

(No Model.)

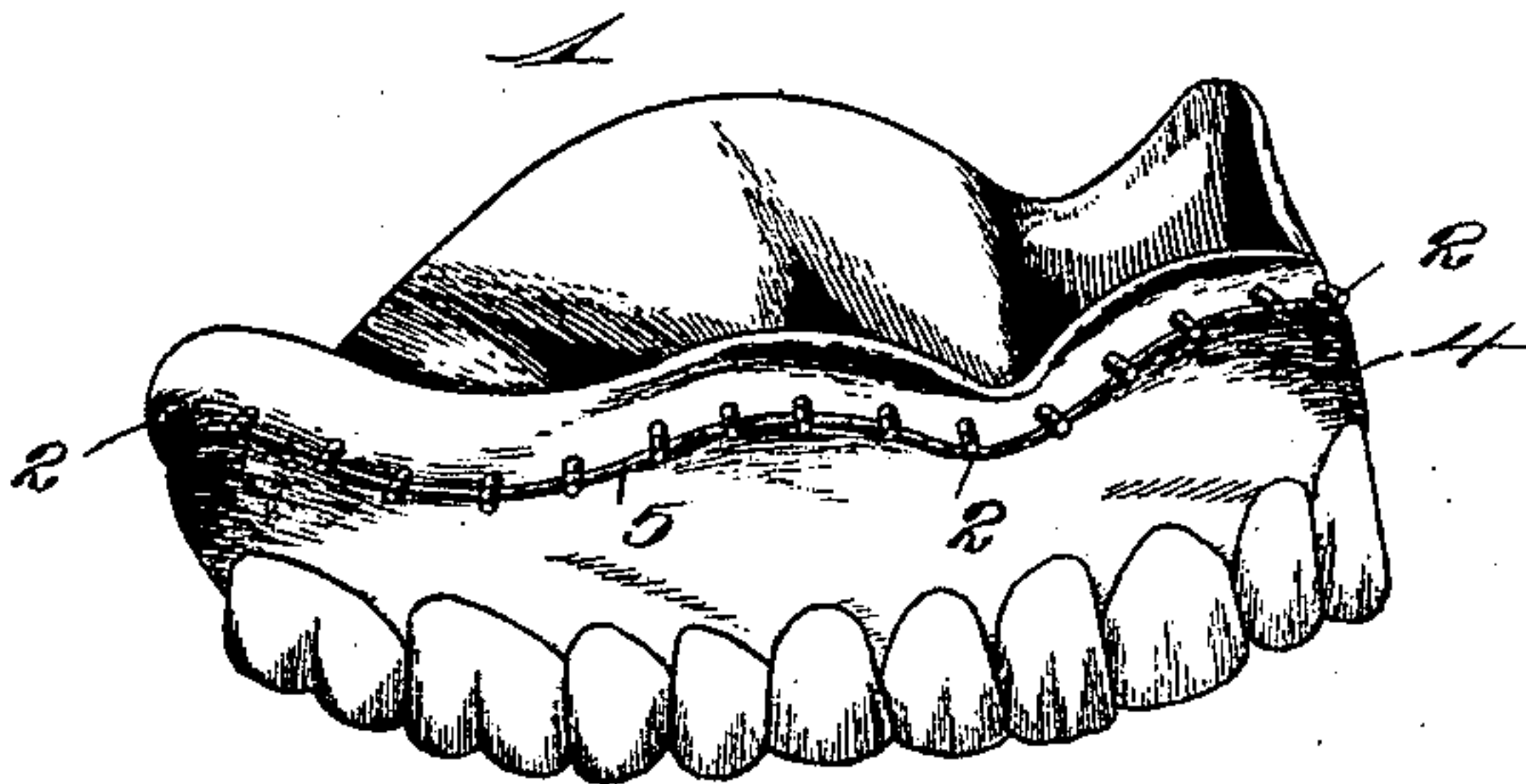
E. L. CHAFFIN.

METHOD OF TREATING ARTIFICIAL DENTURES.

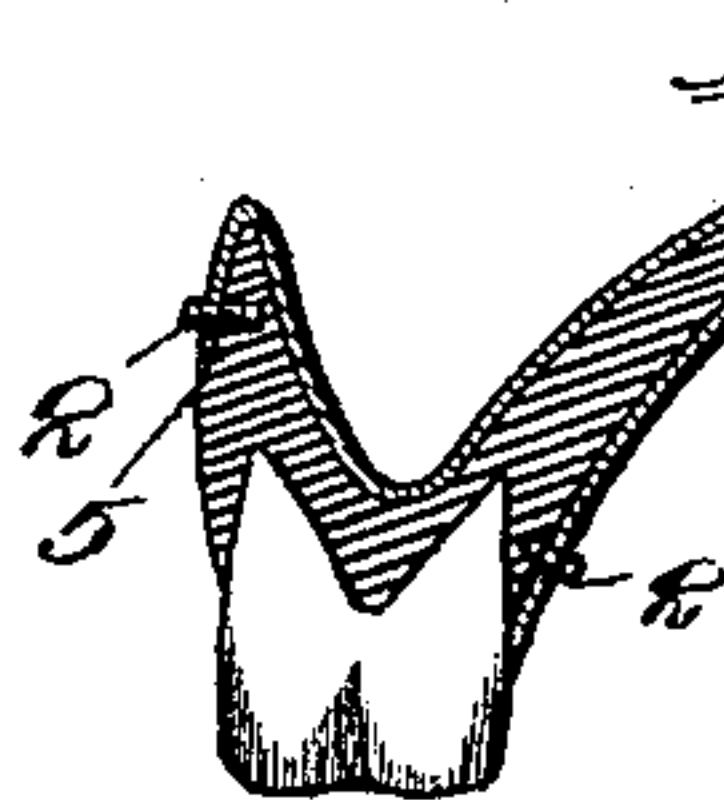
No. 582,342.

Patented May 11, 1897.

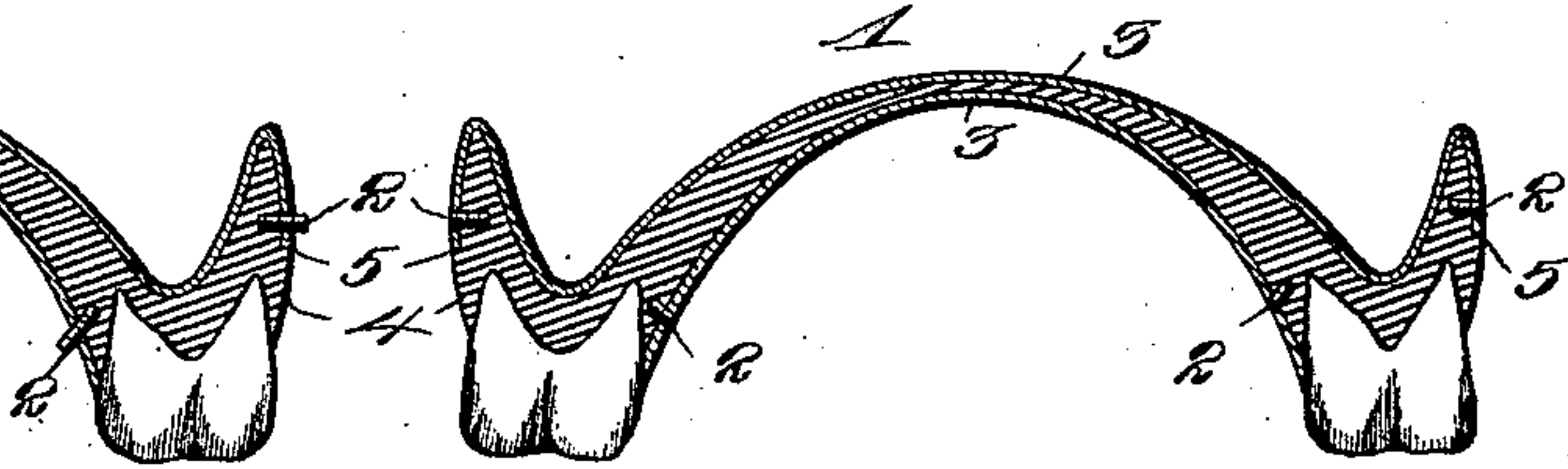
*Fig. 1.*



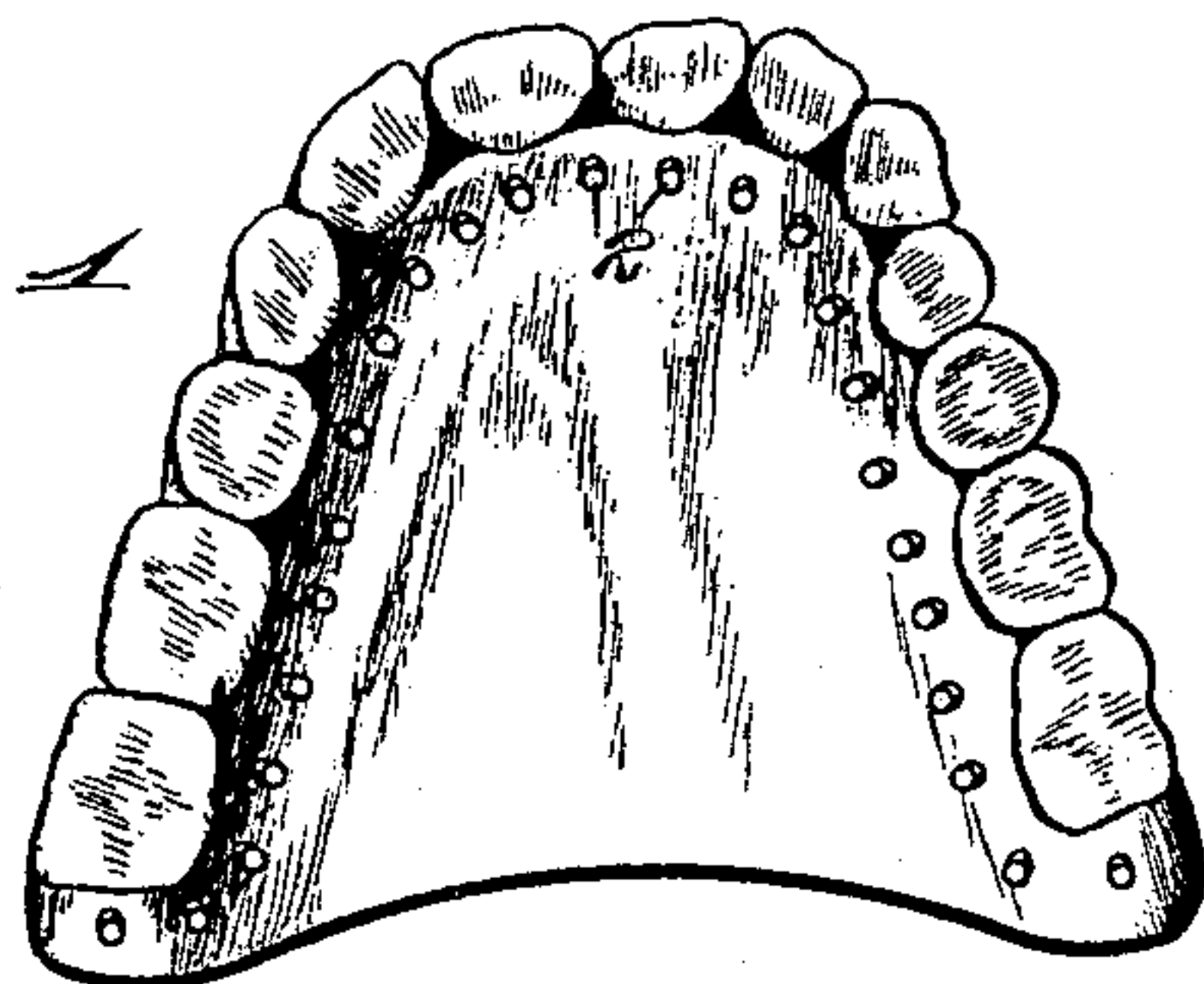
*Fig. 3.*



*Fig. 4.*



*Fig. 2.*



Inventor

*Edward L. Chaffin,*

Witnesses

*H. J. Koerth.*

*V. B. Hillyard.*

By his Attorneys,

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

EDWARD L. CHAFFIN, OF HELENA, ARKANSAS.

## METHOD OF TREATING ARTIFICIAL DENTURES.

SPECIFICATION forming part of Letters Patent No. 582,342, dated May 11, 1897.

Application filed August 31, 1896. Serial No. 604,497. (No specimens.)

*To all whom it may concern:*

Be it known that I, EDWARD L. CHAFFIN, a citizen of the United States, residing at Helena, in the county of Phillips and State of Arkansas, have invented a new and useful Method of Treating Artificial Dentures, of which the following is a specification.

The purpose of this invention is to combine the advantages of metal and plastic plates in the construction of artificial dentures and to secure a close and comfortable fit between the denture and the adjacent portion of the mouth against which the plate rests.

This invention can be applied to old and worn plates, so as to render them as serviceable as new ones. The denture of plastic material, such as vulcanized rubber, is constructed in any desired and convenient way, the teeth being articulated and the plate shaped and vulcanized in the usual way.

The invention consists of the following steps: The plate or denture, constructed in the usual way, is supplied with a series of metallic retaining-points secured thereto in any substantial way near its edge, the surface to be protected being coated with gilders' size and dusted with a metallic powder, after which the plate is suspended in a bath and a coating of metal deposited thereon by electrolysis. When the metal coating has acquired a proper thickness, the plate is removed from the bath, the projecting points dressed down, and the covering or plating polished. The coating may be of different metals. Thus the primary plate may be of copper or a comparatively cheap metal and the finishing-plate of gold or a non-corrodible metal. The edge portion of the rim of the artificial denture is reduced or grooved, so that the plating or metallic coating may come flush with the surface thereof, thereby presenting a neat finish.

The invention also consists of the novel features which hereinafter will be more particularly set forth and finally claimed, and for a full understanding of the merits and advantages of the invention reference is to be had to the subjoined description and the accompanying drawings, in which—

Figure 1 is a perspective view of an artificial denture, showing the metallic retaining-

points and the groove or reduced marginal portion of the rim. Fig. 2 is a view of the inner side of the denture. Fig. 3 is a detail section of the denture after the same has received a metallic coating or plate in a bath or solution by means of electrodeposition. Fig. 4 is a detail section similar to Fig. 3, showing the projecting portions of the retaining or anchoring points dressed down and the plating or metallic coating smoothed and polished.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by the same reference-characters.

The artificial denture 1, constructed in any of the usual ways and of plastic composition, such as rubber, and vulcanized, is supplied near its edge with a series of metallic retaining-points 2, the latter being anchored in the denture in any convenient way. These retaining-points are provided by drilling holes into the denture and inserting a screw-wire in the openings and cutting the said wire so as to leave the point project from the surface of the denture the requisite and proper distance to form a firm anchorage for the electrodeposition or metal plating. After the retaining or anchoring points are placed in position the surface to be coated is covered with gilders' size and dusted with a metallic powder, whereby the said surface is rendered electrically conductive. The denture being thus prepared is suspended in a metal solution and coated or plated by electrolysis in the ordinary way. If the bath is a gold solution, the metal is deposited upon the denture to the requisite thickness, after which the denture is removed from the bath, the projecting ends of the retaining-points 2 dressed down, and the metallic plate or coating polished, thereby completing the operation.

For general purposes the denture after having its surface rendered electrically conductive is suspended in a bath of sulfate of copper or like solution, and a coating of copper is deposited upon the surface, and when the plating has reached the desired thickness the denture is removed from the bath, the projecting ends of the retaining-points dressed, the coating polished, and the denture again



treated to a bath, preferably a gold solution, and a finishing or protecting coat of gold is deposited upon the copper, thereby finishing the denture and rendering the surface non-corrodible and proof against the acids of the mouth. Old and worn plates may be treated in the manner set forth, and thereby rendered as serviceable as new ones.

The purpose of the retaining-points 2 is to anchor the plating or metallic coating and to prevent the same from slipping, and it is for this reason that the points are located along the edge of the rim and plate of the denture. In order that the plate or metallic coating 3 may come flush with the surface of the rim 4, the latter is reduced or grooved, as shown at 5, corresponding to the thickness of the coating 3, and this groove is provided prior to placing the retaining or anchoring points 2 in position. When the metal coating is finished, it will come flush with the rim 4 and not project beyond the same and mar the appearance of the denture and cause discomfort to the wearer.

An artificial denture of plastic material can be made to conform more accurately to the mold or cast of the mouth than a plate or denture of metal, and inasmuch as the coating of said plastic denture by electrolysis results in providing a metallic plate of uniform thickness and conforming in every detail to the surface of the denture, it will be seen that a metallic plate produced in this manner conforms more accurately to the mouth than a metallic plate produced by being swaged or pressed between companion dies, and, moreover, the denture can be produced in less time and far more economically than by the swaging process.

Having thus described the invention, what is claimed as new is—

1. The herein-described method of treating an artificial denture of plastic composition, consisting of grooving the edge portion of the rim providing the said denture with metallic retaining or anchoring points along its edges, then rendering the surface to be protected electrically conductive, subsequently suspending the denture in a bath or metal solution and depositing a metallic plate or coating thereon by electrolysis, and finally dressing down the projecting ends of the metallic retaining-points and polishing the plating or metallic coating, substantially as set forth.

2. The herein-described method of treating an artificial denture of plastic composition, consisting of grooving the edge portion of the rim, supplying the denture with metallic retaining or anchoring points along its edge, rendering the surface to be protected electrically conductive by sizing and dusting a metallic powder thereon, subjecting the denture to a sulfate-of-copper or like metal solution and depositing a metallic plate or coating thereon by electrolysis, subsequently dressing down the projecting ends of the retaining-points and finally coating the baser metal by electrolysis with gold or like non-corrodible metal and polishing the same, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD L. CHAFFIN.

Witnesses:

H. H. HARPER,  
J. A. WILLIAMS.