

UNITED STATES PATENT OFFICE.

CHARLES E. BLAKE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN GOLD-LEAF FOR DENTISTS' USE.

Specification forming part of Letters Patent No. **154,446**, dated August 25, 1874; application filed April 25, 1874.

To all whom it may concern:

Be it known that I, CHARLES E. BLAKE, of the city and county of San Francisco, State of California, have invented a new Proof-Plated Gold for Dental Use; and I do hereby declare that the following description is plain, and fully demonstrates to those skilled in the manufacture and practice how to make and use the same.

My invention relates to an improved preparation of all styles and grades of gold used for filling teeth, as hereinafter described.

All manufacturers who refine and prepare gold for filling teeth, before rolling or beating it into leaf or sheets subject it to some one or more of the various chemical processes used in the parting of gold, having one main object in view, viz., to separate it from all the base metals or alloy, and bring the gold up to a standard as near as possible to purity. This is an absolute necessity to produce the full quality of cohesiveness, which is acknowledged by all dental operators as of the greatest importance, and in the manufacture of gold-foils it is universally admitted that the purer the gold surface the greater the cohesiveness, and while the different manufacturers or gold-beaters claim that their gold-foils are absolute or pure gold, a correct analytical test will show that that standard of purity is below the point of perfection, and it is a fact which all practical assayers must admit that "parting" gold or refining it by the usual methods, in bulk or large quantities at a time, it is impossible to bring the gold up to the absolute purity of 1000 fine, and the result of the methods now in use by the manufacturers of dental gold is that a percentage of alloy still remains, and the average rate of fineness is 998 to 999, and although this grade of gold has been satisfactory to most dentists the gold is not as pure as they all are led to believe. Still there is an absolute pure article of gold 1000 fine made, and is indispensable for the purpose for which it is used, namely, for assayers in public mints and gold refineries, and called by them proof-gold.

This absolute gold is only produced in small quantities, the process requiring time and great nicety of operation, which would make it expensive if furnished in quantities for dental use.

The object of my improvement is to obtain the great cohesiveness of this proof-gold, (1000 fine,) and produce that complete result so much desired by dentists, at the same time furnishing a superior article of manufacture without any great increase of cost; and, in order to accomplish this, I take the ordinary so-called fine gold, which may rate in fineness from 997 to 999, or, if desired, a lower rate of gold, (it may be alloyed expressly to give it hardness.) Each and all grades of fineness I make cohesive, and use it with the same facility and manipulation, by plating it or coating the external surfaces with the proof or absolute gold 1000 fine, giving a result to the operation of filling a tooth precisely the same as if it were manufactured entirely of proof or 1000-fine gold.

While I find that a deposit of proof gold-plating at a ratio of about five-twentieths ($\frac{5}{20}$) to one ounce of gold prepared to receive it, is a sufficient thickness, it will be obvious to all that it is immaterial whatever the thickness may be above five-twentieths ($\frac{5}{20}$) the cohesiveness resulting therefrom will not be changed.

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

The improvement herein described in the manufacture of dentist's foil, consisting essentially in electroplating ordinary gold-foil with a coating of pure gold, as set forth.

In witness whereof I hereunto set my hand and seal.

CHARLES E. BLAKE. [L. S.]

Witnesses:

JOHN L. BOONE,
C. M. RICHARDSON.