UNITED STATES PATENT OFFICE.

THOMAS MACKELLAR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE MACKELLAR, SMITHS & JORDAN COMPANY, OF SAME PLACE.

METALLIC ALLOY.

SPECIFICATION forming part of Letters Patent No. 463,427, dated November 17, 1891.

Application filed February 24, 1891. Serial No. 382,601. (No specimens.)

To all whom it may concern:

Be it known that I, THOMAS MACKELLAR, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented an Improved Metallic Alloy, of which the following is a specification.

The object of my invention is to make an alloy for type which will be tougher and less corrosible than the alloys now used and which will produce a sharp face on the type-body. This object I attain in the manner hereinafter set forth.

The ingredients used in my improved alloy are lead, tin, aluminum, and antimony, with the addition of copper in some cases; and in carrying out my invention I prefer to use the following proportions: sixty-five parts of pure lead, twenty parts of antimony, and ten parts of an alloy composed of equal parts of tin, copper, and aluminum. The metals composing this alloy are first fused and combined together in crucibles subjected to an intense heat, and the alloy thus formed, with the addition of the antimony, is added to the given amount of molten lead.

A slight variation may be made in the proportions specified above to adapt the type-metal to the differing sizes of the type-body, and the copper may in some cases be omitted, although its use is preferred.

While the specific gravity of the type made from the aforesaid composition varies but little from that of the ordinary printing-type, the improved type are found to be tougher and less corrosible and present perfectly sharp faces.

I do not claim, broadly, an alloy of lead, tin, aluminum, and antimony, as such an alloy has before been proposed, but with proportions of various ingredients essentially different from those which I use.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The within-described alloy, consisting of lead, antimony, and a tin-aluminum mixture, the latter not exceeding ten per cent. of the whole, substantially as specified.

2. The within-described alloy, composed of lead, tin, copper, aluminum, and antimony in about the proportions specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS MACKELLAR.

Witnesses:
ROBT. MCCURDY,
E. F. HICK.