

MAKING INLAY RESTORATIONS BY THE ARTIFICIAL STONE METHOD *

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The patient presented had a large number of gold inlays several of which were very large contour restorations involving the occlusal and proximal surfaces of bicuspid and molars. These gold inlays had been made and polished on the artificial stone devised by the writer in the following manner: Those involving the proximal and occlusal surfaces of the adjoining bicuspid and molars were made at once by preparing the cavities in both of the approximating teeth so that the impression would draw without distortion in taking both at once. The preparation was done chiefly with slightly tapering cross-cut fissure burs. The impression was taken in a special tray with a septum passing between the teeth to preserve the impression wax from distortion. The best impression wax available is that devised by the writer and being made by the firm making the artificial stone. The impression wax requires to be of a quality that will take a sharp impression and chill hard under a stream of cold water and be free from inorganic

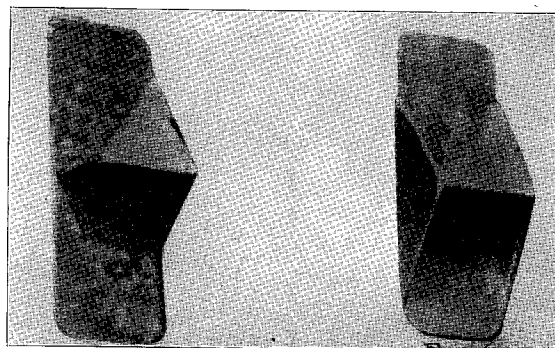


Fig. 1

matter that will not burn off the model perfectly clean. Two trays suitable are shown in Fig. 1.

The artificial stone is mixed with its liquid, phosphoric acid, to a consistency like butter when it spreads nicely, and is placed in the impression with the special inserting spatula and allowed to set for an hour or two, or if convenient, over night. The stone does not set hard until it has been baked to a dull red heat, which is done after slowly melting off the wax with dry heat, which process hardens the model.

If only one proximal cavity is to be filled it is cast against the contact point of the adjoining tooth after that contact point has been polished off about four thousandths of an inch to leave extra gold for polishing and for pressure contact when inserted.

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In the case where two proximating surfaces are being restored the stone model is placed in a special micrometer articulator, Fig. 2, when made and after the wax is melted off it is removed from this articulator and separated by fracturing through between the teeth being filled. The teeth are restored to their normal shape by melting wax into the cavities and carving it to shape and then they are restored to their normal relation in the micrometer articulator and the contact point compressed and corrected to allow of about two thousandths of an inch on each surface for polishing off

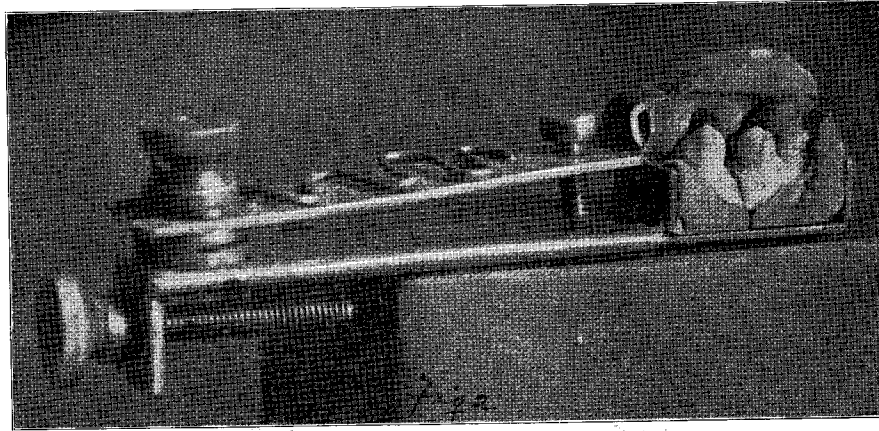


Fig. 2

the gold and two thousandths on each for contact pressure, making eight thousandths additional space between the teeth. The occluding surfaces are also exactly determined by the antagonizing model also mounted on the articulator in correct relation. The wax models are now attached to the sprue gate and invested in the cup, model and all, and after melting out the wax the gold is cast directly into the stone model cavity and is not removed until it is completely polished as though it were in the tooth in the mouth. It is finally placed with its proximating inlay and model back in the micrometer articulator and the contact corrected to about four thousandths total additional pressure for contact pressure when placed in the teeth. Several of the fillings shown were made and finished in this way and neither the contact point nor the occlusion had required changing when taken to the mouth, and were shown to be very perfect. Some of the simple occlusal cavities shown were made by fusing pure gold directly into the cavities without casting by first lining the cavity and margins with gold and platinum filling foil and with the blow pipe fusing the pure gold into it. These were finished directly upon the model and when inserted fit with exceedingly close margins even before burnishing.

A cavity was shown in the left lateral involving the mesial surface and entered from the lingual. The model was made by taking the impression in two sections by using a special tray Fig. 3 with a thin septum and passing the septum between the teeth from the lingual surface with wax upon

it then placing another piece of wax over the exposed end of the septum after trimming and wetting it. After removing these they are placed together again in normal relation and sealed together with a warm instrument. The stone model is placed in it and after baking, the inlay is cast

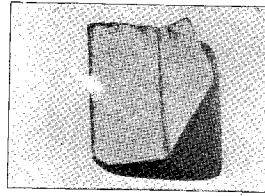


Fig. 3

into it. The patient was saved practically all the experience and discomfort of the construction and finishing of the fillings, having only to have them cemented and burnished and the results were said to fill a very high ideal.
