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WHITE-METAL ALLOY

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This invention relates to white metal alloys for use with bearings in all cases where there is hard and abrasive wear with heavy load and in particular with the side metals of engine axle boxes, brasses, and some forms of cross-heads.

My improved alloys contain lead in greater quantity than that of any one of the other constituents; antimony and tin in varied but approximately equal proportions to each other; and copper in an amount approximating to one half of the quantity of antimony.

A percentage composition of one form of alloy is:—Antimony and tin about 12.5 each; copper from 6 to 7; the remainder being lead. For normal wear with this particular alloy the amount of copper should be close to 6 per centum, while for a hard alloy the copper should range about 7 per centum, the percentages being by weight.

The copper may be wholly or in part replaced by nickel, and various alloys are formed by altering slightly the amounts of antimony and of tin while retaining approximately equal proportions of each.

In the preparation of my alloys I prefer to melt the desired quantity of copper and add the antimony and some of the tin to the molten mass. The remainder of the tin and the whole of the lead are then added, reasonable steps being taken to prevent undue oxidation.

I claim—

1. An alloy consisting of lead, antimony, tin, and copper in which the antimony represents about 12 per centum by weight, the tin about 12 per centum, the copper from 6 to 7 per centum, and the lead constitutes the remainder.

2. An alloy consisting of lead, antimony, tin and copper, in which the antimony represents from 10 to 15 per cent by weight, the tin from 10 to 15 per cent, the copper from 5 to 7.5 per cent, and the lead constitutes the remainder, the antimony and tin being present in substantially equal amounts, and the copper being present in an amount substantially equal to one-half the amount of the antimony.

In testimony whereof I have affixed my signature.

HUBERT JAMES RUMLEY OVERALL.