

UNITED STATES PATENT OFFICE.

ALEXANDER W. CADMAN, OF EDGEWOODVILLE, PENNSYLVANIA.

ALLOY.

SPECIFICATION forming part of Letters Patent No. 464,147, dated December 1, 1891.

Application filed February 9, 1891. Serial No. 380,857. (No specimens.)

To all whom it may concern:

Be it known that I, ALEXANDER W. CADMAN, of Edgewoodville, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Aluminium Alloy, of which the following is a full, clear, and exact description.

My invention relates to an improved alloy to be used for anti-frictional purposes in journal-bearings, &c.; and it consists in a composition or alloy of antimony, tin, copper, and aluminium. Antimony, tin, and copper, when alloyed, constitute what is known as "Babbitt metal" and is largely used in the arts for anti-frictional purposes. I have discovered that by adding a small percentage of aluminium to the Babbitt metal its grain is rendered closer and finer, and it is made more fusible, so that both as regards its ease of working and character of product it is much superior for the purpose than any anti-friction metal known to me.

The proportions of ingredients used in the manufacture of Babbitt metal of the best quality are as follows: antimony, 7.3; tin, 89; copper, 3.7. These proportions may be varied within certain limits, as will be well understood by those familiar with the art of making Babbitt metal.

In making my improved alloy I add to the

Babbitt metal or to the constituent parts thereof aluminium, preferably from one quarter of one per cent. to two and one-half per cent. of the whole, though, if desired, a somewhat less quantity of aluminium may be used, or the aluminium may be increased to a higher percentage, according to the particular use to which the Babbitt metal is to be put. When the aluminium is present in quantities of over two and one-half per cent., its effect is to render the alloy somewhat hard and brittle, and these properties increase with the proportion of aluminium employed. This fact will be a safe guide to the manufacturer in determining the amount of aluminium which should be used in the alloy. What I deem to be the preferable proportion of aluminium for ordinary purpose is about three-eighths of one per cent.

What I claim is—

As a new article of manufacture, an anti-friction alloy composed of antimony, tin, copper, and aluminium; substantially in the proportions specified.

In testimony whereof I have hereunto set my hand this 6th day of February, A. D. 1891.

ALEXANDER W. CADMAN.

Witnesses:

W. B. CORWIN,
H. M. CORWIN.