A PRACTICAL TREATISE ON TESTING AND WORKING SILVER ORES

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CHAS. H. AARON

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ON

TESTING AND WORKING

SILVER ORES.

BY CHAS. H. AARON.

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PREFACE.

In 1869, I wrote a little pamphlet on amalgamation of silver ores, in which was set forth a method of treatment by which certain ores of silver usually considered refractory, could be worked to 90 per cent. of the assay without roasting. I shortly afterward introduced that method at Benton, in Mono County, with such success that two mills, of ten and five stamps, respectively, have since been built to work it, in each case with excellent results.

I myself worked the process for several years, with no better crushing machinery than an arastra, which, with an amalgamating barrel and separator (the whole driven by a water-wheel) formed a cheap and efficient mill for the purpose, though better adapted to the use of a person having a mine of his own, than for custom work.

A large portion of the matter of my pamphlet, which was sold for 25 cents per copy, has lately been published, in a slightly garbled form, as a circular, with the title of "Instructions for testing and milling ores," by one N. L. Turner, in Montana Territory, being put forth as Mr. Turner's

own production, and sold, as I am informed, at the very modest price of ten dollars per copy.

In addition to the matter taken from my pamphlet, this circular contains sundry passages from articles written by me, and published in the MINING AND SCIENTIFIC PRESS, showing that Mr. Turner has been a diligent and appreciative reader of my writings, and I must give give him credit for having been so much smarter than myself, that if he has sold even a few copies at ten dollars each, he has made more out of them than I ever did.

Since writing the pamphlet, I have had five years experience and observation of the process therein described, and as my profit has consisted in part of the additional knowledge thus gained, I now propose to offer to the mining public, more and better information than is contained in that, or in Mr. Turner's piratical circular, adding also some information and suggestions in regard to other processes.

I do not write for students of science, nor to make a display of learning, which, for all the reader would know, might or might not be "all out of my own head." My aim is simply to contribute my quota to the diffusion of practical knowledge of some matters pertaining to the development of silver mining, and to make certain suggestions, of the value of which I leave the reader to judge.

I shall, then, try to write so as to be understood by common miners and prospectors, and what I

say will be chiefly the result of my own experience and my own thought; not stereotyped matter which may be found in a dozen works on Metallurgy in any of our libraries.

In all silver regions there is found more or less silver ore in the form of small veins, or threads as the Mexicans say, or in bunches, pockets and deposits of little extent, which, while they will not justify the attention of capitalists, might yet furnish profitable occupation to a number of miners, if the owners only had sufficient knowledge to extract the silver in a cheap and simple way.

This want is partly met by custom mills, but aside from the fact that miners generally have a strong impression that they are very often swindled at those places, it often happens that the small and rich mines spoken of are quite remote from any mill.

In the mineral districts of Mexico, nearly every miner has some knowledge, however rude, of metallurgical operations, which enables him to work, in one way or other, any small rich "hilo" which he may discover, and though in large operations the Mexicans may not be able to compete with more enterprising people, yet it is a fact, that among miners and prospectors, a Mexican will make a good living where an American would starve to death.

Though I write mainly for the benefit of the poor and unlearned class in our mining districts,

it must not be supposed that the methods of which I treat are not adapted to large operations; on the contrary, if my modification of the old "Fondon" of Alonzo Barba had been adopted for the Comstock mines long ago, many millions of dollars which are now in the Carson river, might be in the pockets of stockholders, and the value of stocks would be proportionally higher. I do not mean to say that I am the only man who could have done this, but I speak for myself, and others have the same privilege.

If it be asked why I have not tried to introduce my process at Virginia, I can only say that I have not kept the matter secret, and it is the business of those interested to see to the working of their ores in the best manner.

I have to presuppose a certain amount of knowledge on the part of the reader, in regard to the general operations of milling; for to go into all the details of feeding battery, charging pans or barrels, cleaning up, pressing amalgam, retorting, etc. would carry me far beyond my proposed limit. Most men in the mines either have, or can easily acquire, such knowledge, and my object is to enable them to use it for their own benefit, while at the same time offering some suggestions to persons of more advanced pretentions who may choose to avail themselves thereof.

C. H. AARON.

TESTING ORES FOR SILVER.

[1.] I shall not attempt to give any instructions as to the geological or lithological formations in which the discovery of silver may be expected, for several reasons. In the first place, such knowledge as we have on this subject, may be obtained from many standard works; in the second place, it is not very easily applied when obtained, as, aside from the difficulty of at once determining the character of rock formation, a region consisting mainly of non-metalliferous rock, which might discourage a learned person from searching, may nevertheless contain within it a tract rich in metals; and in the third place, such knowledge is not altogether reliable, nor is the ordinary prospector qualified to avail himself of it, or indeed likely to be guided by anything but his own notions, derived from his own, or his friends' experience.

I shall, then, suppose that the seeker after mineral wealth, having journeyed at his "own sweet