be obvious that by a simple manipulation my improved impression tray can be quickly adjusted to any conformation of mouth and jaw, whether large or small, to determine the length thereof as well as the width of the arch and the height of the palate.

Having thus described my invention I claim:—

1. A dental impression tray, comprising a

support, and a tray carried by the support, comprising a forward section adjustable longitudinally on the support, and a pair of side sections adjustable in a plane parallel with and laterally of the adjustment of the forward section whereby to increase or decrease the length and width of the tray.

2. In a dental impression tray, the combination with a support, of a substantially U-shaped tray carried by the support, comprising a curved forward section and a pair of side sections all of which are adjustable relative to each other on the support to increase or decrease the length and width of the tray; a gage adjustably carried by the support to determine the height of the palate; and means to lock the gage in its adjusted positions.

3. A dental impression tray, comprising a support and a plurality of sections carried by said support, said sections being adjustable relative to each other to increase or decrease the length and width of the tray; and a gage adjustably carried by the support to determine the height of the palate, comprising a dome-shaped member, a stem connected thereto adapted to pass through an opening in the support, and means to lock the gage in its adjusted position.

4. A dental impression tray, comprising a support and a tray carried thereby consisting of a longitudinally adjustable forward section and a pair of side sections, said latter sections being adjustable in a plane parallel with and laterally of the adjustment of the forward section; and means to adjustably connect said sections to the support and lock them in their adjusted position, comprising slots in the tray sections, and set screws engaging in said slots and screw threaded into the support.

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Witnesses:

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