

UNITED STATES PATENT OFFICE.

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MANUFACTURE OF DENTAL MODELS.

1,152,964.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, WILHELM NIELSEN, a subject of the King of Denmark, residing at 7 Lützowstrasse, Bielefeld, Germany, have invented certain new and useful Improvements in the Manufacture of Dental Models, of which the following is a specification.

This invention relates to the manufacture of models for dental purposes from plaster of Paris.

As is well known it is usual in dental practice to take an impression of the interior of the mouth in plaster of Paris when accurate work is required as for example when making bridges and the like. The dental compositions which have hitherto been specially prepared for this purpose have been found unsuitable for accurate work owing to their liability to distortion and for this reason it is necessary to employ plaster of Paris. As is well known the impression or negative thus obtained is employed for obtaining a positive plaster of Paris model which is used in the further manufacture of the artificial denture or parts thereof.

Hitherto it has been usual to employ differently colored plaster of Paris for the model and the impression so that the model could be more easily distinguished from the impression during the removal of the latter. In other respects, however, the plaster of Paris for both the impression and the model was of the same nature and, in consequence of its insolubility and its capability of withstanding the disintegrating action of liquids and the like, the negative impression could only be removed from the positive model by degrees by means of suitable tools by carefully chipping and cutting it away, but the least want of skill or the least mistake was liable to result in damage to the positive model. Moreover, this operation was very tedious.

The object of the present invention is to obviate the foregoing disadvantages and to enable the negative impression to be easily and accurately detached from the positive model without the use of special tools or mechanical work.

According to the present invention the im-

pression of the interior of the mouth is taken in a composition which consists of plaster of Paris to which potato flour or an equivalent substance has been added in such proportion, preferably in the proportion of 4 parts of plaster of Paris to about 1 part of potato flour, that the composition, when mixed with water or the like, forms a paste adapted to receive the impression and capable of hardening rapidly and which when dry forms a firm impression, but which is easily disintegrated in hot or boiling water or the like.

The positive model is obtained in the usual manner from the ordinary plaster of Paris which is insoluble on hardening and is obtained by pouring ordinary plaster of Paris over the negative impression which is preferably covered with water glass to separate it from the model. The model is then obtained by immersing the whole in boiling water so that the negative impression detaches itself completely from the model in a few minutes and leaves a clean model which can be immediately used in the further manufacture of the artificial denture. It will thus be seen that this method has the advantage that no tool or mechanical appliance is necessary to remove the negative impression. Of course this method may also be employed when necessary to produce negative models from positive impressions in which case the materials would be interchanged.

I claim:

1. The method of obtaining a dental model which consists in obtaining a negative impression in a composition consisting of plaster of Paris and an additional agent and which composition on hardening is adapted to disintegrate in a hot liquid, obtaining a positive model therefrom in plaster of Paris and detaching the negative impression from the positive model by immersing the negative impression in a hot liquid.

2. The method of obtaining a dental model which consists in obtaining a negative impression in a composition consisting of plaster of Paris and potato flour, obtaining a positive model therefrom in plaster of

Paris and detaching the negative impression from the positive model by immersing the negative impression in a hot liquid.

3. The method of obtaining a dental model which consists in obtaining a negative impression in a composition consisting of about 4 parts of plaster of Paris to about 1 part of potato flour, obtaining a positive model therefrom in plaster of Paris and de-

taching the negative impression from the positive model by immersing the negative impression in a hot liquid. 10

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

WILHELM NIELSEN.

Witnesses:

T. HENOLY REED,
C. BISOTTER.