The American Smelting and Refining Co.

The American Smelting & Refining company operates two large smelters in Utah. One of these, the plant at Garfield, is the second largest institution of its kind in the United States and is devoted chiefly to the treatment of copper ores. The Garfield site was selected because it is in close touch with Bingham, Utah's greatest copper mining district. The other American plant is at Murray, Utah, ten miles south of Salt Lake City, and its activities are restricted to the dressing of lead, silver and gold ores—ores containing little sulphur and arsenic.

Sulphur and arsenic, as everyone remembers, made much trouble for the American and the other smelting companies operating in Salt Lake valley in former years. Among the many things that the A. S. & R. has to be thankful for in the closing hours of 1908 is the fact that the ghost of legal interference has been laid and the irritation of the farmer-neighbors appeased.

Peace was restored early in the year. The farmers had succeeded in securing an injunction which restrained the operation of the plant at Murray. By the exercise of patience and diplomacy the local representatives of the company secured important concessions and effected a satisfactory compromise. It is unnecessary to go into the details of the agreement, as they are largely technical. They provided for restrictions on the treatment of sulphurous material, the cleansing of the smoke in bag chambers and other precautionary measures.

A year's trial of the changes introduced by the smelter has demonstrated their efficiency. While in other states, notably California and Montana, the smoke question is causing serious apprehension and much bitterness, it has ceased to be a menace either to agriculture or to industry in Utah. The Garfield plant, at which the American now handles the ores containing the largest percentage of objectionable chemical elements, is many miles from the nearest farm, with the Great Salt Lake on one side and sterile mountains on the other. Moreover the air currents are such that the exhalations from the stacks are sucked back into the hills and deposited where there is no vegetation to suffer injury.

In view of the fortunes that have been spent in settling damage suits and in maintaining defensive litigation it may well be imagined that the officers of the company drew a sigh of relief when the trouble was over and they found themselves at liberty to concentrate their time and attention on the legitimate problems pertaining to the smelting business. Nor were the shareholders of the company less gratified when they noted the absence of heavy payments for damages and legal expenses from the financial reports.

Next to the losses and annoyances resulting from the smoke controversy the most serious disturbance of American Smelting & Refining affairs in recent years resulted from the violent reaction in the copper selling market in the closing weeks of 1907. The decline of the market came so suddenly as to be almost a collapse. It came like a bolt out of the blue sky allowing no time for readjustment. The shrinkage in the value of the copper stocks listed on the Boston exchange reached the enormous total of $610,000,000.

In common with other holders of cupric ores and the metal itself the American company sustained heavy losses by reason of this movement. Its losses were greater than those of the mine owners who were caught with unsold ore on hand, because it had made cash settlements at the highest market price while the ore in the possession of the producers represented a cash outlay little higher during the period of prosperity than during the subsequent depression.

Almost as disquieting as the vast shrinkage in the value of the smelting corporation's stock was the paralysis of consumption that followed swift on the money panic. The demand for the commercial metals became so faint as hardly to be heard. The unpleasantness of being unable to realize the cost price of the metal on hand was swallowed up in the disaster of being unable to sell at any price.

The present year speedily relieved the tension of the situation and the steady improvement in business which has followed has restored the normal state of affairs in this as in other lines of business. Metal quotations are not yet up to their average level, but the threat of spasmodic fluctuations is no longer over the heads of those who deal in them.

The extent of the recovery is shown by the gain of the Boston listed stocks over the low point of 1907. The decline of these stocks was, as given above, $610,000,000. The gain up to October, 1908, was $306,000,000. The net loss in stock values therefore remains at $304,000,000.

This little journey into history can hardly fail to give a more tolerant view to the critics who consider the smelting business a path of roses leading to limitless profits. The dividends, which the company has been able to maintain, do not seem nearly so large when the hazardous nature of the business is taken into consideration.

Even the critics will admit that the American Smelting & Refining company has been a powerful factor in the creation and upbuilding of the mining industry in Utah. Its rates have always been arranged with a view to the encouragement of the miner struggling to put his prospect on a paying basis and not a few of the properties now numbered among the "big ones" owe their success to the lift given them at a critical period by the greatest of American smelting concerns.

This company has always striven to keep up to date in the matter of equipment. There is, perhaps, one smelter in the United States larger than that at Garfield, but there is nowhere on earth a plant better adapted to the purpose for which it was designed. Every useful discovery of mechanic and metallurgist has been incorporated in the Garfield institution. The extent to which machinery performs the tasks allotted formerly to human beings is amazing. It cannot yet be truthfully said that the plant can be turned on in the morning and left to run itself until night, but it is nearer to that ideal of perfection than anyone familiar only with the old fashioned smelter would believe it possible to approach.

The plant as originally installed included but two blast furnaces, three reverberatories, four converters and sixteen calciners. The buildings, however, were arranged with a view to an increase of 100 per cent in the capacity of the establishment. At the commencement of the present year the Garfield smelter, then one year old, was handling about 1800 tons of ore a day. Offers of additional shipments were being constantly turned down because of the lack of capacity.

To overcome this deficiency and to meet the clamorous demand for smelting facilities the company hastened to introduce new and larger furnaces with the intention of doubling the daily diet of the plant. As fast as possible the fresh equipment was set up and put into service. The daily capacity grew to 2,300, then to 2,500, and is now approaching the maximum of 3,500 tons. In the absence of official information it is believed that the actual ore consumption is somewhere between 2,700 and 3,000 tons at this time.

Notwithstanding the construction work that has been in constant progress since the ground was broken for the Garfield plant the company has not been able to keep up with the swelling current of ore from the camps of Utah and adjacent states. Its largest contracts are for the treatment of Utah Consolidated sulphides and both concentrates and sulphides from the mines and mills of the Utah Copper and Boston Consolidated companies. These patrons have to be taken care of under any circumstances. If there is furnace room left after these and other contract patrons have been accommodated ore from casual shippers is accepted up to the limit of capacity.

There is nothing in the present outlook to indicate that the American will have more capacity than it can use when it is prepared to handle 3,500 tons a day. While the smelter is growing the mines are growing too. The Boston Consolidated will double its output of concentrates within a few months, the Utah Copper is about to increase by 50 per cent the size of its Garfield reduction works and behind these are the Ohio, Amalgamated and other Bingham companies almost ready to swing into the column of steady producers.

Following is a brief outline of the methods of, and facilities for, handling the enormous tonnage at the American's Garfield smelter:

From the receiving yard the railroad cars loaded with ore are taken to the receiving bins where the ore is dumped instantaneously, the bins being below the level of the tracks. From these bins the ore is carried by belt conveyors to the sampling mill. After the sampling the fine ore goes to the sulphide bins; coarse to the blast furnace bins, on more endless belts. Later the fines are carried over a trestle to the roaster building and from the roasters to the reverberatory furnaces. The coarse rock, in the meantime, is being borne by larry cars to the blast furnaces.

The product of both kinds of furnaces is a matte which goes through bessemerized converters to emerge in the form of blister copper. It then contains other metals, particularly gold and silver, and these are not removed until the last process—that of refining—is completed.

At this writing the mammoth smelter is turning out nearly 7,000,000 pounds of the red metal each month. This amount will be more than doubled, the management anticipates, when the additions now under way are made. These will give the institution four blast furnaces, five reverberatories, eight converter stands and twenty-four McDougal roasters.

The American, the Utah Copper and the Boston Consolidated, between them, have established a town of their own at a point directly south of the lake. It is called Garfield after the once popular resort on the beach near by. The town has been provided with everything necessary to make life there comfortable and happy for the hundreds of employes who serve day and night in the milling and smelting plants.

There are waterworks, electric lights, sidewalks and telephones. Fires are little to be feared as the material used for building is brick or concrete. Rents there are lower and living is less expensive than in the city. Two main lines of railroad pass through the town.

The capacity of the American smelter at Murray is about 1,000 tons a day. The average value of its output for several years has been about $15,000,000. The pay roll runs to about $60,000 a month.

A little mistletoe is a dangerous thing.

A present in the stocking is worth two in the shop window.

There's many a slip 'twixt the mistletoe and the lip.

Christmas presents cover a multitude of debts. —Life.