

UNITED STATES PATENT OFFICE.

EMMA CADWALLADER GUILD, OF BERLIN, GERMANY.

ALLOY.

SPECIFICATION forming part of Letters Patent No. 652,514, dated June 26, 1900.

Application filed September 11, 1899. Serial No. 730,107. (No specimens.)

To all whom it may concern:

Be it known that I, EMMA CADWALLADER GUILD, a citizen of the United States, residing at Berlin, Germany, have invented a new and useful alloy of metals, which from its pure and unchanging color can hardly be distinguished from gold, of which the following is a specification.

My composition or alloy consists of the following ingredients, combined in the proportions stated, viz: copper, 82.78 per cent.; zinc, 14.70 per cent.; tin, 2.05 per cent.; bismuth, 0.33 per cent.; lead, 0.10 per cent.; silicic acid, 0.01 per cent.; phosphorus, traces. These ingredients are to be thoroughly fused in an iron vessel, and as copper is somewhat difficult, comparatively, to melt and melts better when zinc is present I prefer to melt the copper and zinc together and then add the other ingredients. The essential requisite is that the ingredients be thoroughly fused, so that there shall be no unevenness in the fused mass, and, if found desirable or more convenient, the whole of the ingredients may be placed in the smelting-pot together and care exercised to thoroughly fuse the same. The phosphorus is mixed with any

vegetable oil, the office of the oil being merely to act as a medium of conveying the phosphorus to the smelting-pot and the quantity used being only sufficient to receive the phosphorus. The oil is all burned away in the smelting-pot.

The alloy produced by the above composition is capable of taking on, when subjected to certain chemical baths, every shade and color of beautiful and permanent patina, any portion of the pure metal, however, if left exposed to the air retaining still its own color. By these means endless decorative effects may be obtained.

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

The herein-described alloy of metals consisting of copper, zinc, tin, bismuth, lead, silicic acid, and phosphorus.

It witness whereof I have hereunto signed my name, this 4th day of August, 1899, in the presence of two subscribing witnesses.

EMMA CADWALLADER GUILD.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.