

UNITED STATES PATENT OFFICE.

THEODOR KOCH, OF NEWARK, NEW JERSEY, ASSIGNOR TO AMERICAN PLATINUM WORKS, A CORPORATION OF NEW JERSEY.

ALLOY.

1,340,451.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, THEODOR KOCH, a subject of Germany, and a resident of Newark, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Alloys, of which the following is a specification.

This invention relates to an alloy to be used as a substitute for platinum in jewelry and elsewhere, and the objects of the invention are to secure such an alloy which shall be rich in gold, so as to be precious; which shall be white or of the color of platinum; which can be advantageously worked into various forms, such as rolled into sheets, drawn into wire, seamless tubing or the like, made into settings, and so forth; which can be satisfactorily machined or operated upon with tools; which will not tarnish readily, and which shall possess other advantages some of which may be brought out in the following description.

In carrying out my invention, I melt together gold, nickel and manganese in the proportions hereinafter stated, preferably first fusing together the nickel and manganese and then adding gold, and in this way I obtain an alloy of white color which is rich in gold, that is from 18 to 22 carat or from 750 to 917 thousandths fine. I have discovered that manganese is so effective in producing whiteness that a large amount of gold can be used when it is present, and a very precious alloy thus secured.

The proportions of metals used in producing my new alloy may be varied consider-

ably, and satisfactory results are obtained with the gold varying from 75% to 91.7%, manganese from $\frac{1}{4}$ % to 5% and nickel from $24\frac{3}{4}$ % to 3.3%. For example, for a 21 carat alloy, containing $87\frac{1}{2}$ % gold, from $\frac{1}{4}$ % to 5% manganese and from $12\frac{1}{4}$ % to $7\frac{1}{2}$ % nickel should be used. Any of these proportions will produce an alloy having the characteristics above-stated, susceptible of a high polish and having other valuable and advantageous features. Containing only a small number of metals there are less complications of qualities to deal with and it is more readily workable, and since it contains no platinum it is not subject to the present restrictions on the use of that metal.

Obviously various other metals may be added in making my alloy, for the same purpose for which they have heretofore been used in other alloys, without losing the advantages of my invention or departing from its spirit or scope, and therefore I do not wish to be understood as restricting myself by anything herein except as required by the following claims.

Having thus described the invention, what I claim is:

1. An alloy containing not less than 75% of gold, $\frac{1}{4}$ % to 5% of manganese and $24\frac{3}{4}$ % to 3.3% of nickel.

2. An alloy of from 75% to 91.7% of gold, with 5% to $\frac{1}{4}$ % manganese and $24\frac{3}{4}$ % to 3.3% of nickel.

3. An alloy $87\frac{1}{2}$ % gold, $\frac{1}{4}$ % to 5% manganese, and $12\frac{1}{4}$ % to $7\frac{1}{2}$ % nickel.

THEODOR KOCH.