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METALLIC ALLOY.

No Drawing.

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This invention relates to improvements in metal alloys.

An object of the invention is to provide a metal alloy adapted primarily for making electrodes to be used in connection with electric heaters for heating water or other liquids that do not chemically attack the metals comprising the alloys.

While the primary use is for making electrodes for the purposes stated, it should be understood that the use is not limited to this purpose, but that the alloy is intended for any technical use for which it may be found suitable.

The alloy comprises tin, copper, lead, bismuth and antimony. In preparing the alloy the relative percentage of each ingredient may be varied to a considerable extent and the limits of the various percentages by weight may be tabulated, as follows:

Tin	2½% to 10%
Copper	¼% to 2%
Lead	10% to 25%
Bismuth	5% to 20%
Antimony	by difference

The several ingredients are mixed by melting the highest melting point ingredient and adding the remaining ingredients in sequence according to their decreasing melting points.

The resultant alloy is a crystalline metal that may be readily cast in molds to form the electrodes. The electrodes when used in electric heating apparatus are not electrolyzed by the current passing from one electrode to the other in the liquid to be heated.

A preferred formula for producing the alloy is as follows:

Tin	6% by weight
Copper	½ of 1% by weight
Lead	15% by weight
Bismuth	10% by weight
Antimony	by difference

While the preferred formula is stated as one producing a highly satisfactory alloy for the purpose mentioned, it should be understood that the variations of percentages within the limits hereinbefore specified may be used to accomplish the production of an alloy having the general characteristics mentioned.

I do not limit myself, therefore, to exact proportions, but what I claim and desire to secure by Letters Patent is:—

1. A metallic alloy comprising the following ingredients substantially in the following proportions by weight, namely: tin, 6%; copper, one-half of 1%; lead, 15%; bismuth, 10%; and antimony, by difference.

2. A metallic alloy comprising, by weight, tin 2% to 10%; copper ¼% to 2%; lead 10% to 25%; bismuth 5% to 20%; and antimony, by difference.

3. As a new article of manufacture, an electrode practically free from becoming electrolyzed by the passage of current there-through and comprising, by weight, tin 6%; copper ½ of 1%; lead 15%; bismuth 10%; and antimony, by difference.

4. As a new article of manufacture, an electrode practically free from becoming electrolyzed by the passage of current there-through and comprising, by weight, tin 2% to 10%; copper ¼% to 2%; lead 10% to 25%; bismuth 5% to 20%; and antimony, by difference.

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