UNITED STATES PATENT OFFICE.

CHARLES E. BLAKE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN FILLINGS FOR DECAYED TEETH.

Specification forming part of Letters Patent No. **145,982**, dated December 30, 1873; application filed December 6, 1873.

To all whom it may concern:

Be it known that I, CHARLES E. BLAKE, of San Francisco city and county, State of California, have invented an Improved Filling for Decayed Teeth; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to an improved metal or alloy for filling decayed teeth, and for all the other purposes for which gold leaf or foil is or has been used in dentistry.

The gold which has heretofore been used in the form of a leaf or foil for dental purposes, while excelling in many qualities all other articles or substances used for the same purpose, is deficient in the requisite degree of hardness to cause it to resist wear and abrasion, especially when it is used for crown filling and the building up or the restoration of the edges of cutting-teeth where the enamel is worn down.

My improvement consists in combining with the gold, of whatever fineness or quality, previous to its being rolled, beaten, or otherwise formed into plates or sheets, a small quantity of platinum, so as to produce an alloy of these metals, which will possess the requisite degree of hardness, and, at the same time, preserve all of the valuable qualities of pure gold.

The quality of the gold to be used in the manufacture of my dental alloy is not material, as in some gold a larger or smaller percentage of silver remains in combination after refining. This will not prevent or interfere with the admixture of the platinum, or injure the quality of the alloy after it is manufactured. The addition of two-thousandths (.002) of pure platinum to nine hundred and ninety-eight thousandths (.998) of gold, preferably 1000 fine, hardens and improves the gold for dental purposes, while it retains its great cohesiveness. In the manufacture of my hardest gold alloy, I prefer to add, say, five thousandths (.005) of platinum, to nine hundred and ninety-five thousandths (.995) of gold.

A greater proportion of platinum will increase the hardness of the alloy, but will also render it harder to manipulate.

In case the alloy, when manufactured, does not possess the required cohesive and adhesive qualities to permit of its being employed for filling purposes in that condition, I galvanize or plate the exterior of the sheets or plates with a coating of proof gold in the manner described in a former patent granted to me for an improved dental gold, which will permit of its being united like ordinary filling-gold.

By this simple combination of two well-known metals I produce a dental gold of greater durability and fineness than ordinary gold, and at the same time preserve its cohesive qualities.

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

The alloy of platinum and gold for the purpose of providing an improved dental gold, substantially as above specified.

In witness whereof I hereunto set my hand and seal.

CHARLES EDWARD BLAKE. [L. S.]

Witnesses:

JOHN L. BOONE,

CHAS. MILTON RICHARDSON.