

# UNITED STATES PATENT OFFICE.

HARRY PEARSE AND EYRE F. IEVERS, OF BUENOS AYRES, ARGENTINA.

## ANTIFRICTION METAL ALLOY.

SPECIFICATION forming part of Letters Patent No. 708,580, dated September 9, 1902.

Application filed July 18, 1902. Serial No. 116,018. (No specimens.)

*To all whom it may concern:*

Be it known that we, HARRY PEARSE and EYRE F. IEVERS, citizens of Great Britain, residing at Las Barrancas, Campania, in the city of Buenos Ayres and Republic of Argentina, have invented certain new and useful Improvements in Antifriction Metal Alloys, of which the following is a specification.

The object of this invention is to provide an alloy of various metals adapted for lining bearings, slide-valve faces, or for any other purpose wherein metallic surfaces are exposed to wear under pressure for purpose of reducing friction.

The invention consists in an alloy or compound composed of the following-named metals, and for use in lining bearings is made up in substantially the following proportions: lead, seventy-five (75) per cent.; antimony, fifteen (15) per cent.; tin, six (6) per cent.; copper, three (3) per cent.; wrought-iron, one-half ( $\frac{1}{2}$ ) per cent.; cast-iron, one-half ( $\frac{1}{2}$ ) per cent.; total, one hundred.

The copper, cast-iron, and wrought-iron are fused together in a suitable crucible, the wrought-iron being cut into small pieces to facilitate its fusion, and the tin, lead, and antimony are separately fused in suitable crucibles. When the copper and iron are in a liquid state and mixed, the tin is first

added, then the lead, and lastly the antimony. After thoroughly blending and skimming the mixture it is poured into molds to form ingots, bars, plates, or articles of any desired shape or design.

In making up the alloy for lining the working faces of slide-valves or for other special uses the proportionate amount of the copper, tin, lead, and antimony may be varied to produce either a different degree of hardness, or ductility, or elasticity, or other quality that the special use may require or that the action of rolls or hammers or temperatures may affect it in its preparation, such conditions being well understood by those skilled in the art in the preparation of alloys for various uses.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

An antifriction metallic alloy composed of lead, antimony, tin, copper, wrought-iron, and cast-iron, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

HARRY PEARSE.  
EYRE F. IEVERS.

Witnesses:

E. V. G. H. SHARPE,  
S. H. MILLER.