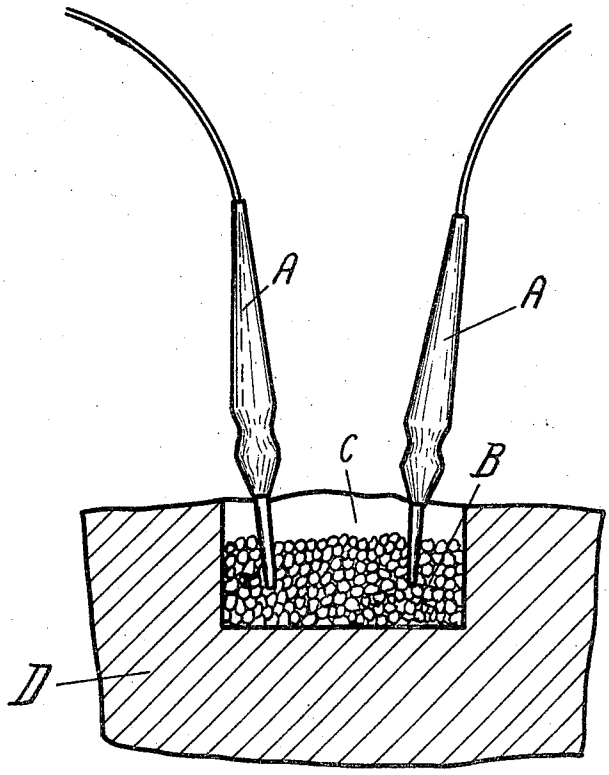
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J. MAURER

METHOD OF FILLING HOLLOW BODIES, ESPECIALLY THE CAVITIES OF HUMAN TEETH, WITH METALLIC FILLING SUBSTANCES

Filed July 18, 1922



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UNITED STATES PATENT OFFICE.

JACOB MAURER, OF KONSTANZ, GERMANY, ASSIGNOR TO REINIGER, GEBBERT & SCHALL AKTIENGESELLSCHAFT, OF ERLANGEN, BAVARIA, GERMANY.

METHOD OF FILLING HOLLOW BODIES, ESPECIALLY THE CAVITIES OF HUMAN TEETH, WITH METALLIC FILLING SUBSTANCES.

Application filed July 18, 1922. Serial No. 575,818.

To all whom it may concern:

Be it known that I, JACOB MAURER, a citizen of the Swiss Republic, and a resident of Konstanz, Germany, have invented certain new and useful Improvements in Methods of Filling Hollow Bodies, Especially the Cavities of Human Teeth, with Metallic Filling Substances, of which the following is a specification.

This invention relates to a method of filling hollow bodies, especially the cavities of human teeth, with metallic filling substances. The purpose of the invention is to bring into use a cheaper and less painful method, as has been employed hitherto. It has been proposed already, to fuse the dental fillings, consisting of cement or the like, by means of an electrically heated platinum loop. Instead of employing this method, I fill the tooth cavity with very finely divided metal, such as metallic powder, metallic sponge or metallic foil. Into this dental filling I introduce two electrodes, connected to a circuit, which is intermittently energized for the purpose of supplying short current jerks to the electrodes. These current jerks are transmitted to the metallic filling and accordingly at the alternating switching-in and switching-off of the current small sparks or light-arcs are formed between the individual metallic particles of the filling substance. By means of said sparks or light-arcs in common with the current transmission resistances between the individual metallic particles a sintering and thorough welding of the metallic filling into a homogeneous metallic mass is effected.

In the present method by the appliance of the short current jerks only such a degree of heat is produced within the metallic mass, as is necessary for the thorough welding of the individual metallic particles and further it is avoided by the present method to injure the treated tooth by the influence of the heat or to cause a painful effect to the patient.

My invention is carried into practice in the manner disclosed in the accompanying drawing which shows a vertical section through a part of a body D having at its top a cavity C. The figure is drawn on a greatly enlarged scale. The cavity C contains the filling material which has, in the instance shown, the form of granules; it is, in fact, a coarse powder. A are the electrodes which extend down between the granules or the pulverulent particles, the current then flowing from granule to granule and forming sparks at the places of contact, as well as in the very small spaces between the granules, as described in the first part of the specification.

Having thus described the nature of my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. The method of filling, with the aid of electricity, small cavities of hollow bodies, especially of human teeth, with a metal intended to remain constantly in the respective cavity, said method consisting in introducing into the respective cavity an appropriate amount of a suitable metal which is so disintegrated that sparks can arise between the particles thereof when an electric current is caused to pass therethrough, and causing an electric current to pass intermittently through said metallic filling so as to cause the particles forming it to sinter and get welded to one another by said sparks, substantially as described.

2. The method of filling, with the aid of electricity, small cavities of hollow bodies, especially of human teeth, with a metal intended to remain constantly in the respective cavity, said method consisting in introducing into the respective cavity an appropriate amount of a suitable metal which is so disintegrated that sparks can arise between the particles thereof when an electric current is caused to pass therethrough, introducing two suitably spaced electrodes with needle-like ends into said metallic filling, and causing an electric current to pass intermittently from one of said electrodes to the other so as to cause the particles forming the said filling to sinter and get welded to one another by said sparks, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB MAURER.

Witnesses:
H. R. JAKOBSEN,
ARTHUR SCHROEDER.