

# UNITED STATES PATENT OFFICE.

RALPH WILCOX BOOTH, OF NEW BRUNSWICK, NEW JERSEY.

## METHOD OF TREATING INFERIOR GRADES OF SPELTER OR ZINC.

SPECIFICATION forming part of Letters Patent No. 575,630, dated January 19, 1897.

Application filed September 24, 1895. Serial No. 563,526. (No specimens.)

*To all whom it may concern:*

Be it known that I, RALPH WILCOX BOOTH, a citizen of the United States, residing at New Brunswick, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Methods of Treating Inferior Grades of Spelter or Zinc; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a method of treating inferior grades of spelter or zinc, whereby I produce an alloy which for general purposes is equal to the higher grades and is particularly applicable for casting in slush and core molds and every variety of fancy sand casting.

In casting small articles of spelter or zinc the best grades have to be employed, as the inferior grades tear and split and do not in consequence fill up the molds. What are known as the "inferior" grades are those which have mixed or incorporated with them a large percentage of foreign substances due to imperfect reduction or refining. These grades are well known to the trade and are readily distinguishable from the higher grades, which are free from impurities. I have found that by incorporating with such inferior grades of spelter or zinc a certain percentage of aluminium an alloy will be produced which can be employed for casting various articles with equally as good results as the higher grades.

The invention consists in the method hereinafter described and claimed for treating spelter or zinc and in the alloy produced thereby.

In carrying my invention into effect I take, say, one hundred pounds of any of the inferior grades of spelter or zinc, and while in a molten state I add thereto from one to ten ounces of aluminium and thoroughly mix and incorporate the same therewith. When thoroughly mixed, there will be an alloy which will possess all of the desirable qualities of the higher grades of spelter or zinc and which may be cast into various articles or objects; or the mass may be allowed to cool and then subsequently melted for casting.

I am aware that it is not broadly new to combine aluminium with other metals, such as zinc, copper, tin, &c., and therefore do not broadly claim such, my invention being limited to the particular metals hereinbefore set forth and to the proportions specified.

Having thus fully described my invention, what I claim is—

An alloy consisting of one hundred pounds of an inferior grade of spelter or zinc having incorporated therewith ten ounces of aluminium, substantially as specified.

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

RALPH WILCOX BOOTH.

Witnesses:

A. T. LANDMESSER,  
W. J. SCHIELE.