UNITED STATES PATENT OFFICE.

ALMON B. CADY, OF KENTON, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIS S. WALKER, OF SAME PLACE.

IMPROVEMENT IN COMPOUNDS FOR THE MANUFACTURE OF PORCELAIN ADAPTED FOR DENTAL PLATES, TEETH, &c.

Specification forming part of Letters Patent No. **192,149**, dated June 19, 1877; application filed October 20, 1876.

To all whom it may concern:

Be it known that I, ALMON B. CADY, of Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in the Manufacture of Porcelain Especially Adapted for Dental Plates and Teeth.

My invention consists in a composition or compound for the manufacture of porcelain especially adapted for dental plates; and has for its object to produce a more homogeneous and tougher material than that heretofore manufactured, hence more durable, while at the same time it may be brought to a fusing point at a much lower temperature than that required for the fusing or baking of the material heretofore employed for the purpose.

The porcelain heretofore employed in the manufacture of dental plates and teeth requires a great degree of heat for fusing or baking the same, and the resultant plates are very fragile, owing to the want of homogeneity in the composition of the materials employed, to which frequent objections have been made; and to obviate this defect I employ a composition or compound consisting of the following ingredients, to wit:

Delaware spar, twelve ounces; silex, four ounces; asbestus, four ounces; powdered mica, six ounces; titanium, twenty grains; kaolin, seven dwts.

In the above-described composition the asbestus may be dispensed with, and lime substituted therefor, or lime and asbestus may both be employed, as may be found necessary to increase or decrease the fusibility and tenacity or homogeneity of the mass.

These ingredients are thoroughly mixed and incorporated by the addition thereto of a sufficient quantity of rain-water or distilled water, until the mass has assumed the consistency of thick paste, when it is introduced into molds obtained and made in the usual manner, or in any approved or preferred way, and is then subjected to heat until fused or baked, the process being analogous to that ordinarily employed in the manufacture of porcelain plates and teeth.

Any other spar may be used in the place of the Delaware spar above mentioned, so named to distinguish it from other spars as better adapted to the manufacture of porcelain for dental plates, owing to its greater purity, as described in works relating to the art—among others, Richardson's Mechanical Dentistry.

By means of the above-described composition or compound I obtain a material having greater plasticity, hence better adapted to the process of molding, and carving, and finishing than the material heretofore employed, and requiring about one-half the amount of heat only in the baking or fusing process, while the resultant plates are more homogeneous and tougher, and have perfectly smooth and vitrified surfaces, and require little or no labor to finish them ready for use.

These plates are also perfectly and absolutely tasteless and non-corrosive.

By experience I have found that the proportions of the ingredients as above described give perfectly satisfactory results, though I do not wish to limit myself thereto, as under some circumstances they may be varied.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

In the manufacture of porcelain especially adapted for dental plates and teeth, the above-described composition or compound, consisting of Delaware spar, silex, asbestus, mica, titanium, and kaolin, substantially as set forth.

In witness that I claim the foregoing I have hereunto set my hand this 30th day of August, 1876.

ALMON B. CADY.

Witnesses:
M. L. WALKER,
HENRY PRICE.