UNITED STATES PATENT OFFICE.

CARL AUGUST LOUIS WILHELM WITTER, OF HAMBURG, GERMANY, ASSIGNOR TO THE STRAITS TRADING CO., LTD., OF SINGAPORE, STRAITS SETTLEMENTS, INDIA.

PROCESS OF EXTRACTING TIN FROM TIN-LEAD ALLOYS.

No. 801,820 Specification of Letters Patent. Patented Oct. 10, 1905.

Original application filed December 1, 1904, Serial No. 235,105. Divided and this application filed May 4, 1905. Serial No. 258,858.

To all whom it may concern:

Be it known that I, CARL AUGUST LOUIS WILHELM WITTER, a subject of the German Emperor, and a resident of Hamburg, in the German Empire, have invented new and useful Improvements in Processes of Extracting Tin from Tin Alloys, of which the following is a specification.

This invention relates to an improved process of extracting tin from tin-lead alloys, being a division of my application Serial No. 235,105, filed December 1, 1904, and has for its object to procure a process which renders the separation or recovering of tin from tin-lead alloys more expeditious and cheap.

Tin-lead alloys which contain a very large proportion of lead are hardly of commercial value if the tin contents do not amount to at least forty to fifty per cent., as heretofore there has not been discovered any profitable way of separating the tin from such alloys. Under the present invention, however, the tin contents of tin-lead alloys can be extracted or separated with profit. According to the improved process the alloy is smelted in a reverberatory furnace (hearth or refining furnace) and when the temperature is such that the molten liquid shows a red glow is subjected to the action of air, a blast of air being preferably blown on the molten mass of metal.

The tin contained in the alloy is oxidized, but at the same time a certain portion of the lead is oxidized as well. An oxid mixture containing a high percentage of tin is thus obtained, which can be drawn off from the surface of the metal-bath and then again reduced in a reverberatory or blast furnace and smelted to form an alloy containing a large proportion of tin.

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

1. The process of extracting tin from tin-lead alloys, which consists in oxidizing the alloy to obtain an oxidation product rich in tin and reducing said product to form an alloy rich in tin, substantially as described.

2. The process of extracting tin from tin-lead alloys, which consists in oxidizing the alloy by smelting and then reducing the oxid mixture with carbon, in order to form an alloy rich in tin, substantially as set forth.

3. The process of extracting tin from tin-lead alloys, which consists in melting the alloy in a suitable furnace and blowing a blast of air onto the surface of the metal-bath to form oxidation products on the surface of the bath, removing said products and reducing them to form an alloy rich in tin, substantially as described.

CARL AUGUST LOUIS WILHELM WITTER.

Witnesses:

MAX LEMCKE,

J. CHRIST. HAFERMANN.