U. K. MAYO.

MANUFACTURE OF GOLD FOIL FOR DENTAL PURPOSES.

No. 108,806. Patented Nov. 1, 1870.

Fig 1

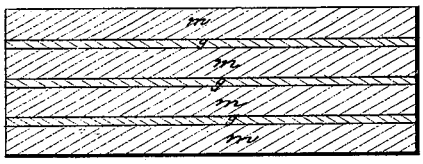
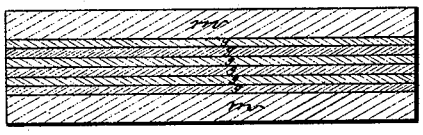


Fig 2.



Witnesses.

S. N. Piper

L. N. Bolles

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by his attorney

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United States Patent Office.

URIAL K. MAYO, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 108,806, dated November 1, 1870.

IMPROVEMENT IN THE MANUFACTURE OF GOLD-FOIL FOR DENTAL PURPOSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, URIAL K. MAYO, of Boston, of the county of Suffolk and State of Massachusetts, have made a new and useful invention or Improvement in the Manufacture of Gold-Foil for the Filling of Cavities in Teeth; and do hereby declare the same to be fully described as follows:

The ordinary gold-foil as made by gold beaters is annealed by pulling a single leaf of it between two plates of mica, as making a pack of sheets of mica and leaves of foil, so that each leaf shall be between and against two surfaces of the mica, and not in contact with another leaf, all the leaves of gold being insulated from each other by intervening sheets of mica.

After the pack has thus been formed it is subjected to a sufficient temperature in a furnace to effect the annealing of the metal leaves.

It is found, however, that gold so annealed has such a degree of stiffness or hardness that when it is shaken will cause it to ring or make a noise.

I have discovered that by placing two or more of the leaves of gold together in a pack and introducing them so in contact between and in contact with two sheets of mica, and in this state subjecting the whole to the annealing process or temperature, a new result takes place; that is the part when annealed becomes so very much softer as to lose nearly if not all the aforesaid property of ringing, and to be highly improved as an article for plugging teeth. It not only renders the operation easier to the dentist, and more certain, but causes it to be attended with far less pain or discomfort to the patient.

Figure 1 denotes the ordinary mode of arranging the sheets of mica and gold-foil for being heated.

In this figure the sheets of mica are shown at *m*, and those of gold at *g*.

Figure 2 exhibits my method of arranging the ion between the mica sheets.

From the above it will be seen that by my process of arranging the sheets of gold less mica becomes necessary.

The gold when annealed by my process becomes a very much stronger article, besides being far more pliable in comparison to what results from the old mode, as described, of annealing it.

It appears that a leaf of the metal when in contact with another or other leaves of the metal will anneal to far better advantage than when in contact with and between hard surfaces of mica.

The reason for this I do not pretend to give, but I have an hypothesis for it, viz: that the leaf of gold, when confined between and against two plates of mica, and heated with them, and afterward allowed to cool, is so effected by such plates as bad conductors of heat, that it cannot anneal to near the advantage that it does when arranged in accordance with my plan, the whole being due to the heat non-conducting property of the mica.

I do not claim the mode, as shown in fig. 2, of arranging the sheets of mica and foil preparatory to heating the whole.

I claim as my invention—

1. Arranging two or more sheets of foil together with their flat surfaces in contact and between sheets of mica, or their equivalent, and next heating the pack so as to anneal the foil, all as set forth.

2. As an improved manufacture, gold-foil, annealed in the improved manner, as described.

URIAL K. MAYO.

Witnesses:

R. H. EDDY,

J. R. SNOW.