

**WONDERFUL SMELTER****Of Course Will "Revolutionize" the Business.**

O. S. Garretson, of Buffalo, New York, has invented a new smelter, for which he makes some extravagant claims. If he can substantiate those claims he will revolutionize the smelting business. He says:

"The furnace is constructed entirely of copper and the estimated expense of building is about \$3500. The furnace just completed is said to be capable of handling 125 tons of ore each 24 hours.

"The furnace consists of a water-tight vertical shaft not very dissimilar from the present pyritic furnace. In the Garretson's furnace, however, the use of fuel is absolutely unnecessary, the required heat being generated by the combustion of sulphur in the ore and oxidation of the iron and matte.

"While the heated gases arise from the hearth of the furnace, beginning the combustion of sulphur in the ore in the upper portion of the furnace, the mass of the charge keeps passing downward till it reaches the great heat on top of the slag. There the silica is converted into slag by the action of the lime and iron, contained either in the ore or supplied as flux.

"The copper matte, as is well known, sinks below the stratum of the slag and here is where the value of the invention comes in. At this point there are some extratuyeres delivering a blast under pressure of 7000 pounds to the square inch on the molten matter, and a very intense oxidation develops the heat necessary to convert the copper that is yet in a state of sulphide into metallic state. Thus there are accomplished in one operation the roasting, the matting and the reducing of the copper to the metallic state.

"One great point of value lies in the fact, inasmuch as no fuel of any kind is required, it makes no difference how inaccessible the mine may be, the ore can be treated right there and converted into ingots ready for the refining. Furnaces can also be built of a size to accommodate the output of the mine's capacity.

"In the old method and up to the building of the Garretson furnace, the only mode of extracting metal from ore, three separate processes were required. First, the ore has to be roasted, which is an expensive process. Then the metal is extracted from the roasted ore. Later, by still another process, the various metals are separated, one from the other. The entire treatment is extremely expensive. By the use of this new furnace the expense is only one-tenth as great.

"For many years efforts have been made to produce a machine by which gold, silver, lead, copper and the various other metals which are found in combination in low grade ores could be cheaply extracted. The great expense and imperfect separation under the old systems have caused the abandonment of many valuable mines which otherwise might have been worked with profit."

Mr. Garretson has organized a company with \$5,000,000 capital to manufacture the furnace, and proposes to erect a copper refinery near Niagara Falls. The first furnace is going to the copper district of North Carolina and the second will go to California.—Exchange.

**Ledge 200 or 300 Feet Wide.**

Henry Rathjen, owner of the Vincent creek placers near Austin, has located and worked several claims in this same belt, the ore of which has the appearance of the Bonanza rock. Mr. Rathjen

has run a tunnel some 300 feet into the ledge, which in stringers shows free gold. The sulphides seem to be in the gangue as well as the quartz seams and the ledge is either 200 or 300 feet wide. These figures look large at first, but when it is taken into consideration that the ledge shows in two different gulches some two hundred feet apart, the width must either be the length of the tunnel or distance between the gulches. From this point down the Austin-Susanville road the country has been run over a little, but there are many good properties which are not yet uncovered.—Harney County News.

**LONDON MINING INVESTORS.****They are Easy Marks for Promoters and Fail as Mine Operators.**

American prospectors discovered the Kootenay mines. American operators and capital developed scores of them into paying properties, and distributed millions in dividends. Then came a new era of London flotation, when Americans sold out extensively, and the old managements retired and gave place to English experts and officials.

Press comment from up-country exchanges indicates that the change has not given perfect satisfaction. The Nelson, B. C., Tribune asks:

"Is there a single mine in British Columbia owned, managed and operated by old countrymen exclusively that is now a success? Is there a single mine that was owned, managed and operated by Americans successfully previous to its sale to old countrymen which is now successfully operated? If not, why not?"

And the Lardeau, B. C., Eagle makes these caustic comments:

"The people of London and elsewhere have proved to be easy marks for the unscrupulous promoter. Three hundred dollar properties have been secured by promoters and turned over to old country companies at from \$20,000 to \$100,000. After expensive organization, comes a host of chappie clerks, officials, etc., generally relatives of some of the sneakers in London, who draw salaries and wear yellow leggings and eyeglasses. The truth of the matter is they don't savvy mining and it seems as though large doses of experience are slow in teaching them the art. And as soon as one of the Englishmen does get next to a few things he generally uses this knowledge to formulate another white elephant company and thus continue the good work of fleecing his friends in London."

There is a dash of truth in these severe comments, though they carry some injustice as well, it is mere hazard, of course, but the Spokesman-Review doubts if the American owners, had they retained the properties, could have maintained their high record of dividend paying. Perhaps if this suspicion had not been running through their minds, they would not have sold out to the British companies. It seems that they knew when to hold and when to sell, and that is the quintessence of business sagacity and success.

Perhaps the mines were not so rich as our London cousins thought them. The Londoners, too, have had other streaks of bad luck. There have been serious labor troubles, and the railroad policy has not been a liberal one.

Nevertheless it is undeniably true that some of the big mines, at least, and probably a good many of the smaller ones, have been operated with extravagance, and perhaps with bad judgment. This, however, is the common fate of all good mining camps. Like infantile troubles of teething, whooping-cough, measles and mumps, they are distressing, though seldom fatal.—Spokesman-Review.

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