C. G. HURREY.

DENTAL IMPRESSION TRAY.

APPLICATION FILED JUNE 10, 1915.

1,179,317. Patented Apr. 11, 1916.

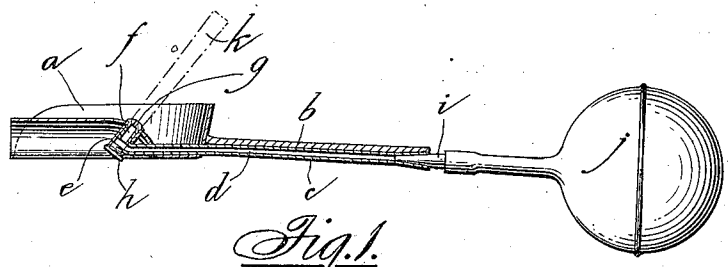


Fig. 1.

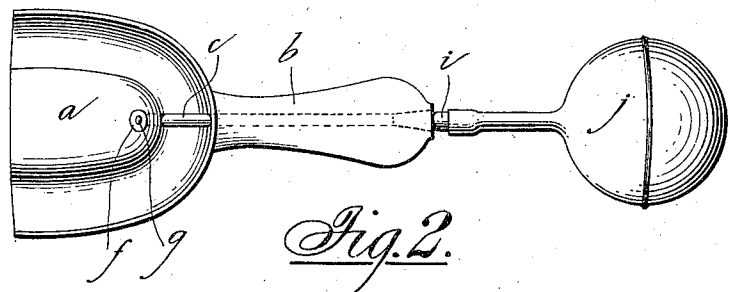


Fig. 2.

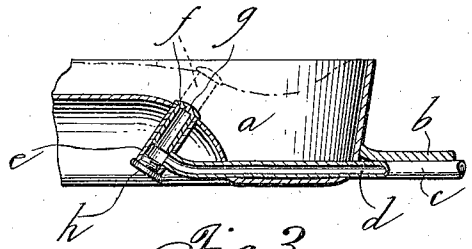


Fig. 3.

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DENTAL-IMPRESSION TRAY.

1,179,317. Specification of Letters Patent. Patented Apr. 11, 1916.

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To all whom it may concern:

Be it known that I, CHARLES GRINDELL HURREY, of 92 Victoria road, Auburn, in the State of Victoria, Commonwealth of Australia, engineer, have invented certain new and useful Improvements in Dental-Impression Trays, of which the following is a specification.

This invention has been devised in order to provide improvements in and connected with dental impression trays and it relates more particularly to the provision of means for facilitating the removal of the tray after an impression is taken. Hitherto the tray has been removed by the patient coughing, or in some cases by using a certain amount of force, as for example by the operator endeavoring to release the tray by rocking it. Both methods are open to the objection that the impression formed in the wax is liable to be distorted, in the former case by the movement of the soft palate, and in the latter by the rocking or other motion applied. In certain cases a considerable effort is required to release the tray, which causes discomfort to the patient apart from the liability of distorting the impression.

Now the object of my invention is to obviate these disadvantages by providing improved means to destroy the vacuum formed when the patient bites into the wax in the tray, such means being under the control of the operator and, further, are adapted to be easily cleaned and sterilized.

One form of my invention is shown in the accompanying sheet of explanatory drawings, in which—

Figure 1 is a sectional elevation. Fig. 2 is a plan, and Fig. 3 is an enlarged sectional elevation of part of a tray constructed according to my invention.

In these drawings similar reference letters refer to the same parts in the different views and *a* indicates the tray, through the handle *b* of which (or attached to the handle) is a small tube *c*. The bore *d* of the tube *c* communicates with a metal chamber *e* which is formed in the tray *a* as shown. The top of the chamber *e* is formed flush with the top of the tray. Fitting telescopically in the top of the chamber *e* is a metal plug *f* provided with a bore *g* adapted to register with the bore *d* in the tube *c*. The plug *f* may be provided with a head as shown. The lower end of the chamber *e* is closed by a screw cap *h* preferably not projecting below the bottom of the tray. The outside end of the tube *c* is adapted to receive a metal bevel ended tube *i*, to which a rubber press bulb *j* is attached. The end of the tube *c* is ground or finished to fit the bevel ended tube *i*, so that by slightly twisting the bevel ended tube it may be readily removed.

In operation, the wax is inserted in the tray in the usual manner, and the plug *f* is brought flush with the surface of the wax, care being taken to mold the wax around the plug *f*. Alternatively, a blind plug *k* (see dotted lines in Fig. 1) similar to plug *f* but longer and without the hole *g* is first placed in position and the wax molded around it. In the hole thus formed in the wax, the plug *f* is inserted. The bulb *j* is then squeezed to eject as much air as possible, and while still pressing the bulb the tray is inserted in the mouth. As soon as the impression is taken, the bevel ended tube *i* is removed and air admitted into the bore *d*. To accelerate the release of the tray, the tube is then replaced and the bulb squeezed.

All the parts can readily be disconnected so that the apparatus can be cleaned and sterilized, and for this purpose the removable cap *h* is provided to the chamber *e* instead of permanently closing the end of the said chamber.

By allowing air to enter the bore *d* under atmospheric pressure at the desired time, the tray may be released without replacing the bevel ended tube *i*, but this method is not so quick in operation as the method above described.

In order to suit the various shapes of different palates, plugs *f* of different lengths will be required. Further, the position of the chamber *e* in the tray may be modified to suit the different forms of tray used.

The position of the chamber *e* shown in the drawings has been found to be the most effective for the type of tray shown.

While I have described one form of construction and operation preferred, I am aware that numerous changes of construction and operation may be made without departing from the spirit and scope of my invention, and I therefore do not wish to be understood as limiting myself by the posi-

tive terms employed in connection with the description, excepting such as the state of the art may require.

What I do claim is:—

1. A dental impression tray having a handle, a chamber on said tray, a plug telescopically mounted in said chamber, an axial bore formed in said plug, and means for injecting air under pressure into said chamber and through said plug.

2. A dental impression tray having a handle, a chamber on one side of said tray, a passage in said handle in communication with said chamber, a member mounted telescopically in said chamber, and a passage made longitudinally in said telescopically mounted member.

3. A dental impression tray having a handle, a tube disposed longitudinally on said handle, a chamber fitted to one side of said tray, communicating means between said tube and said chamber, a removable cap on the lower end of said chamber, a plug telescopically mounted in the upper end of said chamber, a bore formed axially in said plug, and means for injecting air into said chamber.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES GRINDELL HURREY.

Witnesses:
W. BENJAMIN,
FLEETWOOD SMITH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."