E. A. HUSSAR.

ART OF FORMING PLATES FOR ARTIFICIAL TEETH.

APPLICATION FILED APR. 1, 1916.

1,211,944.

Patented Jan. 9, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

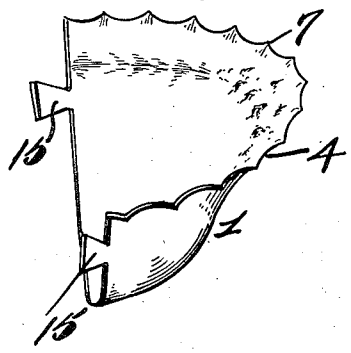
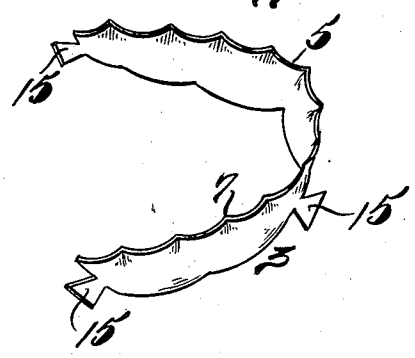


Fig. 2.



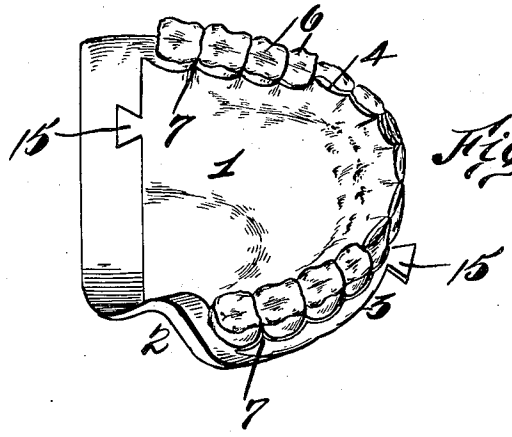


Fig. 3.

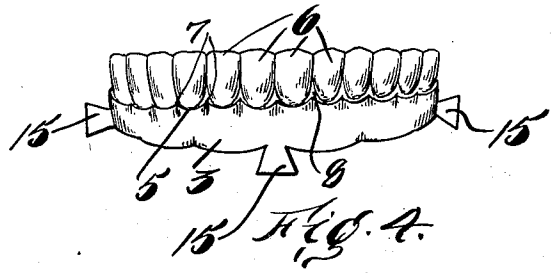


Fig. 4.

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2 SHEETS—SHEET 2.

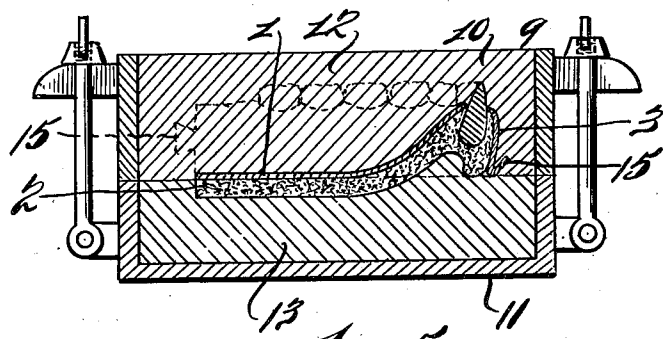


FIG. 5.

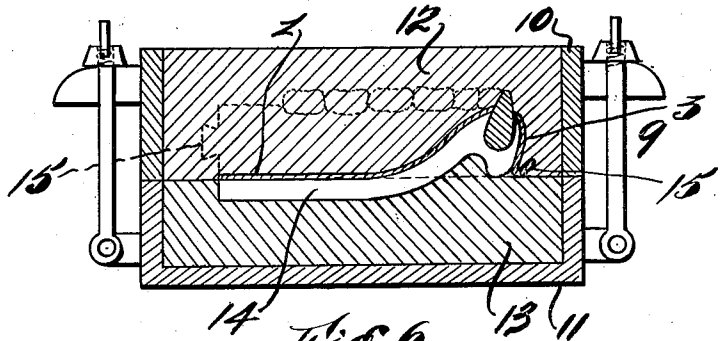


FIG. 6.

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UNITED STATES PATENT OFFICE.

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ART OF FORMING PLATES FOR ARTIFICIAL TEETH.

1,211,944. Specification of Letters Patent. Patented Jan. 9, 1917.

Application filed April 1, 1916. Serial No. 88,200.

To all whom it may concern:

Be it known that I, ERNEST A. HUSSAR, a subject of the Emperor of Austria-Hungary, residing at New York city, county of the Bronx, and State of New York, have invented certain new and useful Improvements in the Art of Forming Plates for Artificial Teeth, of which the following is a full, clear, and exact description.

This invention relates to the art of forming plates for artificial teeth, that is to say, plates supporting false teeth, and also to an element which I employ, when forming the plates, arranged to obviate the necessity of carving or finishing off the plates after they have been taken from the mold.

As is well known, the rubber plates that support false teeth are formed in a suitable mold and vulcanized. After the rubber plate has hardened, it is taken from the mold and carved or dressed up, the carving being necessary because the surface of the rubber is rough when the plate is taken from the mold owing to the fact that the mold surfaces are usually comparatively rough. Much time is, therefore, ordinarily spent in carving or dressing up the rubber plates after they have been taken from the mold, and one of the objects of my invention is to obviate the necessity of carving the plates, thereby saving a great amount of time and also providing a more accurate simulation of the natural teeth.

I will now proceed to describe my invention in detail, the essential features of which will be summarized in the appended claim, reference being had to the accompanying drawings, forming part hereof, wherein:

Figure 1 is a perspective view of one of the squeegee-plates employed in carrying out my improvement; Fig. 2 is a similar view of another one of my squeegee-plates; Fig. 3 is a perspective view of a trial or setting-up plate and teeth therein having the squeegee-plates of my improvement applied thereto; Fig. 4 is a front elevation of said trial or setting-up plate and teeth; Fig. 5 is a diagrammatic sectional view of a flask illustrating one of the steps in the art of forming my plates; and Fig. 6 is a similar view of another step in the manufacture thereof.

My invention consists in utilizing, in combination with the present method of forming plates, a plurality of preshaped squeegee plates which act not only to produce a smooth surface but also to give a more natural appearance to that portion of the plate adjacent the teeth or gums.

My improved squeegee-plates are preferably made out of pliable metal, such as soft tin, and are preshaped to conform to a perfect mouth; in other words, the plates are previously shaped to conform to the shape of a perfect or natural mouth—that is to say, a perfect set of teeth and gums and consequently when applied to the setting-up plate with a set of false teeth, will provide a surface that is an exact duplicate form of a perfect set of gums. What I term the trial or setting-up plate is a wax plate formed on a cast taken from the upper or lower jaw, the false teeth being set up in the wax plate to suit conditions. My improved squeegee-plates are applied to this setting-up plate, the final rubber setting or plate being made from this wax trial-plate.

In the drawings, the numeral 1 (Fig. 1) indicates what I term the squeegee plate which is applied to that portion of the trial or setting-up plate, indicated by 2 in Fig. 3, which corresponds to the roof of the mouth, while 3, Fig. 2, indicates the plate that is applied to the outer gum-surface of the said setting-up plate, also shown in Fig. 3. The plate 1 is provided with a series of serrations 4, and the plate 3 with a series of serrations 5, the serrations 4 and 5 being positioned opposite the teeth 6 in the trial or setting-up plate 2. The said serrations are spaced to correspond to the spacing of a perfect set of teeth. When the plates 1 and 3 are placed upon the trial or setting-up plate, the projections or points 7 will be located in the crevices 8 between the teeth, or nearly so. After the squeegee plates have been applied to the wax trial plate, the wax plate is heated slightly to cause the said squeegee plates to adhere thereto.

My improvement is a step in the art of forming artificial plates, provided with teeth, the said step being the utilization of the said squeegee plates for the purposes described.

As is well known, a wax impression is taken of the mouth from which the setting-up or trial plate 2 is formed, the teeth being set up in the trial plate to suit the conditions of the mouth. The trial plate is then set in a flask, such a flask being indicated by 9

in Figs. 5 and 6, the flask consisting of the separably connected members 10 and 11. After the trial plate has been positioned in the flask, plaster is poured in and allowed to set. After the plaster has set, the wax trial plate is melted and allowed to run out, leaving a core the shape of the trial plate in the flask. After the wax trial plate has been melted out, the core is filled with rubber and the rubber vulcanized. When the flask members are separated, the rubber plate is removed. After the plate has been removed, it must be carved or finished along the outer gum surface as said surface will be rough due to the impossibility of making a perfect core. This operation requires considerable time and skill which is saved by the utilization of my improvement or squeegee plates 1 and 3.

As has been stated the squeegee plates are previously formed and applied to the trial plate after which the trial plate and squeegee plates, carried thereby, are placed in the flask and surrounded by plaster the same as usual. When the wax trial plate has been melted out, the core will have the appearance indicated in Fig. 6. The squeegee plates being anchored to the plaster indicated by 12 and 13. When the rubber is placed in the core 14, Fig. 6, it will encounter the squeegee plates 1 and 3, instead of the plaster, which have a perfectly shaped smooth surface. The plates 1 and 3 prevent the rubber from soaking into the plaster along the outer gum surface and roof surface of the core, an action which happens in the ordinary mold; hence the roughness referred to. The plates 1 and 3 also confine the gases generated by the vulcanizing process, hence a much harder and also a thinner rubber plate can be formed than with the present method.

To anchor the plates 1 and 3 to the plaster, in order to hold them after the wax has been melted out, I provide each plate 1 and 3 with anchors 15 which will be engaged by the plaster in the flasks. After the finished rubber plate has been removed from the flask, it will be ready for use without the necessity of being carved. An illustration of the minute formations of the mouth have been omitted but it will be understood that the plates 1 and 3 will be formed with all of the said minute formations. By careful manipulation, the plates 1 and 3 may be used several times as they can be removed from the plaster after the rubber plates have been removed.

While I have illustrated a set of teeth and plate for the upper jaw, it will be understood that the same process will take place to form a set of teeth for the lower jaw.

Having now described my invention, what I claim and desire to secure by Letters Patent, is:

The process of preparing dental plates, consisting first, in making a trial plate of plastic material approximately corresponding to the human jaw which is to be treated and to the neighboring interior part of the mouth; secondly, in molding on the inner surface of the human gums in this jaw and the neighboring part of the interior of the mouth a thin plate of flexible metal adapted to take exactly the form of the human surface and molding on the outer surface of the gums a narrow plate of like material; and thirdly, applying these thin plates thus molded to the corresponding surfaces of the trial cast so as to transfer to them the exact impression of the human surfaces, thus completing a trial plate from which the final rubber setting may be made.

Signed at New York city, N. Y., this 31 day of March, 1916.

ERNEST A. HUSSAR.

Witnesses:
MAURICE BLOCK,
EDWARD A. JARVIS.