UNITED STATES PATENT OFFICE.

ADOLPHUS L. PAGE, OF ROCHESTER, NEW YORK, ASSIGNOR OF TWO-FIFTHS TO SAMUEL RUBIN, OF BALTIMORE, MARYLAND.

PROCESS FOR TINNING ALUMINUM.

1,339,710. Specification of Letters Patent. Patented May 11, 1920.

No Drawing. Application filed September 30, 1919. Serial No. 327,417.

To all whom it may concern:

Be it known that I, ADOLPHUS L. PAGE, a citizen of the United States, residing at the city of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Processes for Tinning Aluminum, of which the following is a specification.

This invention relates to a process for tinning aluminum, and has for its object to provide a composition for the treatment of such metal as to protect the surface from oxidation, so that tin or other similar metals may be made to adhere thereto and for a flux so that the many articles now manufactured from aluminum may be repaired and their usefulness prolonged.

With the foregoing objects in view the invention consists of the following:

Aluminum to be tinned is immersed in boiling stearic acid and while immersed the surface of the part to be tinned is brushed or scrubbed with a steel brush until the surface parts to be tinned are thoroughly cleaned. The superfluous acid is then allowed to drip off and the surface of the aluminum so treated is then subjected to a non-carbonizing flame and the stearic acid burned, that which is left on the aluminum will form a film of higher series of acid which will protect the surface from and prevent oxidation.

After the aluminum parts have been so treated the aluminum may be tinned without any resulting galvanic action by immersing the aluminum in a molten bath composed of the following ingredients and in the proportions stated: pure tin, 80 per cent.; zinc, 10 per cent.; aluminum, 8 per cent.; phosphate tin, 2 per cent.

While immersed in this bath the aluminum to be tinned is brushed with a metal brush until the parts to be tinned are thoroughly covered with tin. Aluminum so prepared and treated will readily cause tin to adhere to it and form a coating thereon.

Any other commercial pure tin may be used instead of the above bath with fair and in some cases satisfactory results, but the best results are attained by the use of the above composition. After aluminum or aluminum parts are so treated they may be easily and securely soldered together by any of the well known and established processes of soldering ordinary tin or other sheet metals upon which solder is usually used.

Aluminum and aluminum utensils which have been tinned in the manner above stated may be repaired and their usefulness prolonged by the use of ordinary commercial solder, the tin coating on the aluminum forming a flux to which the solder will adhere to the aluminum.

Having described my invention, what I claim and desire to secure by Letters Patent, is:

The process of tinning aluminum by first immersing the aluminum to be tinned in molten stearic acid, and while immersed rub until thoroughly clean, then subjecting the aluminum to a non-carbonating flame until a higher series of acid is produced forming a coating on the aluminum, and subsequently immersing the aluminum in a bath of pure tin, zinc, aluminum and phosphate tin, substantially as herein described.

In testimony whereof I affix my signature in the presence of two witnesses.

ADOLPHUS L. PAGE.

Witnesses:

E. WALTON BREWINGTON,

HOWARD D. ADAMS.