

Culminating Forces At Work In Iron County.

WHILE the development of Utah's vast iron resources in iron county has not progressed as rapidly as some had hoped it would, the future of that section of the state never looked more hopeful than it does at the present time.

The Colorado Fuel & Iron company, which previously acquired vast tracts of iron properties in this region, has still further increased its holdings during the summer by the acquisition of the Taylor estate lands, among the most valuable in the Pinto iron district. This company has expended a considerable amount in the development of its lands, principally for the purpose of acquiring patents, which is in preparation for greater things to come.

Col. S. B. Milner and associates, also owners of an empire of iron territory, have performed a great deal of patent work.

A deal is now in an embryo state, which will mean, if finally accomplished, the organization of a powerful corporation in which Senator W. A. Clark, of Montana, and other prominent officials of the San Pedro, Los Angeles & Salt Lake railway are to figure conspicuously. It is to be hoped that this talent will become interested in building up the iron interests of Utah, for it would culminate in the early building of great steel plants in this state, and the furnishing of employment for hundreds and even thousands of men.

THE COLORADO F. & I. CO.

But the advent of the Colorado Fuel & Iron company is of no small importance; provided, that corporation goes ahead with the opening of its properties upon a commercial scale. It is probable that this concern has no intention of building the expensive plants here—at present at least, that it has already done in Colorado, and it is quite likely its purpose is when things get moving, to ship the product of the Utah mines of the company to Pueblo to be manufactured in the articles of commercial use.

On the other hand, should the Milner

syndicate carry out the plans now being considered, Utah would reap the benefits of the building and operation of great steel plants and rolling mills.

WATER IS PLENTIFUL.

A sufficient water supply has caused some apprehension in the past. This difficulty, however, can be overcome by the building of the greater works in either the Utah or Salt Lake valleys, and a site on the shores of the Utah Lake is now being considered.

The San Pedro railway management is already preparing to build a branch line into the iron districts from Lund, 40 miles south of Milford. This line will very likely be constructed next year, when the forces now at work in filling the gap between Salt Lake and Los Angeles, on the deserts of Nevada, are recalled.

PREPARED FOR BUSINESS.

Col. Milner is prepared to commence active mining as soon as the branch road is finished, he having already contracted with the American Smelting & Refining company to furnish the latter 400 tons of fluxing ores daily from the deposits at Desert Mound. It is confidently expected that the Denver

& Rio Grande railroad will extend its lines into the iron fields from Marysville during the present year.

IMPORTANCE OF UTAH REGIONS.

The importance of the Utah iron regions has been recognized by the most expert in that line in the country and careful estimates made by men of standing indicate that Bessemer pig iron can be produced here for 65 per cent of what it costs to produce the steel in the present under most favorable circumstances.

When John T. Jones, a recognized authority, investigated the deposits of iron in the Utah fields, he declared that previous to this time the greatest single body of iron ore that had ever been aggregated, 30,000,000 tons; but in the Pinto district he found a body aggregating several times that amount and in submitting his report to the gentlemen who had employed him, he made the following statement:

WILL ECLIPSE ALL OTHERS.

"Within a few years Utah should be producing more iron than any other state in the union. The deposits in the southwestern part of the state are the greatest I have ever seen, and I have examined all the principal iron deposits in the United States, Cuba and Venezuela.

"The close proximity of the iron to an ample supply of fuel and lime flux makes it possible to produce iron in Utah cheaper than anywhere else in the United States. Iron works can be erected in this state which will produce iron so cheaply that, with favorable railroad rates, the finished product can be laid down in Chicago on at least equal terms with the product of the United States steel corporation or any other producer. The low cost of production would make it possible for the Utah iron and steel works to control absolutely the trade of the western part of North and South America and the orient. It will take a little time to get the Utah iron and steel works in shape for steady production, but when they are completed, they must become an important factor in the industry of the United States."

ORE EASILY MINED.

The iron county ore is principally a soft red and a brown hematite, which can be handled easily by steam shovel, except where blowouts occur, which are hard and magnetic. Hundreds of acres will require but from one to three feet of stripping. Various iron experts who have examined the region declare that the surface croppings are as great as any in the world and that it is difficult at the present stage of development to give any accurate idea of the tonnages available. However, some have placed it at 1,000,000,000 short tons. The ore runs about 60 per cent metallic iron, while the silica averages about 7 per cent. Plenty of fluxing material can be easily obtained.

CLOSE TO COAL MEASURES.

"The coal measures in Carbon county," says another expert, "produce a coke which is equal to the Connellsville article, both as regards analysis and strength necessary to carry furnace burden. This coal is about 225 miles

from the iron on the Rio Grande railroad.

Pig iron can be manufactured in Utah for \$3; steel rails can be made for \$12 a ton. The Colorado Fuel & Iron company, at Pueblo, Colo., is the only pig iron and steel manufacturer west of the Mississippi river, and its cost per ton is high, as all the raw materials are hauled from considerable distances—Arizona, New Mexico, Wyoming, etc.—to point of manufacture, which is 1,400 miles from the Pacific coast and 900 miles farther from the coast than the Utah iron. This company could not compete with an iron and steel plant in Utah for the Pacific coast and oriental iron and steel business.

PIG IRON ESTIMATES.

"Pig iron sells in Salt Lake City at \$18 to \$12 a ton, and in San Francisco at \$24 to \$28. Steel rails in Salt Lake are \$46 and in San Francisco \$48. The annual consumption of rails on the Pacific coast is about 300,000 tons, and of pig iron 400,000 tons. The consumption would be much increased if iron

products could be obtained from Utah cheaper. This iron field, developed, will eventually control the Pacific coast and oriental iron business if properly manipulated. The orient is the future great market for many of our manufactured commodities, among which iron and steel are the principal. There are no other known iron deposits in the west that are of sufficient extent to be considered as the basis for developing an iron and steel enterprises."

VALUABLE INFORMATION.

Col. S. B. Milner is in possession of other valuable data concerning the mining and manufacture of iron, and men competent to do such things have compiled for him figures on the cost of producing iron in Utah as compared to other places, in which he finds a showing greatly favorable to the building up of the industry here. It is figured, for instance, that it costs the United States Steel corporation \$7.20 per ton to produce Bessemer pig; that at the Birmingham, Ala., plants it ranges from \$8 to \$9 and in the Shenandoah and Mahoning valleys of Pennsylvania, at least \$12, while if plants were erected in Utah the product could be made for \$3.50 per ton under favorable circumstances. A further advantage is found in favor of Utah, in the cost of mining. It is claimed that the steel trust cannot produce its ore for less than \$1.50 per ton, while in iron county the ore can be handled as low as 15 cents per ton in large quantities.

MANUFACTURE OF STEEL RAILS.

It is also figured that steel rails, for which there is a great demand at the present time, could be manufactured here at a much less cost than elsewhere, owing to the many natural advantages to be had. A plant operating on an extensive scale could produce them for \$13 to the ton. The demand for wire, nails, sheet steel, structural steel, iron bars, armor plate, etc., is also an important factor to be considered. The development of the Pacific coast and the orient is sure to furnish a great market in the future and Utah should, and probably will be ready to compete for this trade.



GREAT IRON MOUNTAIN.

Beneath the Soil of the Scraggy Cedars Shown in This Picture is Probably the Largest Iron Ore Body on Earth.



IMMENSE IRON OUTCROP.

The Ridge Upon Which the Group of Prospectors Stand is Almost Solidly Met.

PROGRESS MADE IN THE PARK VALLEY MINING DISTRICT.

IN THE extreme northwestern corner of Utah is situated the Park Valley and Ashbrook mining districts, which seem destined to become important producers of the more precious metals when further developed.

In the former district the Century is the most important mine. It is equipped with a 15-stamp mill and is making money. An evidence of this was seen during the year by the mine entering upon a dividend basis. The developments of the year show an improvement in physical conditions and the management contemplates enlarging

its milling facilities in the near future. At the beginning of the present year the mine was in debt; but it now has a balance in its treasury, while the Great Buffalo and Planetary are productive of gold.

The Deer Trail is another promising property in Park Valley, the Elamigo is another, the Pine is still another, while the Great Buffalo and Planetary are propositions which give much encouragement to their owners.

Little of importance has been done in the Ashbrook district during the year; however, considerable prospecting has been done, and on the whole the future of the country looks bright.

OPERATION OF QUICKSILVER RETORTS AT THE SACRAMENTO.

THE Sacramento, of Mercur, which has introduced some new mining features in the way of extracting the values from its quicksilver ores has attracted not a little attention in that regard.

A description of this plant, which is not lacking in interest, was contained in an article contributed to the current issue of the Mining Review, in which the writer says:

"While this plant is not as yet as extensive as that at New Almaden, Cal., where 150 tons of ore is handled per day (averaging one-half per cent mercury), yet it is giving very good account of itself and is proving quite a nice little side issue in connection with the regular mill run, averaging about a flask of quicksilver to a shift and running with the regularity of a clock."

"The retorts in use are three in number and are shaped like the muffle used in an assay furnace; they are cast iron, eight feet long, two feet wide, and one foot high, set side by side and built

into a furnace, similar to the assay furnace, so that the fire can play all around them. Each retort is connected on the top, at the back end, with a four-inch pipe running out over the furnace and down through a wrough of cold running water.

"The ore is brought from the mine and dumped on a board floor where it is thoroughly mixed, quartered down, and samples taken for moisture and assay. It is then weighed and mixed with lime, to take up the sulphur, and a little fine coke or charcoal to carry off any free oxygen, as carbon oxide, and thereby prevent oxides of mercury forming in the pipes and clogging them up. The ore is then put into the pans about two feet square. Four of these pans slide into each muffle, making twelve all told, and holding about 100 pounds of ore every twenty-four hours."

"After the pans are placed in the muffle the door is sealed up tightly and the furnaces gradually fixed up. Soon the moisture begins to pass off through the four-inch pipe when the mercury fumes, passing through the cold pipe, condense, and, running from the end

of the pans, metallic fluid is caught in an iron kettle, and when no more continues to come, it is weighed up and the actual per cent of saving noted and compared with the assay."

"This is probably the only reliable way of ascertaining just what the actual saving is, as it cannot be found, as some might think, by testing the ore before and after treatment, since the pans are taken from the muffle red hot, and should there be any mercury left in them it would naturally melt all pass off before they would cool."

"The mercury is put into iron flasks, each holding seventy-six and a half pounds, net, of which there is now some 325 on hand ready for market."

"The mine run, averaging about 7 per cent mercury, and 5 per cent moisture, with a conservative estimate, gives enough ore in sight to keep the plant running for a period of two years."

"The general expense necessary for the running of the plant is comparatively small, as it only requires one man to a shift of eight hours, besides weighing, etc. Slack coal is used for a foreman to oversee the sampling, fuel, about 500 pounds to a shift. Cyanide solution is run out from the mill, through the cooling trough and back into the supply tank, so that there is no loss of water. The plant is now all under cover and in good shape for winter."

GIRLS WHO SHRIEK.

"If the rising generation of American girls is not taught to use the speaking voice properly we shall develop into a race of unbecomingly, unbecomingly shrews," says Miss Fay Tompkins, a well known and popular prima donna of some rich woman wished to bring upon her head the blessings of posterity she should endow a chair of voice development which would not necessarily include singing lessons."

"Listen to the penetrating feminine voices all around us, shrilling, shrieking, in head tones. And I am sure that not one of those women realizes that her remarks are being heard all over the room. If she did she would talk less of personal matters. Right on the elevated train or on open surface cars, and your head will ache more from the piercing voices of the women around you than from the combined din of train and street. Have you ever had a telephone ring in

PIONEER SAMPLER.



PIONEER SAMPLING MILL, SANDY.

While the Pioneer sampling works at Sandy was familiar to mining men twenty-eight years ago, it is still a prominent institution. The plant was originally built by the late Richard Mackintosh. In the palmy days of Alta the immense tonnages which came from there were sampled at the Pioneer before passing on to the smelters for treatment. The same is true today, and judging from the way the camp is looking up business from this source will certainly increase very materially. For two years previous to last February, the Pioneer mill was under lease to the Taylor & Brunton company, and was closed during that period. But last spring the present Pioneer Sampling company was organized, and it acquired possession of the premises. Since that time the plant has been completely remodeled and made new by the installation of the latest improved automatic machinery and devices for the sampling of all kinds of ores. Unlike the old hand method of hand sampling, all ores brought in are crushed before being sent to the smelters for treatment. In this way the producer's interests, on certain classes of ores, are much better protected than they would be under the old way.

However, there are some producers who still prefer the hand sampling method; consequently this department has been retained; so that, the patrons of the mill can have their choice of either automatic or hand sampling.

The capacity of the Pioneer is 300 tons per ten-hour shift. The plant is under the management of J. B. Jensen, of Salt Lake City, and A. J. Cushing, who managed the mill, when, controlled by Richard Mackintosh for 28 years, is superintendent. Since resuming business a few months ago, the Pioneer has been growing in favor and it now enjoys a liberal patronage, not only from the camps of Utah, but from all the surrounding states.

The plant is located at a convenient point at Sandy, and is connected with the tracks of the three railways entering the valley, the Oregon Short Line, Denver & Rio Grande, and San Pedro Los Angeles & Salt Lake.

Your ear because the woman at the other end of the wire was using head tones in talking? It is frightful. The true root of the evil is that the American woman either cannot or will not use her speaking voice properly. Hundreds of dollars to cultivate a singing voice, but not one dime to give her time to improve her speaking voice! Massage and lessons in physical culture to develop a plump figure, but not one dime to give her a day to enlarge her chest. And yet a gentle voice is woman's most effective weapon.—Washington Times.

OLD JOKE CAME TRUE.

"Many a true word is spoken in jest, and all unconsciously the other day I was one of the actors in a joke that has been told by the minstrel men for years," said a drug clerk. "A girl came in and she wanted a dose of castor oil, but she wanted it for my little sister! Well, you could have knocked me down with a feather. In an instant the old minstrel joke came

back to me, and I realized that I had played it myself all unconscious. I offered my apologies, but an apology is hardly an antidote for a dose of castor oil."—Philadelphia Record.

THE STAGE KISS.

Daniel Frohman and some friends were discussing various theatrical matters in the lobby of the Lyric when a stranger addressed them.

"I beg your pardon, gentlemen," said he, "but I'm a psychologist in search of information. I happened to overhear your conversation and presume you are connected with theatrical affairs. Can any of you tell me just what a stage kiss is?"

"Of course, I mean its character or kind," Mr. Frohman declined to commit himself, but one of the party replied: "Why a stage kiss is about the same sort of a one a fellow's wife gives him when he comes home after losing his week's salary at the races."—New York World.

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Among the newcomers in business circles in Salt Lake, the Cummings Commission Company is prominent. In the beginning of the month J. H. Bigger & Co. sold their entire business to the Cummings Commission Co. of which Mr. C. V. Cummings is the manager. Mr. Cummings is a brother of Mr. A. J. Cummings, who was for so long New York correspondent of J. H. Bigger & Co., and who conducts at St. Paul one of the largest commission houses in the Northwest.

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Who has recently arrived in Salt Lake from St. Paul both from his many years' experience in the business as well as on account of his connections, is well fitted to carry it on successfully. Having bought up all the office fixtures and arrangements of Bigger & Co., we can give our clients the latest quotations from Chicago, New York, and all the principal trade and business centers of the union. We make a specialty of buying stocks for cash and investment purposes, and as we have special facilities for this, we think we are entitled to a share of the business of this city in that line. Having been connected with the stock markets for many years we are prepared to give our clients the benefit of our experience whenever they come to us for advice, and we can guarantee that all orders will receive our prompt and courteous attention.

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NEW HOIST AT COPPER MOUNTAIN MINE.

The Copper Mountain mine of Beaver county was equipped with a new gas engine hoist during the present year. It has been inactive the most of the time, but a deal is now pending, which, if consummated, will mean its vigorous development upon an extensive scale.



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