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# UNITED STATES PATENT OFFICE.

MELVIN E. PAGE, OF MUSKEGON, MICHIGAN.

## ALLOY.

No Drawing. Application filed April 22, 1925. Serial No. 25,123.

*To all whom it may concern:*

Be it known that I, MELVIN E. PAGE, a citizen of the United States, residing at Muskegon, in the county of Muskegon, and State of Michigan, have invented new and useful Improvements in Alloys, of which the following is a specification.

The present invention relates to metal alloys particularly such as are used for denture bases carrying artificial teeth; and its object is, generally, to provide such an alloy having certain improved characteristics hereinafter appearing, and made by casting the molten component metals thereof in a mold.

Hitherto most of the metals used for denture bases have been either aluminum or gold alloys. Such gold alloys are expensive, heavy, difficult to cast on account of the shrinking of the metal or of the mold in cooling, and require a very high temperature in casting, inasmuch as this metal cools rapidly and fails to run freely into the mold.

Aluminum is not malleable and denture plates made thereof are necessarily thick to compensate for lack of strength, are porous and thus collect impurities rendering their use unsanitary.

Various other alloys, not in general use, are subject to decomposing electrolytic action and certain chemical reactions.

To obviate the above difficulties, I have provided an alloy composed of aluminum, gold and copper; and while I do not propose to confine myself, in carrying out the present invention, to an alloy composed of said metals in the exact proportions hereinafter mentioned, I have found that said metals may be mixed and melted preferably in substantially the following proportions in weight:

Aluminum, 93.20 per cent; gold, 4.55 per cent; copper, 2.25 per cent.

The casting temperature of this alloy is comparatively low and the cast exhibits only a negliable amount of shrinkage in cooling, so that a properly fitting denture base may be readily made thereof; and this alloy although of light weight has sufficient strength, is non-porous, is malleable, comparatively inexpensive, white, lustrous, takes a high polish, does not discolor, and is not subject to decomposing electrolytic action or other chemical reaction, and is thus non-corrosive.

I claim:

1. An alloy composed of the following metals in substantially the following proportions: aluminum 93.20 per cent; gold 4.55 per cent; copper 2.25 per cent.

2. An alloy composed of aluminum in largely predominant amount, and copper and gold each in substantial amounts.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 14th day of April, 1925.

MELVIN E. PAGE.