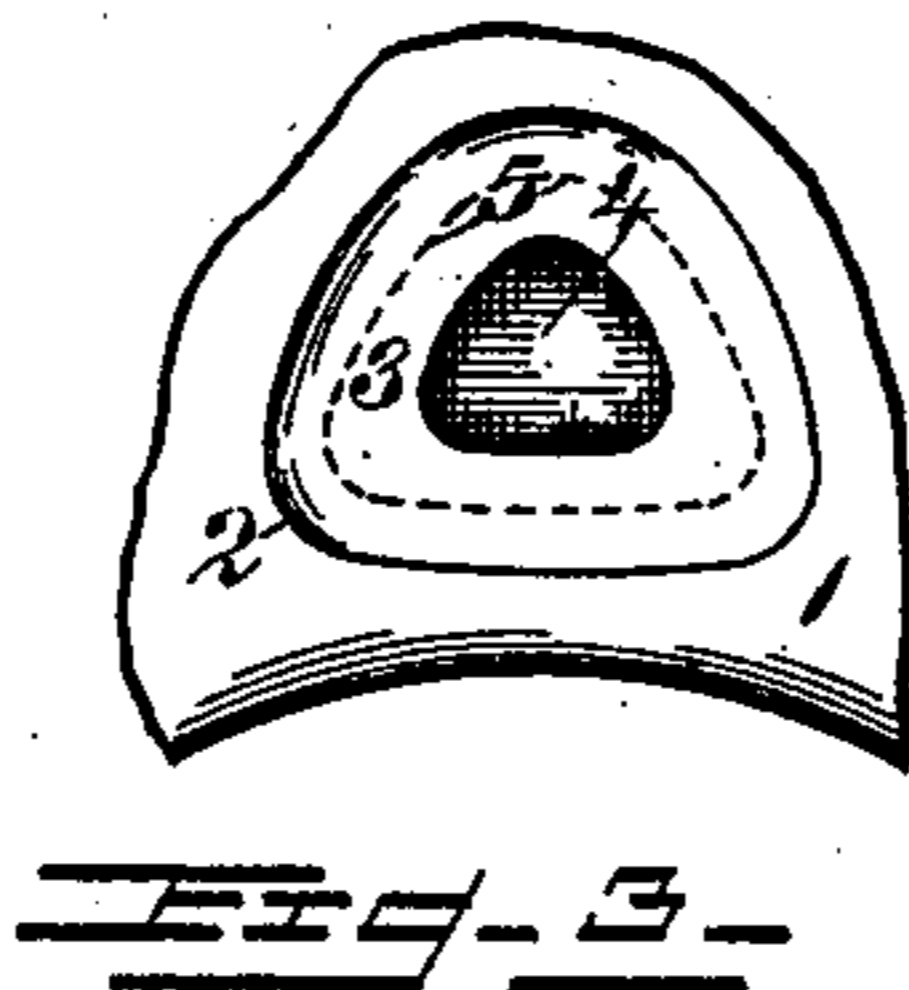
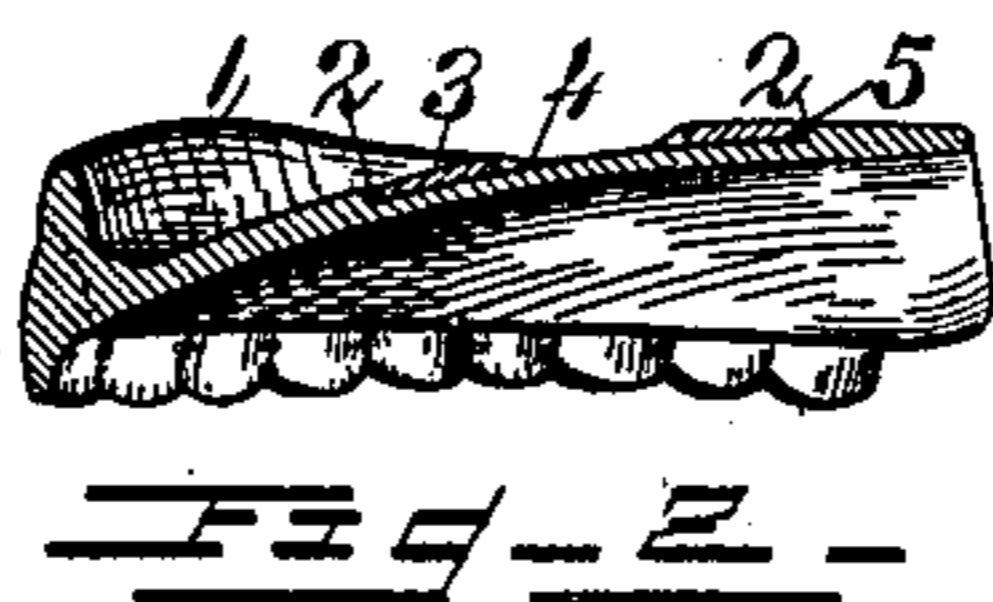
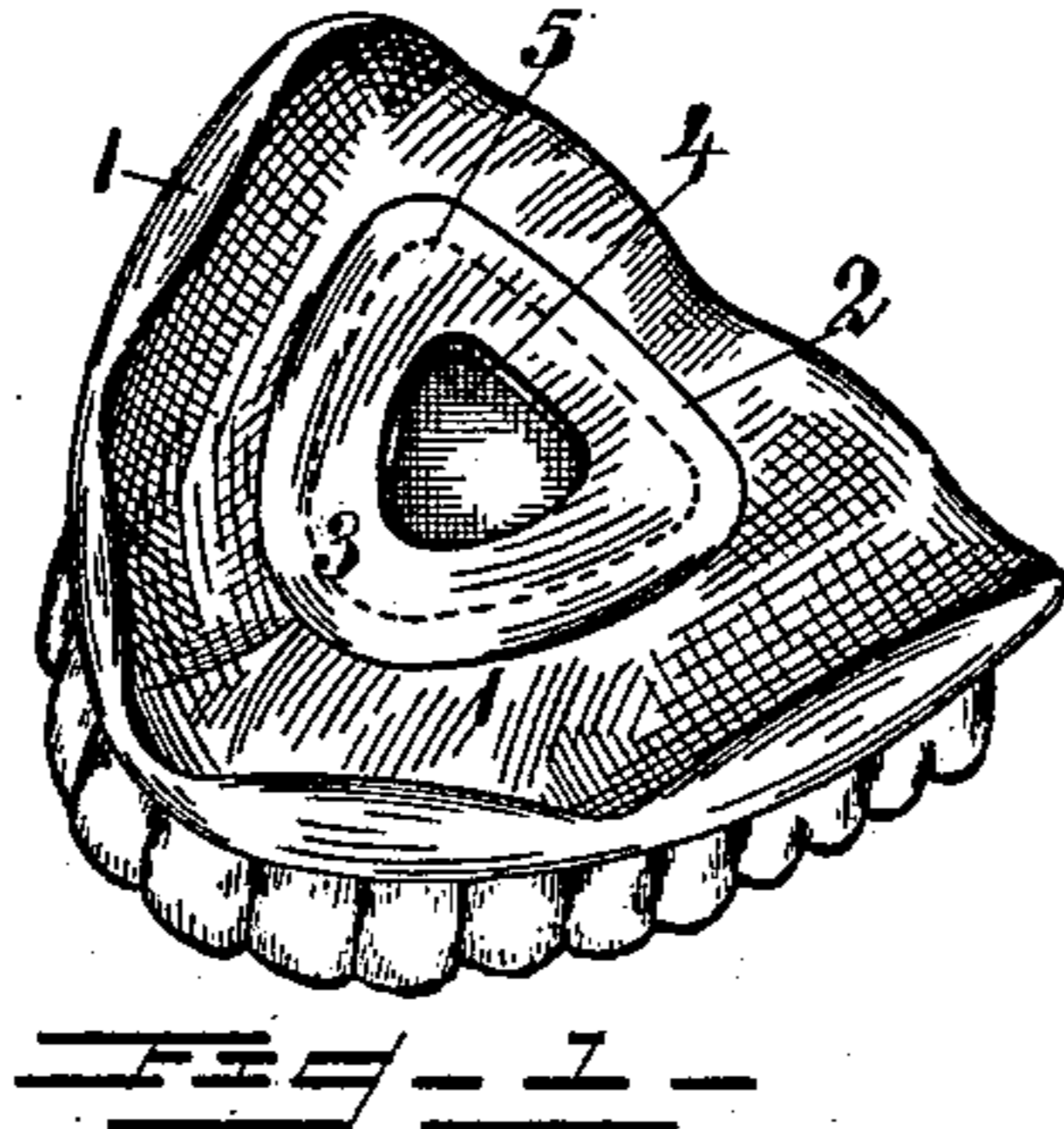


(No Model.)

T. H. GRAHAM.
DENTAL PLATE.

No. 521,930.

Patented June 26, 1894.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS HENRY GRAHAM, OF TORONTO, CANADA.

DENTAL PLATE.

SPECIFICATION forming part of Letters Patent No. 521,930, dated June 26, 1894.

Application filed April 6, 1894. Serial No. 506,644. (No model.) Patented in Canada October 27, 1893, No. 44,581.

To all whom it may concern:

Be it known that I, THOMAS HENRY GRAHAM, dentist, a subject of the Queen of Great Britain, residing at the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Dental Sets, (for which I have obtained a patent in Canada, No. 44,581, bearing date October 27, 1893,) of which the following is a specification.

My invention relates particularly to an improved air chamber in upper dental sets, and has for its object the provision of means for the more reliable and secure maintenance in position, of the upper set to the roof of the mouth of the wearer. In the use of dental sets, or artificial teeth, considerable difficulty and annoyance are caused by the upper set dropping down and out of its proper position, at the roof of the mouth, in sets provided with the ordinary air or vacuum chamber, and even with all improvements heretofore made for this purpose, more or less trouble is experienced. I accomplish the above object by the means illustrated in the accompanying drawings, in which similar numbers of reference refer to similar parts throughout the views.

Figure 1, represents a perspective view of the upper set provided with my improved air vacuum chamber. Fig. 2, represents a section from front to rear of the set at center-line on line A—B, and Fig. 3, represents a plan of a portion of a set provided with my invention.

In the drawings the plate, 1, differs from the ordinary plates only in the air or vacuum chamber, 2, in the center of the top side, which chamber, 2, may be of any of the ordinary forms used but in which, I employ a soft or flexible rubber plate, 3, attached at its margin to the hard or vulcanized rubber plate, 1.

The marginal dotted line, 5, in Fig. 3, defines the central area of the soft rubber plate, 3, that is free and unattached to the plate, 1.

In the center of the soft plate, 3, a hole, 4,

is formed as a means by which the suction of the partial vacuum, beneath the plate, 3, communicates with the roof of the mouth of the wearer and secures the set upward against the same.

I accomplish the union of the margin of the soft plate, 3, with the hard plate, 1, and maintain the central area of the said plate, 3, from uniting integrally with the plate, 1, by means of a plate of tin foil cut the form of, but sufficiently smaller than the chamber, 2, to have the margin at the edge of equal width as shown. This plate of tin foil (or any other suitable material that will not destroy with the heat the set is subjected to in process of vulcanizing may be employed) is placed in the chamber, 2, then the plate, 3, of soft rubber is made to fit and is next placed in position, and the set is next vulcanized. During the vulcanizing process, the soft plate, 3, unites with and becomes an integral part of the plate, 1, at the margin outside the dotted line, 5. The hole, 4, can be formed at center after the set has been vulcanized or before, it is immaterial. When the set is placed in the mouth and the air having been extracted in the usual way, the hole, 4, and the space beneath the plate, 3, is then a vacuum-chamber to a greater or less degree, and the set will rest closely against the roof of the mouth for which it has been made.

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

A dental upper set having a plate of flexible rubber attached as an integral part thereof at its margin within the air or vacuum chamber, and having a hole through the center of said flexible plate to communicate with the free and unattached central portion thereof beneath.

Toronto, Ontario, March 31, 1894.

THOMAS HENRY GRAHAM.

Witnesses:

WILLIAM CORNOCH,
EMANUEL CORK.