

NOVEL ORE TREATMENT.

Process That Melts Asbestos and Reduces Ores.

Eastern papers are much exercised over the alleged discovery of an ore reduction process which operates on all ordinary ores in less than an hour and requires simply the mixture of various chemicals with the broken ore. It is even claimed that the various metals are neatly deposited in separate layers, making a mechanical separation easy.

Experienced smelting men laugh at the proposition and even laymen will find it hard to give credence to such apparently ridiculous claims. The story is an entertaining one, however, and it would be rash to say that it could have no foundation on fact, even though so extreme a claim is made that asbestos is melted by the chemical activity of the so called flux used. It is given in the Pittsburg Post as follows:

A large number of smelting and ore refining companies throughout the country have been interested in the discovery made by a physician and chemist which promises to revolutionize the present methods of reducing all high grade metallic ores, and reducing the cost as well as time required for this work down from several days to a matter of minutes. The process has been quietly tested in Pittsburg plants during the past few months, and in each case has proved fully up to all the claims made for it. In the interim a number of Pittsburgers, whose names are for the present withheld, have been preparing to organize and secure a charter for the control of the new process.

The process of smelting and refining ores for copper, lead, zinc, gold, silver, etc., has been almost entirely with the use of great ore crushers, then with the furnaces and various forms of refining familiar to those engaged in the business.

The chemical discovery that has been finally made public was developed by some years of study by a Dr. Miller, a man advanced in years, whose home is said to be in the vicinity of Mt. Pleasant. His experiments with his composition, which is called a "flux," developed the fact that by mixing it with asbestos and placing it in a crucible with raw ores, the heat produced is so intense that the asbestos becomes liquefied. The action of the flux and asbestos upon the ore is almost instantaneous. In forty minutes the removal of the dross from the top of the crucible shows the pure copper, lead, silver or gold beneath.

Patents have been secured covering the flux and the process has been submitted to a number of leading chemists in the principal steel mills of Pittsburg, who have given strong opinions regarding the possibilities of the process, providing the cost makes its practical for commercial purposes. Practical tests have been conducted with a good deal of secrecy at the mills of the Fox Copper and Bronze company and the mill of Macintosh, Hemphill & Co. The results of these tests have shown that the reduction of the ores placed in the crucibles has been almost complete. In its action the flux removes over 98 per cent of the metals from the crude ores, without any prior crushing. This has never been possible before in the history of mining. The specimens of copper and other metals that have been taken from the chemical baths are declared to be absolutely pure and in need of no further treatment.

Another feature of the experiments that has developed is the peculiarly free action of the metals where the ores that are used are of a compound character—containing two or more metals. In such cases the

new process has caused the various forms of metal to sink to the bottom of the crucible, the heaviest finding a place at the bottom and the next heaviest resting above it. Three or four different metals have thus been found in layers after the dross has been removed from the molten mass and the crucible allowed to cool. The separation of the layers of different metals is a matter said to be very simple and in no way does the one interfere with the purity of the other.

The other peculiar feature of this flux is the claim of its discoverer that it is practically indestructible. It is said that it can be used over and over again in the crucibles, as it passes off with the removal of the dross and never mixes with the metals in the slightest degree. The inventor claims that the formula is a cheap one and the cost will not interfere with its commercial value in the least.

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ABSTRACTS

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