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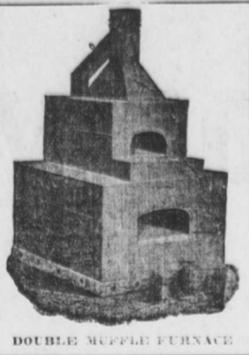
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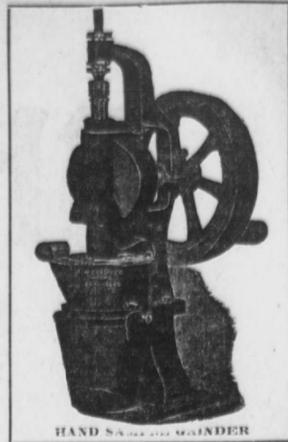
Marvel Crude Oil Burner



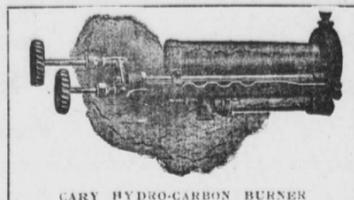
DOUBLE MUFFLE FURNACE



CHIPMUNK CRUSHER



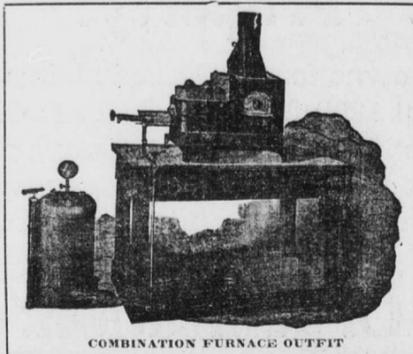
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Bendigo Exposition, Australia

SHASTA COUNTY COPPER MINES

AFTERTHOUGHT OUTPUT WILL BE ENORMOUS

Great Western Company, Operating the Ingot Smelter, Will Construct a Railroad for Shipping Purposes

Considerable interest centers in the development of the rich copper mines in the vicinity of Redding, Shasta county, California. The mines promise to be among the largest producers of the red metal in the state, the yield for the past year showing increased values.

The field of operations is commented upon by the Redding Miner Wealth in detail. The journal states that the most active producer in Shasta county during the past year, after the Mammoth Copper company, was the Great Western company, operating the Aftersmelter mine and the Ingot smelter.

Aftersmelter a Leader
The Aftersmelter mine is located about twenty-five miles northeast of Redding, and about twelve miles from Bella Vista, its nearest railroad point. The company began its first successful runs a year ago last August, and since that time has more than doubled the capacity of its plant at Ingot and has made very extensive developments upon its ground.

The east side belt, extending from the Aftersmelter mine at Ingot to the Bully Hill mine at De Lamar, is entirely distinct from the belt on the west side of the Sacramento river. While the copper is generally associated with the rhyolite the ore occurs in well defined fissures, and while the ore bodies are lenticular in form, exploration at depth has proved that these lenticular masses containing large tonnages are going down to great depths. At the Aftersmelter as well as at Bully Hill the best developments on the mines have been made at the greatest depth so far obtained, which in each case is well below the level of surface drainage.

The Ingot smelter originally consisted of one comparatively small furnace. A second furnace, 42x150 inches in dimensions at the tuyeres, was installed during the past year, and has been in commission since last June. The smelter is connected with the mine by a short line of team railroad, and the ore is loaded directly into the cars from chutes in the mine and is unloaded in the ore yards without any additional handling.

The lowest level of the mine and its main working tunnel is driven into the mountain from a point about twenty-five feet above the north fork of Cow creek. This bore penetrates the mountain over half a mile. It is 333 feet in size and is well lighted and ventilated. From this level a shaft has been started to open ore at additional depth. At a point fifty feet below the level a cross-cut in the ore disclosed a width of sixty-eight feet and fifty-five of the ore exposed in the cross-cut carries good copper and silver values, and also some gold values.

During the coming year the company will open several new shafts on its main ore body below the working tunnel, and will also extend its exploration into the mountain in a southeasterly direction for several thousand feet along the main east side.

Will Build a Railroad

The Aftersmelter mine has a great deal of zinc to contend with in its operations and the management has been investigating in order to enable the company to derive a profit from its high grade zinc ores. Pending the ultimate disposal of this problem a large rock-breaker is being installed and a picking belt will be put in to facilitate the separation of high grade zinc ores from the ores carrying the better copper values, and the zinc ores thus separated will be stored for future reduction. The picking of the excess zinc ore from the furnace charges will aid materially in the smelting of the ores, as it will not alone increase the value of copper and silver in the charges, but will reduce the excess of zinc in the charge and increase the reduction capacity of the furnaces.

The zinc cannot be handled until shipping facilities can be improved, but their accumulation will be a valuable asset in the near future.

The Great Western company has under consideration the immediate construction of a railroad from the smelter to Bella Vista, or the main line. The disadvantages of operating and handling heavy freights over wagon roads are very great and after operating under these adverse circumstances for a number of years the nearest neighbor of the Great Western company, operating the Bully Hill mine and De Lamar smelter, closed down its plant until such time that its railroad, now under construction, is completed.

The Great Western company has as its general manager and smelter superintendent Mr. S. E. Bretherton, who is widely and favorably known as a leader in his profession. Mr. Joseph Wolf is superintendent of mines.

The shortage of teams and labor caused a wood famine at the Ingot smelter and as a result the Great Western company was compelled to close down its plant for the greater part of January. The mine was in continuous operation, but smelting was not resumed until the 30th day of the month.

The Great Western company has its coke supply assured for about six months ahead and the situation in this regard has been materially relieved, but the requirements of the plant, operated on a scale that the development of the mine calls for, makes railroad construction an essential improvement. The saving per ton of ore will be a considerable factor, but its greatest importance will be in obviating expenses, shutdowns and delays.

RAILROAD BUILDERS RACING TO RHYOLITE

Unusual Activity Shown by the Competing Companies—Depots and Warehouses in the Bullfrog Mining Towns

The Las Vegas & Tonopah Railroad company has started the construction of its freight depot at Rhyolite. The building will be 32 by 142 feet and the platform room will be 56 by 207 feet. The depot is being erected on the Yankee Girl flat, near the several warehouses which have been constructed by local merchants, says the Bullfrog Miner.

There is no letup in the freight business into Rhyolite over the Los Vegas & Tonopah. The yards are full to overflowing all the time, and the end is not in sight. Lumber continues to arrive in great quantities and many carloads of machinery are coming in.

Good progress is being made on the grade west of Bonanza mountain en route to Goldfield. The grade is practically finished from the base of the Denver gulch to the Original Bullfrog. From there it passes west through the pass, skirts the big mountain and goes up the canyon within about three-fourths of a mile of the Gold Bar, then swings back westerly across the valley within a mile of the Black Spar. In getting over the Mud Springs summit distance is developed to overcome the grade. Going over the summit the road passes on the west side of the valley, close to the Foster & Hensley property and beyond the summit passes within a mile of Currie's wells.

The grading camps are out several miles from the Original Bullfrog and good progress is being made. At Rhyolite rock work is being done directly under the Golden Scepter shaft on the east side of Bonanza mountain, to which point the track was laid last Saturday.

THE PEACOCK MINING GROUP

Los Angeles Company Operating Valuable Property in the State of Arizona

Development work has begun on the Peacock group of claims belonging to the McKinley Mining and Development company. These properties are located about seven miles west of Prescott, Ariz., one mile from the S. F. P. & P. railroad in the Copper Basin mining district. The original locator of the properties and president of the company has just returned to Los Angeles after installing a complete camp equipment and putting a full crew of men at work.

The surface indications are reported remarkable, the ledges of enormous size and the ground generally mineralized and copper stained for several hundred feet. Fine reports from the mines are that while the workings are only down about thirty feet the veins of iron and copper sulphides encountered and the copper stained gouges coming in indicate that a large quantity of shipping ore will soon be on the dump, which will put the mine on a paying basis. The shaft is now being sunk on a solid and continuous body of ore, and as depth is attained values increase. The close proximity of the properties to the railroad and the abundance of timber and a ample water supply are all features of great commercial value to the company.

The Peacock is a property of great

value and promises to be a large and steady producer. The officers and directors of this company are Charles E. McKinley, president; George T. Ireland, vice president; A. W. Edwards, treasurer; W. K. Florn, secretary, and Paul Burks, counsel.

Rich Ore in Pine Nut
A letter from Manhattan to the Salt Lake Republican says, in speaking of the recent strike in Pine Nut: "The find was made several days ago, but information regarding its proportions and values was withheld for some reason known only to the management. It would appear, however, from the very marked depreciation in Pine Nut shares during the past few days that people on the inside were forcing down the price in order to 'shake out' the timid and buy in their shares at comparatively nominal figures. Be that as it may, the mine is in ore, and a high grade of ore. The average grade across the four feet of quartz intersected is well above shipping mark, and picked samples frequently return assays of \$500 in gold to the ton."

"Well, now," began Cassidy, upon receiving his first pay on the new job, "sure, this boss is a stoney wain."
"What's wrong wid ye?" demanded Casey. "Didn't he give ye as much as ye expected?"
"Aye; but I was countin' on gettin' more than I expected."—Philadelphia Press.

RECENT STRIKES AROUND BULLFROG

Billy Milliken, manager of the Bullfrog Victor, showed the reporter of the Bullfrog Miner a big boulder which was literally covered with free gold. The rich stuff was from the same vein that produced the sensation a short time ago, but it has grown wider and richer. On top the vein was between eight and ten inches. It is now two feet wide, having uniformly increased in width and value with depth.

Jimmy Hughes, the well known Echo-Lee pioneer and mining man, reported the uncovering of some good values on the Gold Top No. 1 claim, owned by himself and Jack Thomas. While doing their annual work a ledge was uncovered that measured on the surface ten inches, and assayed \$12.70. At ten feet deep it has widened to two and a half feet and an average assay of the ledge gave a return of \$79.30. The property adjoins the Bradshaw and Paymel claims on the north and is near the famous Hicks & Leavitt mine.

On Wednesday the miners on the North Star broke into the big vein for which the tunnel is being run. The last shots disclose a magnificent wall, standing almost perpendicular, but dipping slightly eastward at the bottom. The vein matter is a fine grain and partly decomposed quartz, which pans a regular streak. This vein showed a thickness of more than six feet in the upper level. The ledge in question was opened up at a depth of fifty feet some time ago. Here it was six feet wide and gave assays as high as \$38. At this depth, 100 feet more, it should do much better, both for value and extent.

The grading camps of the Tonopah & Tidewater railway are within ninety miles of Rhyolite. The big force of men and teams is being maintained and work is progressing rapidly. The rock cuts in Armosa canyon are not finished, although it has been expected that the grade through the canyon would be completed before this date. The track has been laid three miles farther within the past two weeks, and a station called Sperry has been established. This is seventy-eight miles north of Ladlow. Considerable freight for Greenwater is going in over the southern route.

LONG BEACH WANTS SMELTER

It is stated that Long Beach may obtain the big million dollar smelter planned by Arizona and Nevada mining men and capitalists. It is known that A. D. Myers, the mine owner, who will build a \$100,000 residence on the ocean bluff at Long Beach, is strongly in favor of locating the smelter on the coast.

A deal is now pending between the syndicate and the Salt Lake railroad, whereby the latter will donate a site on land to be filled in on the inner bay of San Pedro.

The smelter is said to be one of the industries which the Salt Lake railroad is striving to get, and which it desires to locate on the tidelands now in dispute.

The Bixby interests also are known to be interested and have a proposition to locate the smelter on Palos Verdes land.

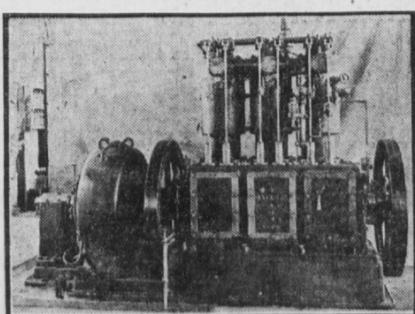
New State Engineer
Governor Sparks has appointed F. R. Nicholas superintendent of the Reno Traction company and president of the Riverside Railroad company, state engineer for Nevada to succeed Henry Thurtell, who has held the office for the past two years. Engineer Thurtell will resume his work in the University of Nevada. He will hold office until August 1, when he will be succeeded by Mr. Nicholas.

MAGNESITE MINE WILL BE OPENED

Preliminary steps have been taken for the early development of magnesite deposits near Winchester. A few days ago a company of Los Angeles capitalists filed articles of incorporation in the county clerk's office under the name of the California Magnesite company. The scale on which operations will be conducted is indicated by the capitalization of the company, which is \$300,000, fully subscribed. The directors of the company and the amount of stock subscribed by each are: W. S. Withers, \$153,500; J. R. McLead, \$54,000; C. E. Payne, \$30,000; F. Yale Adams, \$22,200; W. H. Young, \$22,200; S. A. Pawley, \$44,500. Los Angeles is named as the principal place of business.

The company's holdings include half a section of land located about three miles southeast of Winchester. The magnesite deposits were discovered several years ago, but heretofore the necessary capital to develop them has not been available. It is believed that the deposits are not only rich in quality but extensive in quantity.

Touring in Arizona
Recently J. L. Witney and F. C. Fenner of Los Angeles, accompanied by Ernest A. Haggott of Prescott, Ariz., made an extended tour of the mining section adjacent to Salome. They used a white steamer auto that had been sent to Salome by freight. The Los Angeles capitalists were most favorably impressed with the mineral values around Salome.



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