

UNITED STATES PATENT OFFICE.

SAMUEL EDWARDS, OF PITTSBURGH, PENNSYLVANIA.

FLUX FOR COATING METAL ARTICLES.

1,063,248.

Specification of Letters Patent.

Patented June 3, 1913.

No Drawing.

Application filed February 24, 1913. Serial No. 750,449.

To all whom it may concern:

Be it known that I, SAMUEL EDWARDS, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, citizen of the United States, have invented or discovered certain new and useful Improvements in Fluxes for Coating Metal Articles, of which improvements the following is a specification.

While there has been, comparatively little difficulty experienced in coating metal sheets and other articles with a variety of metals as tin, zinc, etc., and alloys of metals as zinc and lead, tin and lead, etc., but it has been found impracticable to coat metal articles, sheets, etc., with a uniformly adherent coat of pure lead, by immersing the sheets or other articles in a molten bath of lead. The lack of commercially practicable results is due to the difficulty of properly fluxing the surfaces at the relative low temperature of a molten pure lead. The object of the invention described herein is to provide a suitable flux and to so apply the flux that the lead will firmly adhere to the surfaces to be coated. The invention is hereinafter more fully described and claimed.

In the practice of my invention, I take a suitable quantity of hydrochloric acid, say one hundred pounds, and add thereto about two and one half per cent. (2½%) of zinc which will dissolve therein. This mixture forms approximately one half of my improved flux. The other half consists of one

hundred pounds of hydrochloric acid to which is added one per cent. (1%) of aluminum and one half of one per cent. of sal-ammoniac. After these solutions have been formed they are mixed together. The articles or sheets to be coated are immersed in the bath thus formed and while the surfaces are still wet with the flux they are immersed in bath of pure lead which is heated to a temperature of about six hundred degrees Fahrenheit.

It has been found that in using this flux that as firmly and uniformly adherent coating of lead is formed on the surfaces of the articles or sheets, as is obtained when using tin or zinc or alloys thereof.

I claim herein as my invention:

1. A flux for use in coating metal articles formed by adding zinc, aluminum and sal ammoniac to hydrochloric acid in substantially the proportions stated.

2. The herein described method of forming a flux for coating with lead, which consists in dissolving zinc in suitable quantity of hydrochloric acid, mixing aluminum and sal ammoniac in a substantially equal quantity of hydrochloric acid, and then mixing the two solutions.

In testimony whereof, I have hereunto set my hand.

SAMUEL EDWARDS,

Witnesses:

ALICE A. TRILL,
T. B. JOYCE.