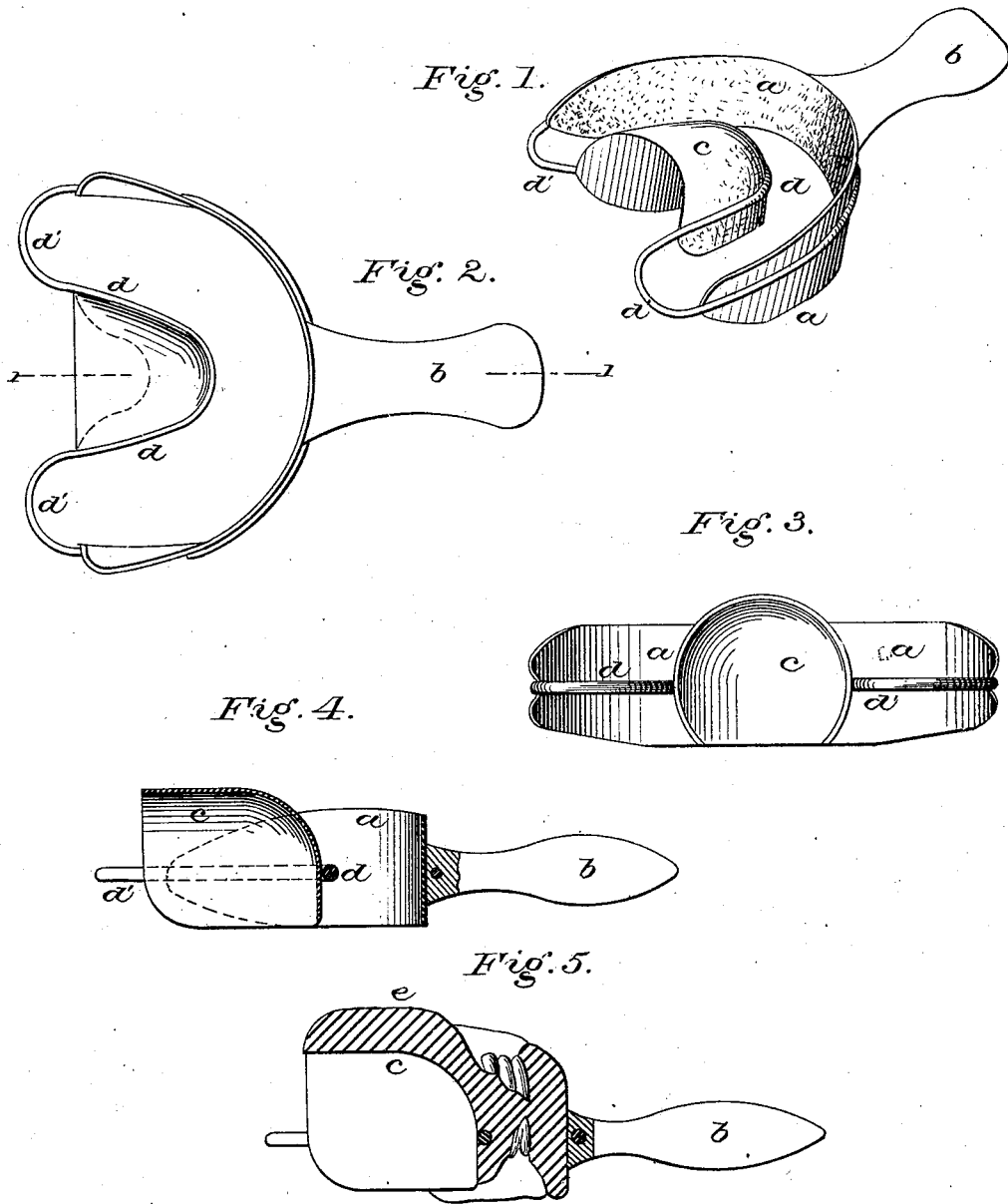


M. E. TOOMEY.  
Dental Impression Cup.

No. 211,438.

Patented Jan. 14, 1879.



Witnesses:  
Solon Kemmer  
Chas. A. Pettit

Inventor:  
M. E. Toomey  
per Hunt & Co.  
attorneys

# UNITED STATES PATENT OFFICE.

MICHAEL E. TOOMEY, OF RATHBONE PLACE, ENGLAND.

## IMPROVEMENT IN DENTAL IMPRESSION-CUPS.

Specification forming part of Letters Patent No. **211,438**, dated January 14, 1879; application filed September 13, 1878; patented in England, May 7, 1878.

*To all whom it may concern:*

Be it known that I, MICHAEL E. TOOMEY, of Rathbone Place, in the county of Middlesex, England, have invented a new and Improved Dental Tray; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to an improved dental tray to be used in taking wax or other impressions of the teeth, gums, and palate for dental purposes; and the invention consists in a tray so constructed as to enable a complete impression of the mouth—that is to say, of the upper and lower jaws, the palate, and also of the “bite”—to be obtained at one operation and by the patient himself, thereby saving time and avoiding the necessity for a special visit to the dentist for the purpose.

Hitherto three trays of different form have been used, one called an “upper” tray, for obtaining the impression of the upper jaw; another called the “lower” tray, for obtaining that of the lower jaw, and another called the “bite” tray, for obtaining the impression of the bite or meeting of the upper and lower jaws.

Thus, to obtain a complete impression of the mouth, together with the bite by the ordinary form of trays, three separate impressions were required. From the first two of these impressions plaster casts or models are obtained, which are adjusted to their proper relative position of the impression of the bite, and retained in that position by being united to a plaster slab. To these models the dental operator works in the construction of bases for artificial teeth. Owing to the fact that three separate impressions are required it has been practically impossible for a patient himself to obtain a perfect impression of his own mouth, a perfect impression being absolutely essential to insure a proper fit of the teeth.

My improved tray consists in the combination, with the ordinary bite-tray, (slightly modified, as hereinafter described,) of a “palate-piece,” which is a domed or convex plate, (like that employed heretofore in the upper tray, above referred to,) serving to support the wax intended to take the impression of the roof of the mouth, this domed plate or palate-piece being separated from the outer rim of the tray by a space sufficient to hold the wax by which

the impression is taken and to allow the teeth or gums of the two jaws to meet together naturally, thus giving the correct bite. For this purpose the said convex plate or palate-piece is only held in position by being attached to the outer rim by curved wires fixed to the extremities of the outer rim and passing behind the wisdom teeth or “tuberosities,” so as to allow of the patient completely closing his mouth when the tray is used for taking an impression.

Figure 1 is a perspective view of my improved dental tray empty. Fig. 2 is a top view; Fig. 3, a back view of the same; Fig. 4, a section thereof on line 1 1, Fig. 1; and Fig. 5 is a similar section of the tray with a wax impression contained therein.

*a* is the outer rim of the tray, similar in form to the outer rim of the old bite-tray, but deeper and straighter from the upper to the lower edge, so as to hold the wax up against the gums and insure an accurate impression thereof. It is provided with the usual handle *b*.

*c* is the palate-piece or domed plate to carry the wax by which the impression of the roof of the mouth is taken. This palate-piece *c* takes the place of the inner rim of the old bite-tray, and forms in effect a combined inner rim and palate-piece. This palate-piece rises to a sufficient height, and its lower edge descends to a sufficient depth to afford the wax the necessary support to insure an accurate impression of the roof of the mouth and of the lower gums. This palate-piece *c* may be slit along the central line 1 1, so as to be readily pressed up or down to raise or lower it, according to the height of the roof of the mouth. This palate-piece *c* is soldered to a wire, *d*, which runs round it and round the exterior of the outer rim, *a*, as usual, the said wire being carried sufficiently far forward at *d'* to pass behind the wisdom teeth or tuberosities. This palate-piece *c* is hollow on the under side to give space for the tongue when an impression is being taken.

In cases where only a small “base” for the upper teeth is required, the palate-piece *c* need not extend so far back as I have shown in the drawing; but its back edge may be shaped as indicated by the dotted line in Fig. 2, for example.

In Fig. 5, *e* is the wax impression of the mouth, giving, as shown, an exact impression at once of the two jaws and of the bite. In order to retain the wax more securely in place I slightly roughen the surfaces of the outer rim, *a*, and palate-piece like a rasp, as shown in Fig. 1.

To take an impression the wax or other material is softened by heat in the usual way and inserted in the tray, which is then placed in the mouth and the latter closed until the teeth meet through the wax.

The tray is made of tin or other metal usually employed for the purpose.

Having thus described my invention, what I claim as new is—

1. A dental tray in which are combined an outer rim, an inner rim, a palate-piece, and a through-opening all around, as shown and described.

2. In a dental tray constructed as above described, the wires *d'*, curved to pass behind the wisdom teeth or tuberosities, and the outer rim, *a*, deep and straight from the upper to the lower edge to keep the wax in close contact with the gums, as shown and described.

The above specification of my invention signed by me this 24th day of August, 1878.

MICHAEL EUGENE TOOMEY.

Witnesses:

WM. CLARK,

T. W. KENNARD.