

UNITED STATES PATENT OFFICE.

THOMAS ALDER DICKSON FORSTER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ARTIFICIAL TEETH.

Specification forming part of Letters Patent No. 120,509, dated October 31, 1871.

To all whom it may concern:

Be it known that I, THOMAS ALDER DICKSON FORSTER, now of Philadelphia, county of Philadelphia, State of Pennsylvania, but formerly of St. Georges, Bermuda, West India Islands, have invented certain new and useful Improvements in Artificial Dentures, of which the following is a specification:

My invention relates to artificial dentures, having porcelain teeth and non-metallic composition bases; and my improvements consist in the use of a peculiar material for the base, whereby the necessity of employing heat in the manufacture of the articles is avoided, and in the application to the exposed parts of the base of an enamel which imparts to the same a "gum" color, and renders the use of gum-teeth unnecessary.

Artificial dentures consisting of porcelain teeth and non-metallic composition bases are objectionable for two reasons: First, in applying or securing the base material, while plastic, to the teeth, it is necessary to subject the composition to pressure between molds and to maintain the whole in a heated state for the purpose of preserving the plasticity of, or to soften or to harden, the material, this heating involving manipulation, which is always troublesome and in many instances expensive and dangerous. Second, owing to the nature of the substances and compositions hitherto employed, it has been difficult to impart to them a color similar to that of the natural gum, rendering it necessary to use what are termed "gum-teeth"—that is, teeth with projections at the top, formed and colored to resemble the natural gum. These teeth must be ground at the side edges and fitted together, are difficult to secure to the base, expensive, and, owing to the numerous joints, are otherwise objectionable.

I employ as a base a material which can be molded while cold, the material being oxychloride of zinc. The teeth are mounted on wax or gutta-percha in the usual manner, and are embedded in plaster formed into a two-part mold. The wax is removed, and a composition of oxide and chloride of zinc combined, in such proportions as to form a plastic mass, is inserted in the place of the wax. The two parts of the mold are then pressed together, and retained until the material has hardened.

In some instances other substances, as finely-

ground siliceous, may be added to the base to give body to the same, and the plate or base may be backed by a thin metallic or other plate, or it may be coated with a suitable enamel to prevent any disagreeable or injurious effect from direct contact of the base with the membrane of the mouth.

As the color of the base differs from that of the natural gum, I apply to the exposed part of the base, above the teeth, an enamel, consisting generally of a solution of gun-cotton in ether, or its equivalent, and carmine or other suitable coloring-matter, the base, prior to the application of the enamel, being coated with a solution of gum sandarac in alcohol and ether. By thus enameling the exposed part of the base, the necessity of employing gum teeth is avoided, single plain teeth without gums being used, the fangs being imbedded in the base. The same effect with like advantage may be obtained by the application of enamel to the exposed parts of rubber, celluloid, or other similar bases, it only being necessary to employ as a liquid vehicle for the coloring material a solvent of the material composing the base.

To prevent the shrinking of the enamel in drying, it is well to add to the solution a solution of sandarac, copal, or other suitable gum.

When a collodion base is employed, it is well to coat the whole surface with enamel, as it prevents the disagreeable smell and taste arising from the presence of camphor, and obviates the necessity of polishing.

I claim as my invention—

1. An artificial denture, consisting of porcelain teeth mounted on a base, composed in whole or in part of oxychloride of zinc, as set forth.
2. An artificial denture, in which single plain teeth are imbedded in a base consisting of a composition of the character described, and which surrounds the fangs and forms the gum, as set forth.
3. An artificial denture, in which the gum or surface of the base above the teeth is coated with enamel, applied as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

T. A. D. FORSTER.

Witnesses:

CHARLES E. FORSTER,
JOHN K. RUPERTUS.

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