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UNITED STATES PATENT OFFICE

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PRODUCTION OF DARK OXIDIC COATINGS ON MAGNESIUM AND MAGNESIUM ALLOYS

No Drawing. Application filed May 27, 1929, Serial No. 366,536, and in Germany April 19, 1929.

My invention relates in improvements in the production of dark oxidic coatings on magnesium and magnesium alloys.

It is known to obtain different coloured coatings on magnesium and magnesium alloys in strongly acid baths.

A method has also been proposed for obtaining light to dark grey coatings by treatment of magnesium and magnesium alloys with solutions of salts of some heavy metals, more especially tin and chromium, if necessary in the presence of reaction-accelerating additions, without an acid being added to the bath.

According to my present invention it is possible to obtain firmly adhering deep dark brown to black coatings on magnesium and its alloys in completely neutral baths, by introducing them into solutions which contain salts of the divalent manganese and in addition water-soluble chromates. The coatings are so strong and adherent, that they can even be swabbed.

In order for instance to obtain a deep black coating of this kind, I immerse articles of magnesium or magnesium alloys which are superior in hardness to magnesium, in a bath containing 100 grms. manganese sulphate and 100 grms., sodium bichromate to 1 litre of water and heat the bath for a short time, in which case the articles become covered with a black coating containing manganese dioxide. Instead of manganese sulphate I use other mangano-salts, instead of sodium-bichromate other chromates as for instance potassium chromate.

I claim:

1. The herein described process of producing dark oxidic coatings on magnesium and magnesium alloys, which consists in treating the said metals in neutral baths, which contain water-soluble salts of manganese and water-soluble salts of the chromic acid.

2. The herein described process of producing dark oxidic coatings on magnesium and magnesium alloys, which consists in treating the said metals in neutral baths, which contain manganese sulphate and sodium bichromate.

In testimony whereof I affix my signature.

BOHUMIL JIROTKA.