

UNITED STATES PATENT OFFICE.

LOUIS GROSS, OF HOMESTEAD, PENNSYLVANIA, ASSIGNOR TO CARL GROSS, OF
McKEES ROCKS, PENNSYLVANIA.

COMPOSITION OF MATTER.

1,023,642.

Specification of Letters Patent.

Patented Apr. 16, 1912.

No Drawing.

Application filed October 15, 1906. Serial No. 338,977.

To all whom it may concern:

Be it known that I, LOUIS GROSS, citizen of the United States of America, residing at Homestead, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Composition of Matter, of which the following is a specification.

This invention relates to a new composition of matter to be used in lieu of brass or a similar durable material. The composition of matter is therefore adapted for journal boxes, bearings and structures requiring durable material.

My new composition of matter is made of the following ingredients, combined in the proportions stated, viz:

Copper-----	3 lbs.
Ashes-----	1½ oz.
Borax-----	½ oz.

The copper is subjected in a suitable receptacle to a temperature of about 1000 degrees Fahrenheit. When this temperature is attained, the ashes and borax are added to the copper. The ashes are ordinary coal ashes or cinders (sometimes termed a clinker) finely powdered, containing approximately between 35% and 40% metallic constituents, while the borax may be used in a powdered or rock form. The compound of the three ingredients above noted are now subjected to a melting temperature of 1975

degrees Fahrenheit, a suitable furnace or blow pipe being used as a heating medium. After being subjected to such heat for a short period of time, the molten metal is poured into suitable molds and made into commercial billets.

The proclivity of the ashes is to harden the copper and render it more useful, the borax acting as a flux. By this means a material is produced which is the equivalent as to hardness and durability of the most expensive alloys of zinc, copper, and the like.

It is obvious that the proportions of the ingredients can be varied according to the variety of copper or its alloys desired.

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

The method of treating copper to harden the same, consisting in heating the copper to a temperature slightly below the melting point of the same, then adding borax and finely powdered coal ashes to the copper while the latter is in its highly heated condition, and then subjecting the mass to a degree of temperature sufficient to melt the copper.

In testimony whereof I affix my signature in the presence of two witnesses.

LOUIS GROSS.

Witnesses:

MAX H. SROLOVITZ,
A. J. TRIGG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."