UNITED STATES PATENT OFFICE.

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PROCESS FOR THE PRODUCTION OF VARIED COLORATIONS AND BLACK SHADES ON METALS.

1,095,357. Specification of Letters Patent. Patented May 5, 1914.

No Drawing. Application filed January 19, 1914. Serial No. 813,063.

To all whom it may concern:

Be it known that I, FRANCOIS AUGUSTE ROUX, a citizen of the Republic of France, and resident of Paris, France, have invented a new and useful Process for the Production of Varied Colorations and Black Shades on Metals, which is fully set forth in the following specification.

When it is required to deposit on metals thin colored or black layers, sulfurizing or oxidizing substances are generally employed. This operation, which gives more or less good results with the metals of which the oxids or sulfids are colored, is inapplicable to aluminium, of which the oxid and sulfid are white.

The present invention has for its object a process of producing, especially upon aluminium, the above named colored or black deposits, by the use of an electrolyte that is constituted by a more or less diluted solution of ammonium-molybdate. The metal to be treated is arranged in the electrolytic solution as the cathode, the anode being constituted either by a sheet of platinum or any other metal that is insoluble in the electrolyte, or by a plate of carbon. To the solution of molybdate there may be added a certain amount of ammonium, in order to facilitate the formation of the colored deposit, which gradually passing through all the colors of the spectrum reaches absolute black. This process is applicable not only to aluminium, but to all usual metals. In this latter case, it is often advantageous to add to the bath a cyanid or another alkaline salt.

The following is an example of the composition of the bath: Water, 1,000 grams; ammonium-molybdate, 25 grams; ammonium, 10 cubic centimeters. It is to be observed that these proportions are not wholly absolute and may be varied on a large scale in order to obtain more or less quickly the desired result.

What I claim is:

1. The herein-described process of treating metals to vary the shades of electrolytic deposition thereon which consists in immersing the metal to be treated in an electrolytic bath composed of a neutral solution of ammonium-molybdate, and passing a current thereto as a cathode through the solution from an inert anode.

2. The herein-described process of treating metals to vary the shades of electrolytic deposition thereon, which consists in immersing the metal to be treated in an electrolytic bath composed of a neutral solution of ammonium-molybdate to which ammonium has been added, and passing a current thereto as a cathode through the solution from an inert anode.

3. The herein-described process of treating metals to vary the shades of electrolytic deposition thereon, which consists in immersing the metal to be treated in an electrolytic bath composed of a neutral solution of ammonium-molybdate to which ammonium and an alkaline salt have been added, and passing a current thereto as a cathode through the solution from an inert anode.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANCOIS AUGUSTE ROUX.

Witnesses:
EMILE LEDRET,
HANSON C. COXE.