UNITED STATES PATENT OFFICE.

JOHN A. DALY, OF WASHINGTON, DISTRICT OF COLUMBIA.

ART OF UNITING A COATING OF METAL WITH CELLULOID.

SPECIFICATION forming part of Letters Patent No. 306,468, dated October 14, 1884.

Application filed March 28, 1881. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN A. DALY, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented certain new and useful Improvements in the Art of Uniting a Coating of Metal with Celluloid for Dental and other Purposes; 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.

The object of my invention is to so unite a coating of gold or other metal with a plate of celluloid that it will firmly adhere thereto; and the method by which this is accomplished will be fully hereinafter described, and my special improvements pointed out in the claims.

This invention is an improvement on my process patented to me October 12, 1880, No. 233,144; and the improvement consists in adapting said process of metal-coating to use with celluloid.

I will now proceed to describe my mode of producing a gold faced or covered dental celluloid plate. I take an ordinary plaster model or mold of the mouth (with or without the teeth attached to said model) and saturate the plaster with hot wax or paraffine, by immersion or otherwise, to make the plaster water-repellent. This step does not deform the model in any particular. I then dust or polish the model with graphite in the ordinary manner of electroplaters at such parts as I desire to cover with gold. I then hang the mold in gold solution, and by the use of a battery produce an electro-deposit on the coating of graphite. This electro-deposit is rough and irregular as it comes from the battery, and will firmly adhere to the plastic material when applied as herein stated. When the gold film has been deposited to a sufficient thickness, I remove the model from the solution and place it in a flask for molding, and proceed in the usual manner to compress the plastic material into the mold just as if there were no electro-deposit of gold on the model. In the same way all sides of the plate can be coated with metal by first making an electro-deposit on the whole interior surface of the plaster mold. When the plate is taken from the flask, the gold film will be found firmly attached to the plate and cannot be removed therefrom by ordinary mechanical means, but adheres as firmly as if plated on a metal.

The method I have described is one which departs very little from the ordinary processes of dentistry. It will be readily understood, however, that the method may be varied in many particulars without departing from the spirit of my invention. For instance, many substances other than plaster may be used for a model.

Bronze-powder or other substances common in the electroplater's art may be used instead of graphite for coating the model. Nickel, platinum, silver, and other metals may be used, as above described, instead of gold to form the coating, and, if desired, the surface thereof be afterward covered with gold by electro-deposit.

Articles of celluloid jewelry may be coated with metal in the same way as the dental plates herein described.

What I claim is—

1. The method herein described of making articles of celluloid with metallic surfaces, which consists in first coating a mold with metal by electro-deposition, and then compressing the celluloid into the mold on said metal, substantially as set forth.

2. The method herein described of making celluloid dental plates with metallic surfaces, which consists in first saturating a plaster-of-paris mold with wax or paraffine, then obtaining an electro-deposit thereon, and afterward compressing the plastic celluloid plate on said metal, substantially as set forth.

3. The method herein described of securing a metal coating to a celluloid dental plate by first making the inner surface of the metal rough by electro-deposition, and then compressing the plastic celluloid into these irregularities, substantially as described.

4. A celluloid dental plate having its surface wholly or partly covered by a film of metal of granular structure, said film being in close contact with the celluloid, as set forth.

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

JOHN A. DALY.

Witnesses:
W. H. DE FORD,
R. FINLEY HUNT.