

UNITED STATES PATENT OFFICE.

RICHARD S. WILLIAMS, OF NEW YORK, N. Y.

IMPROVEMENT IN PREPARING GOLD FOR DENTISTS' USE.

Specification forming part of Letters Patent No. **104,524**, dated June 21, 1870.

To all whom it may concern:

Be it known that I, RICHARD S. WILLIAMS, of the city of New York, in the county and State of New York, have invented a new and useful Improvement in Preparing Dentists' Gold; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

My invention relates to a new method of applying gold as plugs to human teeth, whereby the several fragments in which it is usually applied may be made to cohere thoroughly and caused to form one homogeneous piece.

I will now make a general statement of all that is necessary to a clear understanding of my invention, and then, in my claims, point out exactly what I esteem to be my invention.

The kind of gold preferably employed by me is that which has been recently introduced, and is generally known as thick or heavy gold.

The thick or heavy gold may be manufactured by placing several sheets of the thin gold together and uniting them by pressure, so that they form a solid sheet of the desired thickness; but it is better to roll the gold to the desired thickness, and not have the gold subjected at all to the ordinary process of beating. Now, by either of these processes, while the gold may have been absolutely pure at the commencement of the operation, still, when it is ready for use in filling decayed teeth, there is always more or less impurity in the surface, resulting either from the use of oil on the rollers or from contact with the steel of the rolls, and in many other ways in the various manipulations to which it is subjected. In using this kind of gold it is almost invariably used as adhesive gold—that is, the dentist cuts up the sheet and places one piece upon another, and expects the pressure of the instrument to cause adhesion between the two,

and thus form a solid mass in the cavity. To produce this result in the most satisfactory manner, it is absolutely necessary that the gold be pure.

The outer surface of the gold is liable to become soiled by handling, and in many cases foreign matter is embedded in the soft gold in rolling. If such matter can be removed and the surface made clean, a very desirable result has been accomplished, and to do this is the object of my invention, thereby greatly increasing the adhesiveness of the gold. For this purpose, after reducing the gold to the proper thickness, I immerse it in a solution of *aqua regia*, which dissolves off the outer surface and leaves a surface as pure as the gold in any part. As this operation is the last in the process of manufacture, there is no further danger of soiling the surface, provided ordinary care is used in handling.

The effect of this process is clearly indicated by the crystalline surface left on the gold.

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

1. The method of preparing dentists' gold for plugging by taking gold sheets formed by rolling or beating and removing the external surface thereof in a solvent, whereby a pure crystal surface will be formed and all difficulty of producing cohesion between sections of the same entirely overcome.

2. As an article of manufacture, gold foil or sheets for dentists' use, having the surface, formed by rolling or beating, entirely removed by a solvent, in the manner described, and for the purpose specified.

The above specification of my invention signed by me this 3d day of May, 1870.

RICHD. S. WILLIAMS.

Witnesses:

GEO. W. MABEE,
L. S. MABEE.