(No Model.)

R. S. WILLIAMS.

Dental Amalgam Filings.

No. 235,480. Patented Dec. 14, 1880.

Fig: 5.

Fig: 1.

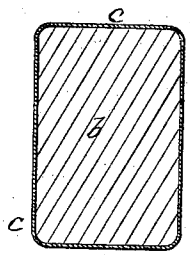


Fig: 2.

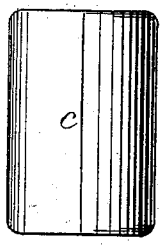




Fig: 3.

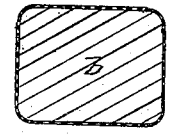
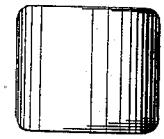


Fig: 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

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

DENTAL AMALGAM FILINGS.

SPECIFICATION forming part of Letters Patent No. 235,480, dated December 14, 1880.

Application filed June 28, 1880. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. WILLIAMS, of the city, county, and State of New York, have invented a new and useful Improvement in Metal Filings for Dental Amalgam; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making part of this specification.

This invention is in the nature of an improvement in metal filings for dental amalgam; and the invention consists in the process hereinafter described of preparing metal filings for dental amalgam by inclosing the same in gold or other foil which has an affinity for mercury, or which can be incorporated with the mercury without injury, or by covering the filings in a compressed state with paper, shellac, collodion, or other varnish, or paraffine, for the purpose of excluding air and preventing oxidation.

In the accompanying sheet of drawings, Figures 1 and 2 represent a longitudinal section and side view of cylinders of metal filings covered with gold-foil; Figs. 3 and 4, a cross-section and side view of consolidated filings covered with shellac or other varnish; and Fig. 5, side view, partly in section, of filings covered with water-proof paper.

Similar letters of reference indicate like parts in the several figures.

As is well known, amalgams for dental purposes consist of fine metallic filings incorporated with mercury to render them plastic, in which state they are applied to the dental cavities, wherein they gradually harden and produce a useful filling for such cavities. These metallic filings usually consist of filings from an ingot of an alloy of silver and tin with mercury, and heretofore the dentist in making the amalgam has been obliged, in the absence of specific measure, to assume that the quantity of filings he may take from their package would answer his purpose, operating in this way by guessing until he has produced a quantity that he thinks he will need, and the metal filings employed for this purpose by dentists are not infrequently attacked by oxidation, which will, in a measure, interfere with their freely combining with mercury. To obviate these objections I take the metal filings and place them in cells graduated to hold a given quantity of filings, and by suitable force applied by means of a plunger and hammer, to some extent solidify the filings within the cells until they will sufficiently cohere to admit of their being removed from the cells in the form of small cylinders or other desirable shapes *b*. In this way the dentist can have at hand and ready for use the metallic filings of cylindrical, spherical, cubical, or irregular shape, each of which will contain an exact amount, by weight, of filings. These consolidated forms in this way produced, in order to preserve them from air, moisture, and oxidation on their surface, are next inclosed in one or more layers of annealed gold-foil *c*, in which they are carefully wrapped sides and ends, the gold adhering at its edge and to the several layers by its well-known adhesive quality. Instead of employing the gold-foil for this purpose any other substantially non-oxidizable foil that will have an affinity for mercury may be employed, or some thin innoxious pellicle of collodion, shellac, or other varnish, may be used, and in some cases the consolidated forms of filings may be inclosed in a soft water-proof paper, *d*, twisted about it, as is shown in Fig. 5. In this case, however, before using the filings, they will be removed from the inclosing-paper.

In the cases of the foil and pellicle coverings it is not necessary to remove the filings from their envelope, the foil in one case amalgamating with the mercury as freely as the filings, and the thinness of the pellicle in the other being such that it is inappreciable, and does not interfere with the free amalgamation of the metal filings; or, if desired, some thin metal covering may be used which, although having no affinity for mercury, can readily be incorporated with the amalgam without injury.

From the foregoing it will be seen that the dentist can have before him at all times ready for use his metal filings for amalgamating, not only in convenient form, but in given quantities, and free from oxidation, which would interfere to some extent with free amalgamation.

I do not claim, broadly, as my invention filings for dental amalgam pressed into pellets by means of molds, since, if desired, these

filings may be inclosed in the envelopes before mentioned, or some of them, without consolidating them in molds by pressure; but

What I do claim as new, and desire to secure by Letters Patent, is—

Metal filings for dental amalgam inclosed within a metal or other covering, whereby they are preserved from oxidation, substantially as described.

RICHD. S. WILLIAMS.

Witnesses:
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