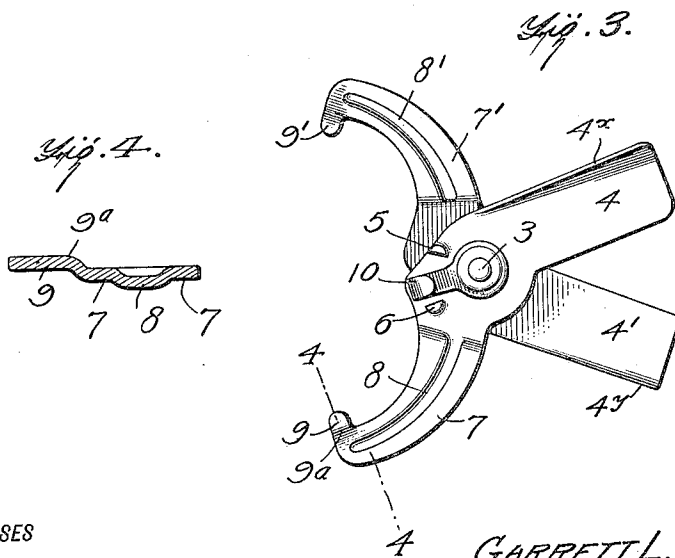
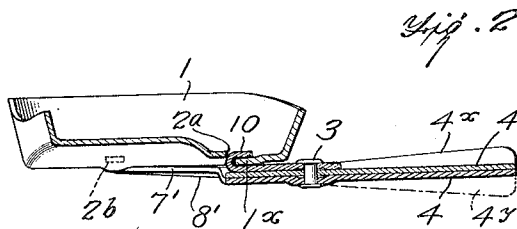
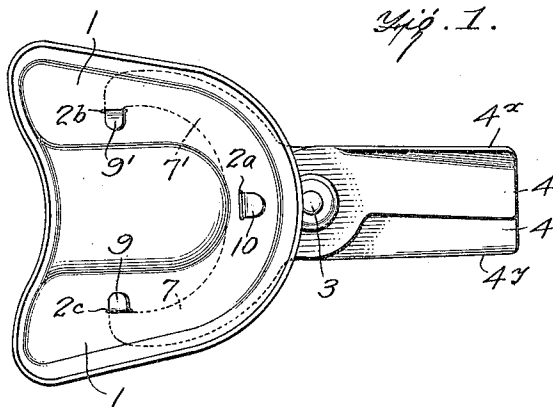


G. L. GRIER.
 SANITARY DENTAL IMPRESSION TRAY.
 APPLICATION FILED APR. 18, 1914.

1,104,662.

Patented July 21, 1914.



WITNESSES

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SANITARY DENTAL IMPRESSION-TRAY.

1,104,662.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GARRETT LAYTON GRIER, a citizen of the United States, and a resident of Milford, in the county of Sussex and State of Delaware, have made certain new and useful Improvements in Sanitary Dental Impression-Trays, of which the following is a specification.

My invention relates to improvements in sanitary dental impression trays, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a device having a body portion and a handle therefor with novel means for detachably securing the body portion to the handle.

A further object of my invention is to provide a dental tray handle capable of being secured to trays of different sizes without necessitating any adjustment of the handle itself.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming part of this application in which—

Figure 1 is a plan view of the tray and handle, Fig. 2 is a vertical section through the device, Fig. 3 is a plan view of the handle in its open position, and Fig. 4 is a section along the line 4—4 of Fig. 3.

The body portion of the tray consists of a member 1 of the shape shown in the drawings, this shape being that of the ordinary dental impression tray in common use. Near the forward end of the tray the bottom has a downwardly and rearwardly bent portion, as shown at 1^x in Fig. 2, the bent portion being stamped so as to sever its rear edge from the main body portion, thereby leaving an opening 2^a. Similar downwardly bent portions having openings 2^b and 2^c are provided in the bottom of the tray on each side of the axial line through the center. The handle of the tray is best shown in Fig. 3. It consists of two pieces of metal connected together by means of a pivot pin 3. One of these metal pieces has a flat body portion 4 having an angularly extending flange 4^x which tapers from the outer end of the body portion in the general direction of the pivot. The body portion is provided with integral stop members 5 and 6 whose purpose will be explained later. A curved integral extension

7 is provided with a reinforcing flange 8 and at the end of the extension is a laterally extending tooth 9 which, as seen from Figs. 3 and 4, has an offset at 9^a from the plane of the body portion 7, the tooth itself being substantially parallel with the plane of the body portion.

The handle member just described constitutes one of a pair of jaws, the other jaw comprising parts 4', 7', 8' and 9' corresponding to the parts 4, 7, 8 and 9 already described. The flange 4^y, however, is bent in an opposite direction from the flange 4^x. A hook 10 is provided whose end is pivotally connected with the pivot pin 3. This hook is free to rotate about the pivot 3 within the space between the stop members 5 and 6. The handle is attached to the body portion of the tray by inserting the hook 10 in the opening 2^a and then closing the jaws so as to cause the teeth 9—9' to enter their respective openings 2^b and 2^c whereupon the tray will be held securely. In detaching the handle from the tray the jaws are first opened, the teeth are withdrawn and then the handle is pushed forward to disengage the hook 10. I have found that the use of teeth 9—9' which are offset provides a device which is less liable to become detached than if these teeth were merely inclined at an angle to the plane of the jaws 7 and 7', for as the teeth come into position they slip into the openings and press firmly on the bottom of the tray, thereby holding it securely.

One of the main features of the invention, however, is the provision of the hook 10 which is pivotally mounted on the pivot pin 3. This permits of the use of the handle with trays having body portions of varying sizes. It will be apparent, of course, that with trays having body portions of varying sizes the jaws must be spread to various distances in order to securely hold the trays. If the hook 10 is rigidly secured to one of the jaws it obviously will not lie in the axial line passing through the center of the tray if the jaws are opened beyond a certain point, or if they are not quite open to this point. In the present construction, however, the pivoted hook 10 necessarily assumes a central position when the jaws are closed so that this permits the use of the handle with trays of varying size and when the jaws are closed the parts will take the same relative posi-

tions as that shown in Fig. 1 regardless of the size of the tray. It is understood, of course, that the hook 10 cannot swing any farther than the stop members and that the size of the tray must be such that the hook is free to move to its central position. Since these impression trays are designed to be used only once and then to be thrown away it is advantageous to have a handle which will fit different size trays and the present device is admirably adapted for easy attachment to or detachment from the body portions of the trays of various sizes as stated.

15 I claim:

1. In a dental impression tray, a body portion having an opening in its bottom disposed on an axial line through the center and near the forward edge of said body portion, and other openings disposed on either side of said center line, and a handle comprising a pair of jaws provided with fixed teeth arranged to enter the side openings and having a movable hook adapted to enter said centrally disposed opening.

2. In a dental impression tray, a body portion having an opening in its bottom disposed on an axial line through the center and near the forward edge of said body portion, other openings disposed on either side of said center line, a handle comprising a pair of jaws pivotally connected together, each of said jaws being provided at its end with a fixed tooth arranged to enter one of the side openings, and a hook mounted to turn on the pivot which connects the jaws, said hook being arranged to enter the central opening.

3. In a dental impression tray, a body portion having an opening in its bottom disposed on an axial line through the center and near the forward edge of said body portion, other openings disposed on either side

of said center line, a handle comprising a pair of jaws pivotally connected together, each of said jaws being provided at its end with a fixed tooth arranged to enter one of the side openings, a hook mounted to turn on the pivot which connects the jaws, said hook being arranged to enter the central opening, and stop members carried by one of said jaws for limiting the movement of the hook.

4. A handle for dental impression trays comprising two crossed members pivoted at their intersection and having rearwardly projecting jaws equipped with teeth at their free extremities, a hook carried by the pivot and arranged to rotate on the same, and means for limiting the movement of the hook.

5. A handle for dental impression trays comprising two crossed members pivoted at their intersection and having rearwardly projecting jaws equipped with teeth at their free extremities, a hook carried by the pivot and arranged to rotate on the same, and means for limiting the movement of the hook, said last named means comprising a pair of stop members carried by one of said jaws and disposed on opposite sides of said hook.

6. A handle for dental impression trays comprising a pair of pivotal jaws, each of said jaws being provided at its extremity with a tooth, the plane of the tooth being offset from the plane of the jaw to which it is attached, a pair of stop members carried by one of said jaws, and a hook carried by the pivot of the jaws and arranged to rotate thereon, said hook being disposed between said stop members.

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Witnesses:

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