

UNITED STATES PATENT OFFICE.

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SAME PLACE.

METHOD OF MAKING ALKALI CYANIDS.

SPECIFICATION forming part of Letters Patent No. 673,962, dated May 14, 1901.

Application filed March 22, 1901. Serial No. 52,404. (No specimens.)

To all whom it may concern:

Be it known that I, CARL MOLDENHAUER, a subject of the Emperor of Germany, and a resident of 215 Gutleutstrasse, Frankfort-on-the-Main, Germany, have invented certain new and useful Improvements in the Manufacture of Alkali Cyanids, of which the following is a specification.

This invention consists in a process of manufacturing alkali cyanids, and relates more particularly to the process known by a publication of Liebig, according to which such cyanids are produced out of ferrocyanids by smelting a mixture of them with, say, the equivalent quantity of alkali carbonate. This known process, however, had the disadvantage that by the same the carbonate was converted but insufficiently and a part of the cyanogen dissociated into its component parts. Now I have found that the said carbonate is converted in a much easier and more perfect manner if it is in a molten state before the unmolten ferrocyanid of alkali is added to it. Therefore according to the present invention the alkali carbonate is first brought into a crucible and melted therein, after which the suitable quantity of ferrocyanid is added thereto. As, however, the carbonate of alkali for itself has so high a melting-point that at this temperature the cyanids would evaporate and also the iron crucibles would quickly be destroyed, it is necessary to add a flux to the carbonate to be melted. As such a flux a part of ferrocyanid to be converted may be used.

As an example the process may be carried out as follows: If sixteen kilograms of dehydrated ferrocyanid of potassium have to be converted into cyanid of potassium, the equivalent quantity of carbonate to be employed is six kilograms. These six kilograms of carbonate of potassium are mixed with

from one-fourth to one-half of the above-mentioned sixteen kilograms—that is to say, with four to eight kilograms—of ferrocyanid and the mixture is melted. To the molten mass the remaining eight to twelve kilograms of the ferrocyanid are added. The conversion takes place during the melting and the cyanid of potassium is separated from the iron in the well-known manner. Hereby sixteen kilograms of a product containing about seventy-nine per cent. cyanid are obtained, while according to the old process only fifteen kilograms of sixty-five per cent. could be obtained.

In lieu of the part of ferrocyanid to be added as a flux also other fluxes—for instance, cyanid of alkali—may be used.

Having now described my invention and the manner in which it is carried out in practice, I wish it to be understood that I do not confine myself to the exact proportions mentioned above, as these may be varied according to the circumstances.

I claim—

1. The herein-described process of manufacturing alkali cyanid by first melting in a crucible a carbonate of alkali together with a flux and then adding to the molten mass the suitable quantity of ferrocyanid of alkali.

2. The herein-described process of manufacturing alkali cyanid by first melting in a crucible a mixture of alkali carbonate with a part of the suitable quantity of ferrocyanid of alkali and adding to the molten mass the remaining quantity of the ferrocyanid.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL MOLDENHAUER.

Witnesses:

FRANZ HASSLACHER,
MICHAEL VOLK.