S. C. CARTER.
Dental Plate.

No. 201,748. Patented March 26, 1878.

Fig. 1.

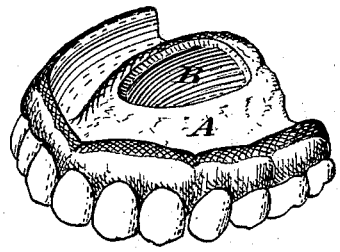
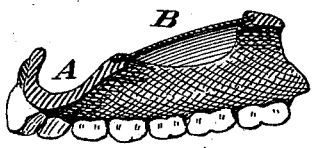


Fig. 3.

Fig. 2.



Inventor
Samuel C. Carter
By Knight Bros
Attys.

Attest.
Walter Knight
Chas. J. Cook

UNITED STATES PATENT OFFICE.

SAMUEL C. CARTER, OF LIBERTY, INDIANA.

IMPROVEMENT IN DENTAL PLATES.

Specification forming part of Letters Patent No. **201,748**, dated March 26, 1878; application filed December 27, 1877.

To all whom it may concern:

Be it known that I, SAMUEL C. CARTER, of Liberty, Union county, Indiana, have invented a new and useful Improvement in Dental Plates or Artificial Palates, of which the following is a specification:

My invention is designed to combine the advantages of a metallic roof-plate with those of a roof-plate composed of vulcanite, celluloid, or kindred materials. Artificial palates composed wholly of gold or platinum are costly, both from the nature of the material and in consequence of the time, skill, and labor that must be expended in preparing such plates. On the other hand, dental plates composed wholly of vulcanite or like substance are subject to the defects of too sluggish conduction of heat, the undue retention of which causes irritation and inflammation of the mucous membrane, and of the superjacent soft parts of the palate, so much so in some instances as to cause degeneration of the bony tissue, especially about the center of the roof, where the suction takes place.

I retain the advantages incident to the so-called gum, celluloid, or vulcanite plates, and combine therewith the coolness of the metal, by constructing the marginal portions of the artificial palate of the non-metallic material, and by constructing the bottom of the suction-cavity, or central portion of the plate, of a thin sheet or diaphragm of gold or platinum, or other suitable refractory metal of sufficient elasticity and tenacity. Through this diaphragm the animal heat readily escapes, and consequently the wearer's palate is relieved from the serious irritation that too frequently attends the use of the customary roof-plate of vulcanite or celluloid, as well as that of those in which a metallic portion is enveloped on one or both sides by vulcanite.

In the accompanying drawing, Figure 1 is a perspective view of an artificial palate embodying my improvement. Fig. 2 is a vertical section of the same.

In these figures, A represents the gum, vulcanite, or celluloid margin, and B represents the metallic diaphragm embedded therein.

My improved palate is constructed as follows: A wax model, pattern, or trial-plate is molded in the usual way. Then, before placing the same in the flask, I cut out of said plate the portion which corresponds to the floor or bottom of the suction-cavity, where such a cavity is used; or, if no suction-cavity is desired, I cut out the central portion of the plate. I then prepare my metallic suction-diaphragm a little bigger than, but of corresponding shape to, the orifice in the trial-plate, and press the same upon the said plate, so as to close the orifice and embed the edges of the diaphragm in the margins of the orifice, and cover the exposed edges of the diaphragm with wax. If greater security of attachment is desired, small holes may be made in that portion of the diaphragm which is to be embedded in the gum; or said diaphragm may have minute holes *b*, or scallops or flanges *b'*, for the same purpose. In some cases I secure the metal part, while packing, with two or more pins of the same metal, located near the edge of the diaphragm, and forced down into the cast before the trial-plate is put down. This expedient is a safeguard against any shift or displacement of the diaphragm while packing.

In the absence of a suction-chamber, care is taken beforehand to fit the diaphragm to that part of the cast it is to occupy, and it can then be left upon the trial-plate, and be, for the time being, a part of the same. These preparations completed, a mold is taken, and the pattern having been removed therefrom, the composite gum and metal palate is baked or set by heat, in the usual way.

I am aware that artificial gums or palates have been made of metallic plates, with the teeth attached to said plates by means of vulcanite or celluloid. I therefore do not claim, broadly, the combination of metallic and non-metallic material in dental plates.

I claim as new and of my invention—

The composite dental plate, consisting of a vulcanite or equivalent marginal portion, molded to the wearer's gums, and surrounding a thin metallic diaphragm naked on both surfaces, substantially as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

SAMUEL C. CARTER.

Attest:

GEO. H. KNIGHT,
HENRY C. PETERS.