

(No Model.)

J. W. DENNIS.
FILLING TEETH.

No. 532,725.

Patented Jan. 15, 1895.

Fig. 1.

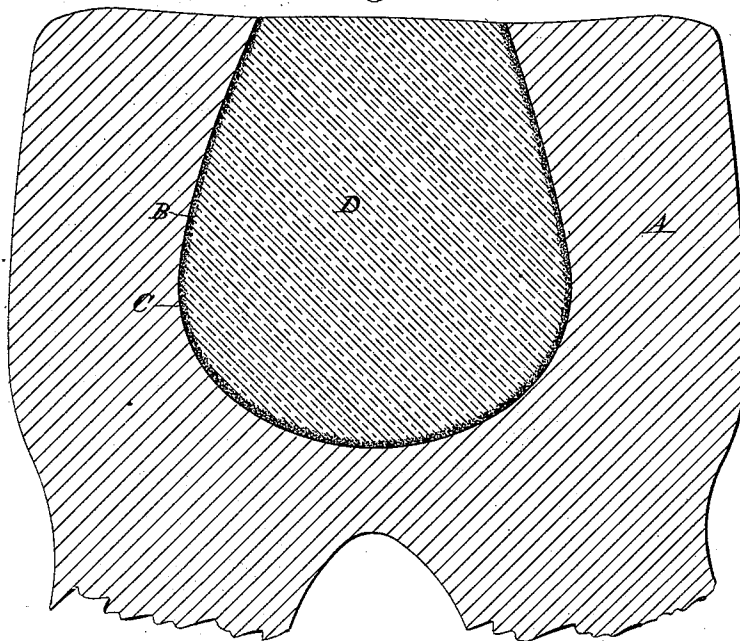
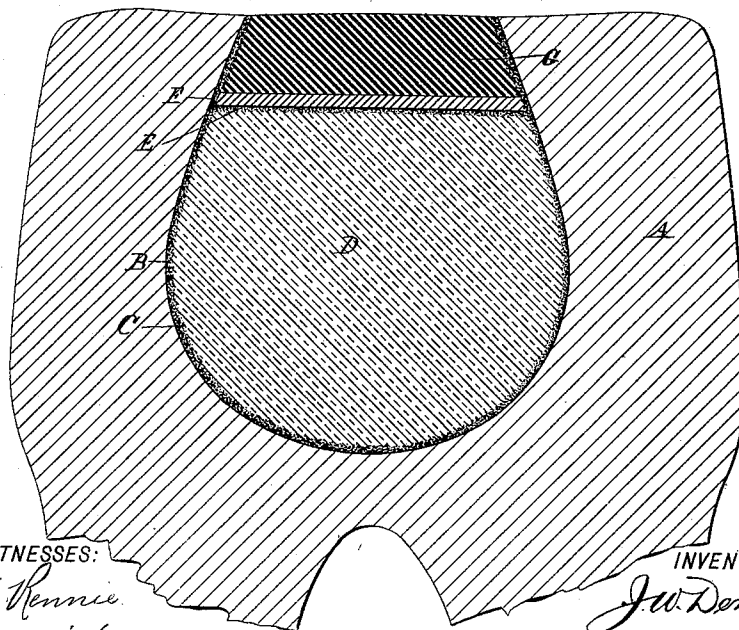


Fig. 2.



WITNESSES:

John A. Dennis
C. Sedgwick

INVENTOR

J. W. Dennis

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES W. DENNIS, OF CINCINNATI, OHIO, ASSIGNOR TO CLARA E. DENNIS,
OF SAME PLACE.

FILLING TEETH.

SPECIFICATION forming part of Letters Patent No. 532,725, dated January 15, 1895.

Application filed September 14, 1894. Serial No. 522,975. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. DENNIS, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Filling for Teeth and in the Method of Applying the Same, of which the following is a full, clear and exact description.

The object of this invention is to facilitate the filling of teeth and preserve them from decay.

The invention consists in the application of finely comminuted metallic copper to the walls of the excavated tooth; also in combining with such copper an adhesive plastic filling.

The invention further consists in forming an amalgamating surface upon such plastic filling, and in the combination of a metallic filling with said amalgamating surface; all as will be hereinafter described and pointed out in the claims.

Referring to the drawings which form a part of this specification, Figure 1 is a side sectional elevation of a human tooth, greatly enlarged, intended to show a cavity therein filled with a plastic filling and having comminuted metallic copper applied to the walls of the excavation; and Fig. 2 is a similar elevation, intended to illustrate the application of an amalgamating surface to the surface of the plastic filling and the union of a metallic filling with the amalgamating surface.

Similar letters of reference indicate corresponding parts in both the figures.

A represents the body of the tooth; B, the walls of the excavated cavity; C, finely comminuted metallic copper applied to the walls B; D, plastic cement filling; E, the amalgamating surface formed upon the surface of the plastic filling; F, the amalgam applied to the amalgamating surface; G, gold or other metallic filling applied to and joined with the amalgam.

The tooth cavity to be filled is excavated and prepared in the usual manner. I now moisten the walls B of the cavity with oxychloride of zinc, or with a suitable medicated varnish and I then sprinkle or blow upon the moistened surfaces of the walls B a quantity of finely comminuted copper or copper dust C, sufficient to cover the said walls. I now com-

pletely fill the tooth in the ordinary manner, with a suitable plastic filling D, preferably a filling of an adhesive nature such, for example, as the well known filling paste composed of oxide of zinc and chloride of zinc, with which, in some cases, I mix comminuted copper. Such filling permanently holds the comminuted copper in contact with the excavated walls of the tooth.

Fig. 1 shows the tooth filled as described.

I prefer the above described method for holding the comminuted metallic copper in contact with the excavated walls of the tooth; but in some cases, instead of sifting or blowing in the copper as stated, I mix the comminuted metallic copper with the aforesaid plastic filling cement, and proceed to fill the excavated tooth with such coppered plastic filling in the usual manner; in which case the comminuted copper, being plentifully distributed through said plastic fillings, the metallic copper will be thus brought and kept more or less in contact with the excavated walls B of the tooth, and the latter will be thereby preserved from decay.

The above described plastic fillings answer very well in many positions, but for the exterior contacting or grinding surfaces of teeth, said plastic fillings are not always sufficiently hard, and it is desirable to protect or cap them with a metallic filling. This I accomplish in the following manner:

Instead of completely filling the excavated tooth with the copper and cement filling as before described, and as shown in Fig. 1, I cease the application of said filling material when the excavation is partly full (see Fig. 2,) and upon the fresh surface of the cement filling D, I sprinkle or blow a deposit of finely comminuted metal, such as copper, gold or other suitable metal that has an affinity for mercury. Such deposit of metal firmly adheres to the cement filling and forms an amalgamating surface E, upon which I now apply an ordinary wet amalgam F, which unites with the metal E; and if the tooth is to be finished or capped with gold, I now apply upon the amalgam the ordinary gold leaf, or other suitable form of metallic gold G, which firmly unites with the amalgam; and I complete and finish the filling of the tooth with

gold in the ordinary manner. In this way the interior copper and plastic filling D is protected, and a strong, durable and reliable outer filling of gold is obtained. Instead of the gold filling above described, any other suitable metal having an affinity for mercury may be used to complete the filling.

The valuable preservative qualities of metallic copper when applied to teeth are well known. By the use of my invention as herein described the metallic copper is protected from the action of the saliva of the mouth and yet is maintained in contact with the excavated walls of the teeth, which are thereby protected from decay.

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

1. That improvement in the art of dentistry which consists in combining fine particles of metallic copper with the walls of the excavation, substantially as herein shown and described.

2. The method of applying metallic copper to the walls of dental cavities, which consists in moistening the said walls, then dusting comminuted copper thereon, and then inserting a filling upon the metallic copper, substantially as set forth.

3. A plastic filling material for dental fillings, containing metallic copper in fine particles, as and for the purposes herein described.

4. In combination with a suitable adhesive filling contained in the cavity of a tooth, a film or layer of finely comminuted metal that has an affinity for mercury, a film or layer of

amalgam applied upon the comminuted metal, and an outer filling of metal that has an affinity for mercury, applied upon the amalgam, substantially as herein shown and described.

5. The method herein described of producing an outer protective filling of metal upon an inner filling of soft or plastic material, which consists in charging the surface of the plastic filling with finely comminuted particles of a metal that has an affinity for mercury, thereby forming an amalgamating layer or surface upon the plastic material, then applying a film of amalgam upon such amalgamating layer or surface, then applying a filling that has an affinity for mercury upon the film of amalgam, as herein shown and described.

6. The herein described process of filling teeth, which consists in applying to the cavity a basis filling, facing said filling with an amalgamating metal in a comminuted state, or in the form of filings, and finally applying amalgam to said facing, as and for the purpose specified.

7. A plastic filling other than amalgam which is united by amalgamation with a hard wearing face, substantially as specified.

8. The combination with the walls of the excavated tooth and the main filling thereof, of a film of comminuted metallic copper, substantially as herein shown and described.

JAMES W. DENNIS.

Witnesses:

LOUIS A. BROWNBECK,
THOS. B. PAXTON.