Patented Jan. 5, 1932 1,839,931

UNITED STATES PATENT OFFICE

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PLATING

No Drawing. Application filed May 21, 1928. Serial No. 279,617.

This invention relates to the plating of metallic articles, especially for the purpose of rust-proofing, and has for an important object to provide a plated surface which is bright and pleasing without requiring buffing or polishing.

In one desirable manner of carrying out my invention, the bright and pleasing color is secured by using a substantial proportion, but less than one-half, of zinc in the plating, together with another rust-proofing metal such as cadmium making up the balance of the rust-proof coating. The cadmium gives a firm and coherent coating, while the zinc adds materially to the brightness and is also much cheaper than cadmium. I prefer to use approximately 25% of zinc and 75% of cadmium.

As one particular bath which may be used in carrying out my invention, the following may be used: 19 oz. potassium cyanide, 7 oz. cadmium oxide, 3 oz. zinc oxide, 2 oz. caustic soda, and 2 oz. ammonium chloride, per gallon of water. This bath is used with anodes of metallic cadmium and metallic zinc, preferably approximately one-fourth of the anode surface being zinc and three-fourths being cadmium, although if desired an alloy of corresponding proportions of zinc and cadmium may be used for the anode.

The articles, usually of steel plated in the above-described bath with the zinc-cadmium anodes, have an unusually bright and pleasing surface of much firmer texture than zinc alone, and of much better appearance than cadmium alone.

The bath is kept at the desired concentration during use by adding potassium cyanide and caustic soda as required, preferably to give about 6 oz. free cyanide and 5 oz. metal per gallon of bath.

While one particular bath and one particular proportion have been specifically described, it is not my intention to limit the scope of the invention by that description, or otherwise than by the terms of the appended claims.

I claim:

1. That method of plating metallic articles which comprises immersing the articles in a bath containing a relatively large proportion of potassium cyanide, a salt of zinc, a salt of cadmium together with small quantities of ammonium chloride and sodium hydroxide, and plating with an anode containing zinc and said other metal, said anode containing approximately one-fourth of zinc.

2. That method of plating metallic articles which comprises immersing the articles in a bath containing nineteen ounces of potassium cyanide, seven ounces cadmium oxide, three ounces zinc oxide, two ounces caustic soda and two ounces ammonium chloride per gallon of water and plating with an anode containing zinc and cadmium in the proportions of seventy-five per cent cadmium and twenty-five per cent zinc.

In testimony whereof, I have hereunto signed my name.

JOSEPH N. REPPEN.