UNITED STATES PATENT OFFICE.

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ALLOY.

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To all whom it may concern:

Be it known that I, GEORGE L. VAN ALLEN, a citizen of the United States, and a resident of Prince Bay, Staten Island, New York, have invented new and useful Improvements in Alloys, of which the following is a specification.

The objects of this invention are to secure an alloy which can be used instead of platinum alloys for dental purposes and more particularly for clasps, posts and so forth; to obtain such an alloy with great resiliency or spring, so that it is well adapted for such uses; to secure in such an alloy other desirable and necessary qualities for dental work, such as a pleasing color, resistance to attack by saliva and so forth, and to obtain other advantages and results as may be brought out in the following description.

In carrying out my invention I melt together gold, silver, copper and palladium, as the basis or foundation of my improved alloy, to which is added a small amount of some metal which will act as a stiffener to give greater springiness, or resiliency, without materially decreasing the toughness. I have found aluminum well adapted to this purpose, as only a very small amount of it is needed, but also magnesium, zinc, tin, and probably other metals, can be employed for the same purpose.

In making my new alloy, I have used the following parts by weight,—64% of gold, 18¾% of silver, 9% of copper and 8% of palladium, although it will be understood that these proportions might be somewhat varied or departed from. This forms the basis or foundation of the alloy, to which only relatively small quantities of the stiffening metal need be added to obtain the desired resiliency. I have found that ¼% of aluminum is sufficient to add, although rather more magnesium is necessary, about 1%, with a corresponding decrease in the amount of silver.

The alloy thus formed cannot be distinguished in color and appearance from those previously used containing platinum and is resilient to even a greater degree. It has all the other necessary and desirable qualities of a metal for dental work, and is therefore well adapted for such purposes. At the same time, I do not wish to be understood as restricting the use of the alloy, as obviously it can be employed wherever desired.

Having thus described the invention, what I claim is.

1. An alloy containing gold, silver, copper, palladium and a stiffening metal, in substantially the proportions stated.

2. An alloy containing gold, silver, copper, palladium and aluminum, in substantially the proportions stated.

3. An alloy containing 64% of gold, 18¾% of silver, 9% of copper, 8% of palladium and ¼% of a stiffening metal.

4. An alloy containing 64% of gold, 18¾% of silver, 9% of copper, 8% of palladium and ¼% of aluminum.

GEORGE L. VAN ALLEN.