

UNITED STATES PATENT OFFICE.

WILLIAM PEARSON, OF BIRMINGHAM, ENGLAND.

MANUFACTURE OF ALUMINIUM ALLOYS.

SPECIFICATION forming part of Letters Patent No. 580,711, dated April 13, 1897.

Application filed January 18, 1897. Serial No. 619,664. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM PEARSON, a citizen of England, residing at 189 Vauxhall Road, Birmingham, in the county of Warwick, England, have invented certain new and useful Improvements in the Manufacture of Aluminium Alloys, of which the following is a specification.

My invention relates to the manufacture of alloys of aluminium with cobalt in proportions which may vary from one-tenth of a part to five parts of cobalt to one hundred parts of aluminium, according as the less or greater hardness required in the alloy.

Owing to the melting-points of aluminium and cobalt being very different and the tendency to form slag with silica and iron it has been found very difficult to produce a good alloy by melting the metals in ordinary refractory or graphite crucibles or in any furnace.

According to my invention I overcome these difficulties in the following manner: I first melt the aluminium in a closed crucible made of nickel, and when it is quite liquid I add as flux a little mercury chlorid to clear the metal from dross. I then run off the melted aluminium from the bottom of the crucible, thus obtaining it quite pure, into a crucible in which the required quantity of cobalt is already melted.

Having thus described the nature of this invention and the best means I know of carrying the same into effect, I claim—

1. The method of making alloys of aluminium which consists in melting the aluminium, adding mercury chlorid as a flux to clear the same from dross, and incorporating the aluminium with the metal with which it is to be alloyed.

2. The method of making an alloy of aluminium and cobalt consisting in melting the aluminium, adding mercury chlorid as a flux to clear the same from dross, and incorporating the aluminium with the cobalt.

3. The method of making alloys of aluminium and cobalt which consists in melting aluminium, adding mercuric chlorid as a flux to clear the same from dross, drawing the aluminium from the bottom of the crucible or melting vessel and running it into the melted cobalt.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 31st day of December, A. D. 1896.

WILLIAM PEARSON.

Witnesses:

THOMAS DAVIS,
ALBERT NEWHEY.