United States Patent Office.

LUKE A. PLUMB, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 104,879, *dated June* 28, 1870.

IMPROVED COMPOSITION AMALGAM FOR FILLING TEETH.

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, LUKE A. PLUMB, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new or improved Composition or Amalgam, to be used for the purpose of preventing decay in, or for filling, orifices in teeth; and I do hereby declare the following to be a full and exact description of the same.

The amalgam now used by dentists for the above purpose is composed of tin, silver, and mercury, combined in or about in equal parts, which has, however, many objectionable features, which the new amalgam obviates.

The newly compounded amalgam is composed of about twenty parts, by weight, of refined nickel, twenty-five parts Banca tin, and forty-five parts silver, which ingredients are to be fused, and chemically united in a crucible. When well fused and mixed the contents of the crucible are to be cast into the form of an ingot or oblong bar. This bar, when cold, is to be adjusted in a lathe, and, by a tool, cut into very thin shavings, which shavings will then be ready to be mixed with, and dissolved by, a sufficient amount of mercury to constitute a crystallizing cement or amalgam, which, after being washed in ninety-five per cent. alcohol, and dried by a gentle heat, will be ready for insertion in a dental cavity, in which it will be an effectual means of arresting further decomposition of the tooth, as it will, in a few hours, become as hard and as durable as the tooth itself.

The amalgam, as heretofore made and used by dentists, rapidly undergoes oxidation when exposed to the acids incident to the mouth, and has a strong tendency to contract in the act of crystallization, thus admitting moisture between it and the interior surface of the dental cavity; is not sufficiently hard to withstand the friction incident to mastication, and oxidizes upon its surface, the oxide operating to blacken the body of the tooth, and also to injure, if not to destroy, its vascular structure. By virtue of the extreme hardness, brightness, and fineness of refined nickel, when compounded into the new amalgam, the latter is less liable to be affected by oxidation, contraction, and friction than the old amalgam in common use.

I make no claim to a composition or amalgam of tin, silver, and mercury as heretofore used.

What I do claim as my invention is—

My new composition or amalgam, made of the combination of nickel and other ingredients, as hereinbefore explained.

LUKE A. PLUMB.

Witnesses:
R. H. EDDY,
J. R. SNOW.