

UNITED STATES PATENT OFFICE.

SAMUEL SINGLEY, OF NEW YORK, N. Y., ASSIGNOR TO THE MAGNOLIA
ANTI-FRICTION METAL COMPANY, OF NEW YORK.

METHOD OF MAKING ALLOYS.

SPECIFICATION forming part of Letters Patent No. 464,395, dated December 1, 1891.

Application filed June 22, 1889. Serial No. 315,237. (No specimens.)

To all whom it may concern:

Be it known that I, SAMUEL SINGLEY, now residing in the city, county, and State of New York, have invented a new and useful Process of Treating Certain Anti-Friction Compositions or Alloys, of which the following is a specification.

My process consists in treating the metallic elements of the alloys with sal-ammoniac and graphite, and especially relates to alloys whereof lead and antimony are large component elements, for some of which I have already applied for Letters Patent.

To one hundred pounds of lead in a molten condition I add gradually four to eight ounces of sal - ammoniac, mixing thoroughly, and keeping the molten mass stirred, and removing the scum and dross as it arises. To the lead so cleansed I add the antimony, say, from twenty to forty pounds, depending upon the nature of the alloy used and sufficient graphite in a powdered condition to cover the mass, stirring frequently. The other elements, depending upon the nature of the alloy or composition to be obtained, are then added, the mass being stirred from time to time and the composition poured into suitable molds to cool. I have found that the alloys so treated

have an improved quality as anti-friction compositions and corresponding economical advantages. When the lead is very pure or is purchased already cleansed by sal-ammoniac, it is not necessary to use sal-ammoniac as described by me, although I prefer for certainty to do so.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The mode of manufacturing anti-friction metal, which consists in adding a suitable quantity of sal-ammoniac to a mass of molten lead, thoroughly agitating the mass and removing the scum and dross, and then adding a proportionate quantity of antimony, substantially in the manner and for the purpose set forth.

2. The mode of manufacturing anti-friction alloys, which consists in adding sal-ammoniac to molten lead, agitating the mass and removing the scum, adding a proportionate quantity of antimony, and covering the mass with powdered graphite, and then agitating the mass, substantially as set forth.

SAMUEL SINGLEY.

Witnesses:

CHAS. B. MALLER,
WALTER K. GRIFFIN.