

(Model.)

C. H. LAND.
ARTIFICIAL DENTURE.

No. 282,094.

Patented July 31, 1883.

Fig. 1.

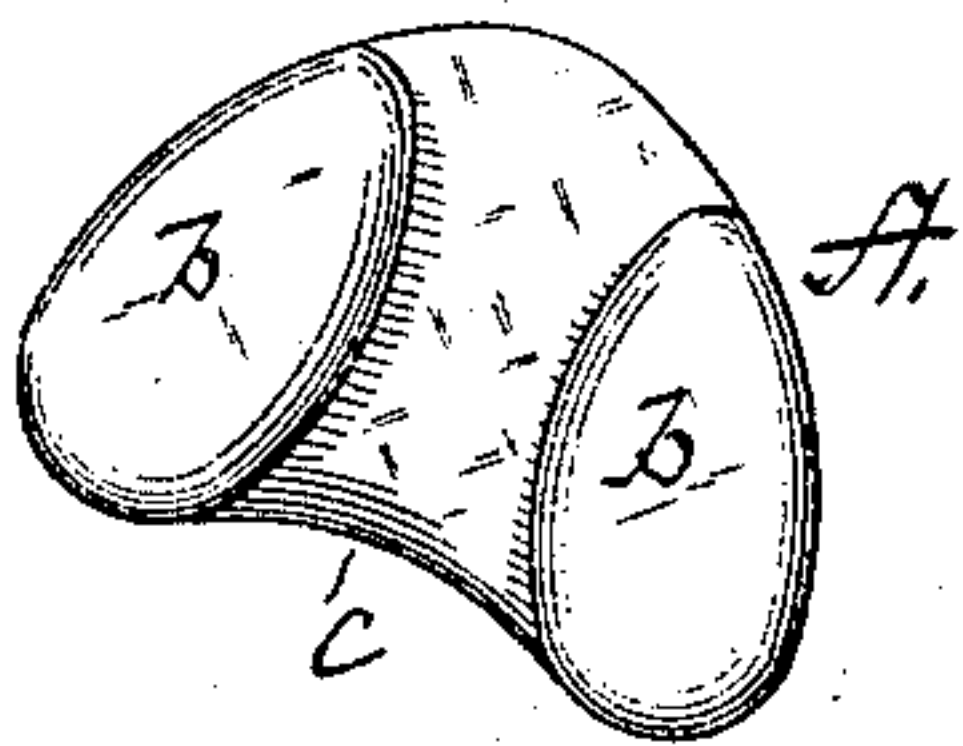


Fig. 2.

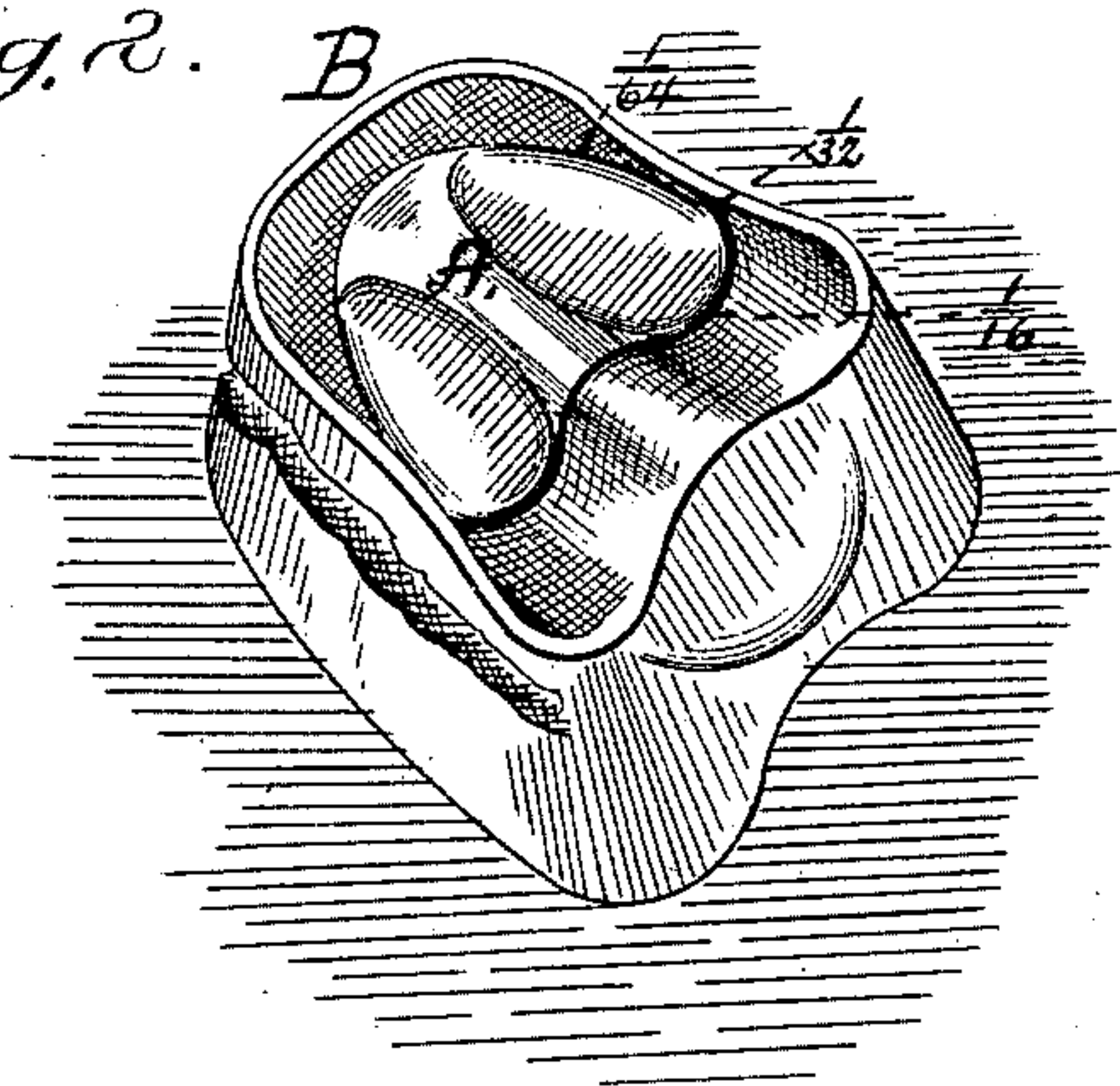


Fig. 3.

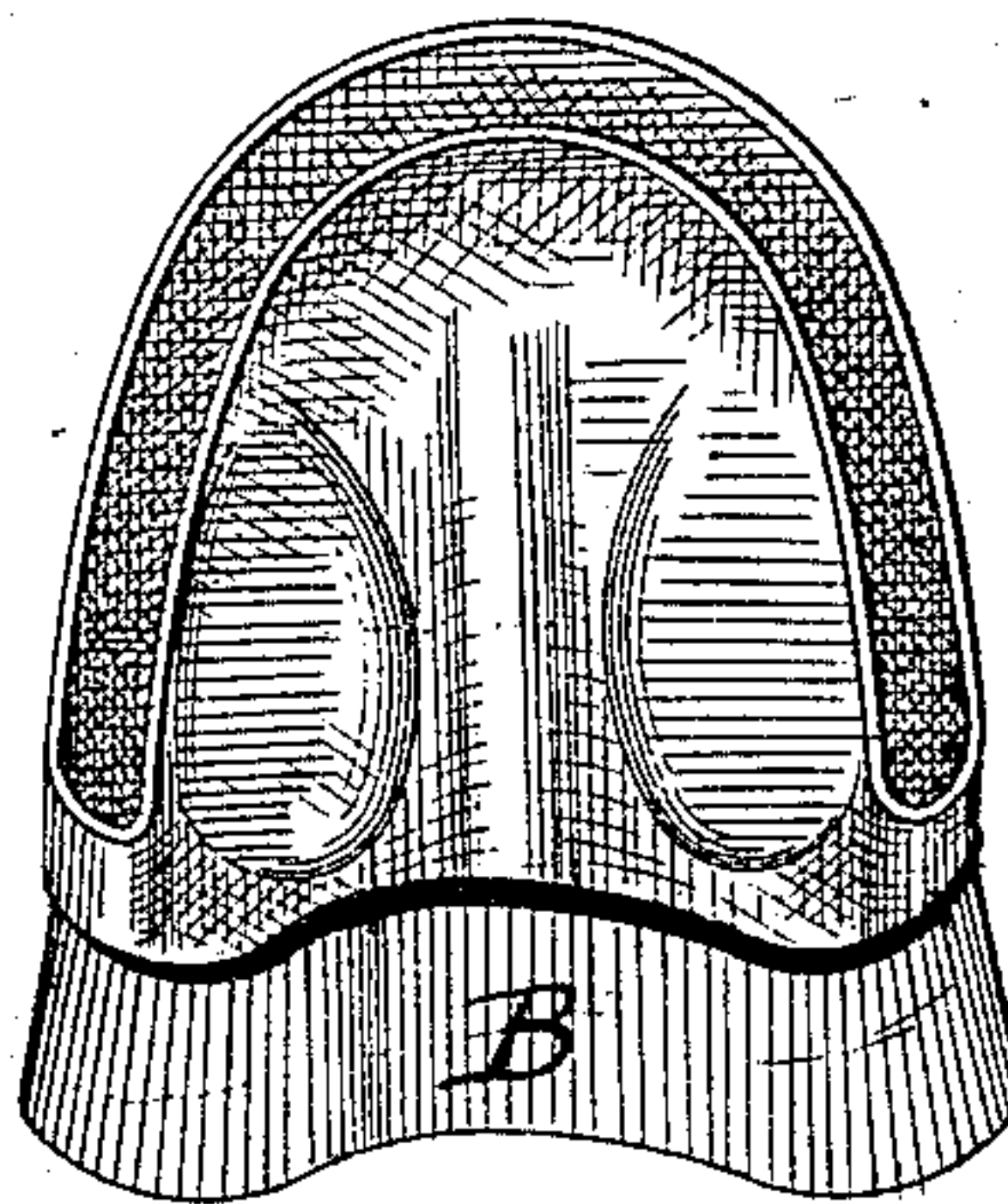
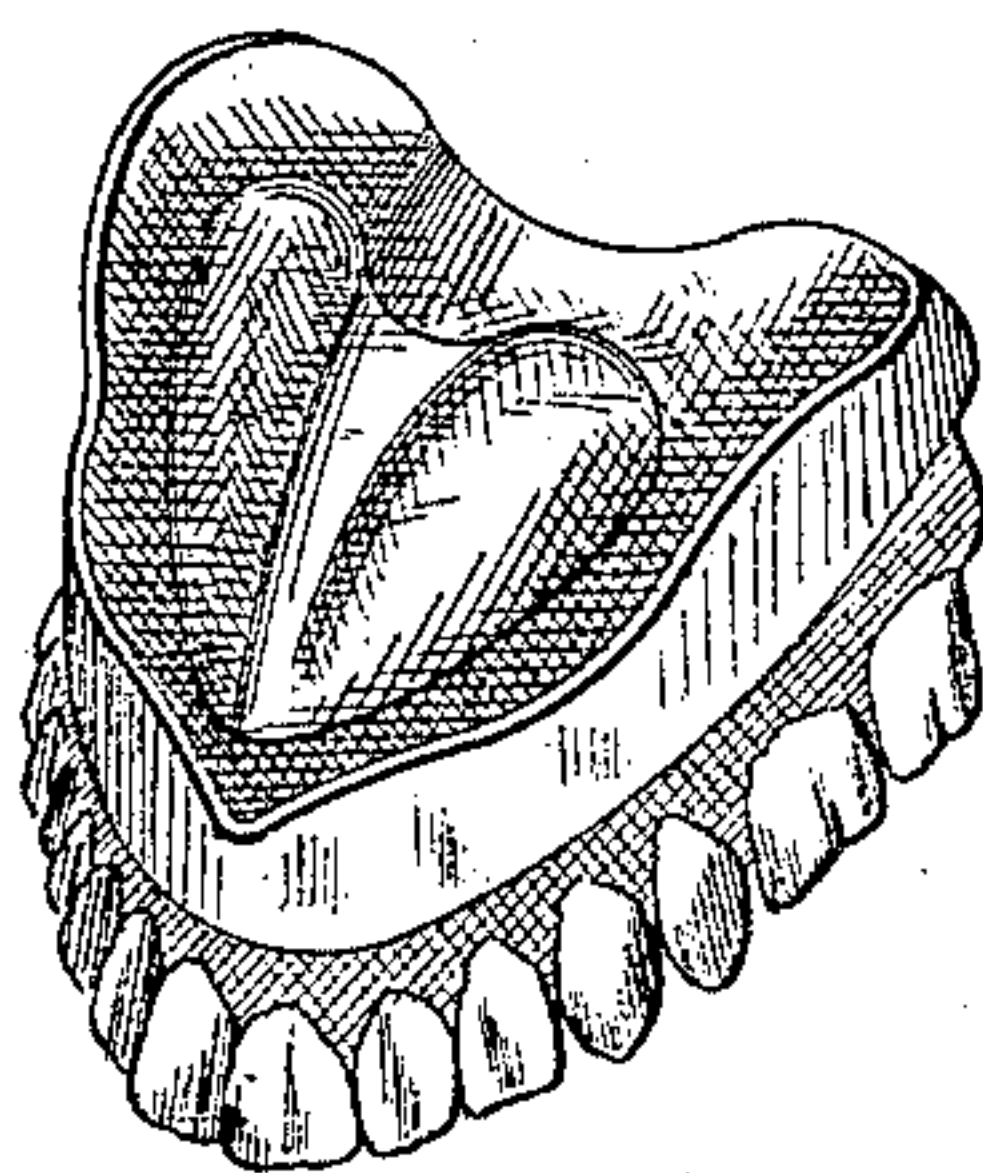


Fig. 4.



Attest;

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UNITED STATES PATENT OFFICE.

CHARLES H. LAND, OF DETROIT, MICHIGAN.

ARTIFICIAL DENTURE.

SPECIFICATION forming part of Letters Patent No. 282,094, dated July 31, 1883.

Application filed October 19, 1882. (Model.)

To all whom it may concern:

Be it known that I, CHARLES H. LAND, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Artificial Dentures and Patterns for Air-Chambers in Dentures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Figure 1 is a perspective view of the pattern. Fig. 2 is a perspective view of a cast with pattern in position. Fig. 3 is a perspective view of a cast and formed dental plate; and Fig. 4 is a perspective view of the improved dental plate with teeth, ready for use.

This invention relates to a pattern to form a space for air-chamber and relief in artificial dentures.

It has been the custom of dentists prior to my invention to make certain shaped air spaces or chambers in all kinds of artificial dentures. These spaces are to create a vacuum when the dentures are applied to the mouth by excluding the air, and cause the denture to be maintained in place by the pressure of the atmosphere. The shapes of the pattern employed for this purpose were various—generally oval and spherical, heart-shaped, of great depth in proportion to the diameter, &c., seldom large enough to be of practical benefit, and, on account of the great depth under the palatine bone, would injure the mouth.

After studying for several years all the principles of atmospheric pressure, together with the physiological action of artificial dentures when applied to the mouth, I find that in order to produce a proper pattern for air-spaces as a vacuum in them several features must be taken into consideration.

First. In order to secure the greatest atmospheric advantage, nearly the whole surface of the dental arch must be utilized. Accordingly I make a pattern that will cover about four-fifths of the surface.

Second. In order to secure the greatest depth without incumbering the tongue, and thus interfere with the organs of speech, (the denture must be the deepest on each side and the thinnest directly in front of the tongue,) I make

the pattern with a lobe or curved elevation on each side, where sufficient depth is obtained for atmospheric pressure with the least incumbrance to the tongue.

Third. In order to secure the greatest pressure without injury to the mouth, all acute angles should be avoided by having not only the edges beveled, but both of the lobes gradually sloping to the outside and back to the center.

Fourth. In order to keep the denture from pressing or bearing too hard on the palatine bone, the pattern for forming the space is made slightly thinner in the central portion of the arch, which serves as a sufficient relief to the hard portion of the palate, and will keep the denture from "riding" or pressing hard on the central portion.

In carrying out my invention I take a pattern, A, of pure tin, lead, or any suitable metal or material of a given thickness, having preferably a heart-shaped outline, with oval lobes *b* on each side on the upper surface, and gradually-beveled thin edges *c*, substantially as shown in Fig. 1 of the drawings. This pattern, which should be thoroughly polished in the same manner as a rubber plate, is secured to the cast B, with preferably a solution of shellac and alcohol. A small groove is cut almost completely around the pattern, except in the center of the palatine-bone impression, as seen in Fig. 2 of the drawings. The numbers one-sixteenth, one thirty-second, and one sixty-fourth part of an inch indicate the greatest depth of the groove, which should not be exceeded. In some cases—hard mouths—the groove should be made smaller or more shallow. The groove thus formed in the cast is intended to form a rib on the arch-plate to press slightly into the soft portions of the mouth, not only for the purpose of excluding the air, but also to prevent the plate from rocking or riding on the palatine bone. If this rib should press too hard on any portion, it can be reduced by a file.

An artificial-denture plate constructed through the agency of my improved pattern and the cast will secure the greatest atmospheric advantages without injury to the mouth, will be of sufficient depth to allow for continued absorption of the alveolar ridge, will serve as a relief to the hard portions of the palatine arch, and will not interfere with the organs of

speech, as it has the least depth directly in front of the tongue and the greatest on each side.

In manufacturing the patterns a sheet of
5 pure tin, lead, or any suitable metal or material of a given thickness is placed in or passed through a power-press, and patterns stamped out in quantities. The central portion of the
10 patterns, between the lobes, is reduced to about the sixty-fourth part of an inch, and the central portions of the lobes in cross-section are about the sixteenth of an inch, and gradually
15 reduced to the edges about the one sixty-fourth of an inch. The power-press and the polished dies will produce the patterns brilliantly polished.

It is obvious that the dental plates may be manufactured by matrix, and therefore I do

not wish to confine myself to the patterns in the manufacture of the dental plates. 20

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A pattern for an air-chamber in artificial dentures, having the oppositely-arranged lobes, substantially as described. 25

2. An improved pattern for an air-chamber and relief in artificial dentures, having the oppositely-arranged lobes and the gradually-reduced thin edges, substantially as described.

In testimony whereof I affix my signature in 30 presence of two witnesses.

CHARLES H. LAND.

Witnesses:

J. M. YZNAGA,

D. D. KANE.