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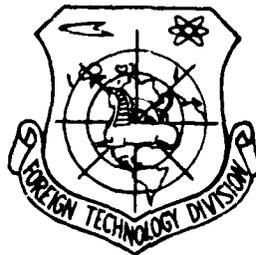
FOREIGN TECHNOLOGY DIVISION



A METHOD OF INCREASING THE WEAR RESISTANCE AND  
CORROSION RESISTANCE OF METALS AND ALLOYS BY  
SATURATING THEIR SURFACE LAYERS WITH HALIDES

by

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## EDITED TRANSLATION

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By: B. P. Grigor'yev

English pages: 2

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**ABSTRACT**  
 This Author Certificate introduces a method for improving the wear and corrosion resistance of metals and alloys by surface impregnation with halides. Zinc, lead, and aluminum or their alloys are treated in a solution of iodine in acetone, and copper alloys are treated in a solution of bromine in glycerin.

\*09 Title cont. - LAYERS WITH HALIDES

A METHOD OF INCREASING THE WEAR RESISTANCE AND CORROSION  
RESISTANCE OF METALS AND ALLOYS BY SATURATING THEIR  
SURFACE LAYERS WITH HALIDES

B. P. Grigor'yev

The saturation of metal and alloy surfaces with sulfur, bromine, chlorine and other elements for increasing the wear resistance and improving the anticorrosion properties of friction surfaces is known. Here, the saturation is done from solid, gaseous and liquid media at a high temperature.

The essence of the described method consists in the fact that the surfaces of the metals and alloys are processed by solutions of iodine or bromine in organic solvents. The surface layers of alloys, zinc, lead or aluminum are saturated by a solution of iodine in acetone, and copper alloys are saturated by a solution of bromine in glycerine.

The technological process of the treatment of B-2 brand babbit bushings, for example, consists of the following operations. The bushings are heated up to 50-60<sup>o</sup>, moistened with a solution of iodine in acetone, dried and polished lightly with a cloth or burlap until a metallic shine is obtained. This treatment cycle is repeated twice. After the second cycle the bushings are lubricated with hot mineral oil and are aged for sometime.

Subject of Invention

A method of increasing the resistance to wear and the stability of metals and alloys by saturating the surface layers with halides,

differ in that the metals or alloys are processed by solutions of iodine or bromine in organic solvents, for example, iodine in acetone for alloys of zinc, lead and aluminum or bromine in glycerine for copper alloys.