

section, and men do well at it, make big wages often. But the reports of surface pockets have gone abroad, and tend to divert the real quartz prospector to other fields. However, late working to depths show that the veins continue with ore of high grade for milling. As to quartz mining, this section is as a new country, and unprospected.

On Sardine Creek for several miles are a series of placer claims, all worked when water can be had. One of these is a farm of 300 acres, patented as such, which the owner cultivates in summer and hydraulics in winter.

The Lucky Bart quartz group of six claims is on this creek, the mouth of which is within a mile of Gold Hill. A five-stamp mill is on this group, which is in a formation of dolomite and slate, elevation 2500 feet, ore free gold and sulphur.

On Ward's Creek are hydraulic placers, and the Gold Chloride quartz claim, a late discovery, being developed; ore mills an average of 500 per ton, altitude 2500 feet, formation slate and porphyry. On Pleasant Creek are some placers reported as among the best in the state. The Cameron claims of 1600 acres are operated at several points by giants; depth of gravel banks 30 feet.

On Kane's Creek adjoining the town of Gold Hill, the placers extend up the stream continuously for four miles, but there is scarcely a placer above the placers on either hillside are numerous quartz prospects. The Braden group, covering 800 acres, has five parallel veins, striking easterly, dipping about 20 degrees south. One vein strikes across the course of the others, dips westerly 40 degrees, vein 10 feet wide, all pay ore. Formation of the locality granite, dolomite, porphyry and slate; elevation 1800 feet. A 10-stamp mill is running on the ore. One mile farther up the stream is the Roaring Gilet group of three claims. It has been very productive, and continues to supply free milling ore to a custom mill in the vicinity. The vein lies between a slate-hanging and porphyry footwall; pay streak two feet wide, strikes easterly, dip nearly vertical.

Little Work Netted \$30,000. On Gall's Creek placers are being worked in a small way for three miles. The water supply is scant. Some of the best quartz claims in the district are on this stream. The principal ones are the Kuhl property of 12 claims, three parallel veins, all being worked. A three-stamp mill is being replaced by a modern five-stamp. On the hill opposite is the Hill Nye group, a large producer; veins nearly vertical, strike northeasterly, ore worked in custom mill at Gold Hill. There are numerous prospects here, and one, the Bliss claim, is reputed to have produced over \$100,000 from a shaft of 42 feet and a drift of 50 feet.

the dredger men will find opportunity here. On the Main Creek is the Horseshoe group of two quartz claims, with a five-stamp mill. The Dixie Queen, south from the Horseshoe, with similar formation, has its ore worked at a custom mill. The ore is reputed to produce gold at \$100 per ton. These are types of some 40 prospects in that vicinity.

East from Gold Hill two and a half miles is the locally famous Blackwell quartz property of 200 acres. There are seven ledges, three being worked. Depth can only be attained here by sinking. Veins nearly vertical, formation slates and porphyry. The Tolo, of six claims, adjoins the Blackwell on the north. These lie in a granite belt and carry free gold. These workings are well supplied with steam hoist and power drills.

On Nigger Baby Hill, three miles north of the town, is a recent discovery of an 18-inch vein, carrying \$40 gold per ton. There are a great number of prospects making promise of permanent mines, on which development is being prosecuted. There are 100 numerous for detail.

Some 10 miles north from the town a large body of cinnabar has recently been exposed. The vein is 500 feet wide, and ore from it discharge globules of pure quicksilver. It is now being opened by a strong force of men and an electric crane. 25 miles north of Gold Hill, is an entirely new district of large veins of low-grade ore. A Huntington mill has been taken to it to be followed by a five-stamp mill. It is in the foothills of the Cascade Range at an elevation of 4000 feet.

Deposits of copper, coal, asbestos and mica exist in the county at the headwaters of the Rogue River. The extent of these is not known, but all are being opened. It is known as the Meadows district. The immense power of Rogue River can be utilized to great advantage in this locality and the gravel elevator and dredger may soon come to obviate the extensive use of water and overcome the flat-lying gravel beds, which exist at some points. The quartz prospects are most favorable. Well-directed work will make a great country of Gold Hill district.

From Medford northeast 25 miles, and from Gold Hill 15 miles, in a spur of the Rogue River Range, are two groups of claims on a cinnabar deposit. Development is in progress. On one group of six claims the Rogue River Quicksilver Mining Company has a shaft 57 feet sunk to a depth of 16 feet, showing a vein of ore 6 to 14 inches. The other group of five claims lies adjoining the first named. A shaft has been sunk here 112 feet in an ore formation like the other. In this shaft the vein is 11 feet wide at the bottom, has a northerly strike and a dip nearly vertical.

filled millions into the then almost empty chest of commerce. Oregon and California roused a lethargic and big those days civilization and science, with seven-league boots, have climbed to heights never dared before.

Contemplation of these things dwells consideration of present details to insignificance. Yet science, built upon what the delvers disclose, comes to give reward and help to renew the harvest of gold and reflected rocks may become "the headstones of the corner."

The placers have not all been worked out; the veins in the hills have remained untouched, scarcely looked for. A great many small gulches are being worked in a limited way; scarcity of water again. Their number is too great to specialize. The principal ones are on Froot Creek, six miles from Jacksonville, Poorman Creek, five miles, and several others that were once large producers. On Upper Applegate are two hydraulics and numerous small mines.

The Sterling placers are a type of the greater mines. They are on Sterling Creek, eight miles by splendid wagon road of easy grade from Jacksonville. Great quantities of coarse gold came from them in the early days, gotten by the simplest methods. But the water supply was limited to the rainy season, and with each passing year there was a marked decrease of rainfall, until now it is not more than one-half its early annual supply. So, with failure of water, the placers were abandoned, the old-timers slowly gave way. Nearly all the original claims finally passed into the hands of the Sterling Mining Company, a Portland corporation. This corporation has two stockholders, V. Cook and Henry E. Ankeny, the latter being practically president, board of directors, manager and superintendent, the rest of the company trustfully leaving everything to him. It is an ideal board, and necessarily everything moves satisfactorily and to the great profit of the stockholders.

These placers cover some 1500 acres, which extend for 5 1/2 miles along Sterling Creek. The deposit of gravel is from two to 100 feet deep. The hillsides are piped for gold. The property is splendidly equipped with piping, giants, flumes, ditches and sluices. When in full operation, four No. 4 giants utilize 400 inches of water, brought chiefly from the Siskiyou Mountains, by a system of ditches constructed for the purpose. The largest, or Siskiyou, ditch, is three feet wide on the bottom, 5 1/2 on top, 3 1/2 deep and 25 miles long. Other ditches bring water from other sources. One, six miles long, carries 500 inches of water; another of the same length, 300 inches, and another, five miles long, carries 500 inches.

The bedrock consists of strata of shales, porphyry, sandstone, in streaks, and occasional points of granite, all tumbled and distorted, small kidneys and stringers of barren quartz cutting through and interlacing the whole. These mines present curious and interesting features, not possible to relate here, in variety of gravels, including cinnabar, and of bedrock.

are through a shaft and tunnel levels to a depth of 300 feet, the deepest workings in the county. The vein is from four to 10 feet wide; strike northerly, dip west about 65 degrees. The gangue is quartz, carrying free gold and sulphurets. It has water, timber, game, and scenic points indescribable, and it is blessed with an ideal climate. The country is accessible from Ashland by wagon road ending in a trail over the hills and by a ten-mile mountain trail due west from Coles, a railway station at the boundary line between Oregon and California.

From Ashland, up Bear Creek Valley, nine miles in a southeast course, by good road, is the Free Silver, or Barron Mine, lying in the high foothills of the western slope of the Cascade Range. This mine is of peculiar interest from the fact that in rock formation and character of mineral deposits it has a marked resemblance to certain localities in Colorado. Mineralogically the Barron Mine is most interesting. It carries 16 or more different elements. Free gold, and free silver, and ruby silver are abundant. The ore generally are sphalerite, galena, iron pyrites, etc. It is a smelting proposition.

Locally this section is called the "Cripple" lying east of the serpentine and the presence in quantity of the telluride ore, not found elsewhere in the county. This mine carries a large amount of silver, great the telluride and realgar. Many contiguous locations of claims have been made, but the general formation is eruptive; the elevation about 3000 feet.

In the Cascade Range near Ashland are many deposits of mineral paints, kaolin and clays convertible into finest China porcelain wares. Mineral springs, carrying medicinal waters, are numerous in the vicinity of Oregon's southernmost city.

On the same stream the Wingham and Pentz has been operated for three years, using a five-stamp mill. On Applegate, west from Jacksonville, 10 miles, a custom mill has been running for several years, reducing and testing ores mined in that locality. There are no deep or extensive workings here, but the miners are sticking to their prospects. Jacksonville is well supplied with commercial houses and a solid banking institution. The hotels are fair, the livery stables good. It is splendidly represented by a newspaper issued in weekly and semi-weekly editions.

Mines in the Vicinity of Ashland. This city, situated on the Southern Pacific Railway, 34 1/2 miles from Portland, is the southernmost point of supply for Oregon mines. The climate is matchless, and the location of the city superb. Its most excellent hotel is of advantage to mining men, as well as are its good livery stables, prosperous banks and ably conducted newspapers. Its site at the foot of the Siskiyou Range rises immediately to the south of the city and the railway's grade commences its ascent of the mountain before passing from the city limits. A quartz mine named the Ashland is reached by a good wagon road of three miles, running southwest from the city. The mine is in a mountain ridge buttressed by Wagner Butte, in granite formation; the hanging wall is granite, foot wall diorite; elevation 2500 feet. The workings

searched the mountain above them for the source of the gold they were getting. Probably it was the old story—they knew little of quartz and had no machinery with the faraway shops with which to work it. The country is abundantly supplied with water, timber, game, and scenic points indescribable, and it is blessed with an ideal climate. The country is accessible from Ashland by wagon road ending in a trail over the hills and by a ten-mile mountain trail due west from Coles, a railway station at the boundary line between Oregon and California.

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tioned, and that thousands of miles of payable placers still remain in gulches and creek beds. American genius, with new contrivances, wonderful machinery and modern metallurgy, is come to their aid, and the harvest of gold in the future ought to be great—greater than that of the best of the early years.

The field is vast, but the laborers are few, widely dispersed and isolated. Fill this field, open these mines, and there will be a home market for Oregon fruits.

A most striking characteristic of the miners in Oregon must impress deeply every man who goes into the camps of the various districts. With scarcely an exception the best home in town is the schoolhouse. Where two or three families are gathered together there is a schoolhouse in the midst of them. It is habit, loyalty or love for his kind, or all these? Truly, it is American. By the time the third family of five children arrives, a volunteer committee with the proverbial "old miner" as its head, is arranging for the construction of that inevitable and indispensable schoolhouse. That schoolhouse must have homes in shacks, but that schoolhouse must be comfortable, and is often ornamental.

Thanks are due by every reader of this to the miners and managers who have given freedom to properties and information and aid for its preparation. Their generous assistance, always cordial, has been invaluable, the regret being that a bare ribbon of the truth can be told. The American miner is intelligent, earnest, brave and patriotic. His success is not promoted by the failures of others. He can well declare: "I am a true laborer; I earn that I eat, get that I wear, owe no man hate, envy no man's happiness, glad of other men's good."

Eastern Oregon a Revelation. Professor F. H. Newell, hydrographer of the United States Geological Survey, says of Eastern Oregon: "To my surprise I found an abundance of water in most sections. The Deschutes River turned out to be a large stream, and its water can be readily diverted into numerous irrigation ditches at a minimum cost, and without the construction of storage reservoirs. Yet all the rivers are not so fortunately located. To derive the full benefit of the waters of such streams as the Malheur and Crooked Rivers, storage reservoirs will have to be constructed and feeding canals connected with the reservoirs. Most all of the streams of Eastern Oregon were larger than I had supposed, and without the construction of waste far exceeded my expectations. There is water enough to irrigate all the land in Eastern Oregon that can be settled for some time to come.

"Of course, there are a number of vast plains which are now practically useless and without value, because they are too remote from a source of water for even stock raising. I am reasonably sure that artesian wells can be sunk in these regions, which will, if properly managed, furnish all the water that is needed, not only for watering stock, but for irrigating large portions of these plains for agricultural purposes. The soil itself is rich; it needs only water to make it valuable."

THE Helena Consolidated Mining Co.

If a dozen columns were written descriptive of the Southern Oregon gold fields, and especially that portion known as the Bohemia District, another dozen would be necessary to properly complete the story.

The Oregonian has printed a great deal of matter concerning this rich mineral region, and expects to continue the narrative so long as time shall be.

The Bohemia quartz gold mines lie in Lane and Douglas Counties. To reach them from Portland it is necessary to travel on the Southern Pacific Railroad 144 miles southward to Cottage Grove. Here is a prosperous little city, founded and builded long before gold mines were dreamed of in that locality. The last census gives it a population of 974, but today it is believed to contain at least 1500 people. It has a fine system of water works, electric lights, graded streets, metropolitan mercantile establishments, two bright weekly newspapers, the Bohemia Nugget and the Cottage Grove Leader, a substantial bank, two assay offices, a graded school, several imposing church edifices, and all the additional paraphernalia belonging to a cultivated people and a thriving municipality.

The place is governed by a Mayor and Common Council, serving without expense to the taxpayers, and its financial affairs are managed as carefully and intelligently as the gentlemen comprising the executive body conduct their private affairs. It is the center of an exceedingly fertile agricultural and fruit country, and is surrounded by magnificent forests of merchantable fir. Considerable oak is also found in the surrounding forests.

This reference to Cottage Grove is made for the purpose of informing the reader of this New Year's Oregonian that in his journey from the metropolis of the state to the Bohemia gold fields he is not darting away into some unknown region, as, for example, the Alaskan diggings, to whom it up with the Esquimaux or dodge the ferocious paw of the polar bear. Instead he may board a train in this city at 8:30 in the morning and arrive at Cottage Grove at 2:57 in the afternoon, or he may depart from Portland at 8:30 P. M. and at 2:06 o'clock next morning arrive at his destination.

From Cottage Grove the Bohemia mines are distant about 35 miles, in a southeasterly direction. At present they are reached by private conveyance or daily stage, but a railroad survey is now in progress, the line located for much of the distance, and before the closing of the present year the iron horse will supplant the wagon and the Concord coach, so that then one may breakfast in Portland and supper at the splendid Jennings hostelry, where he will be awakened the following morning by the incessant dropping of the numerous stamps. Then will be born the boom of the age in Oregon mineralogy. Then will the eyes of our people be opened to the stupendous mineral possibilities, the gigantic mineral resources of a section of our commonwealth as yet but little known to them, still within but a pleasure jaunt of their habitations. Then will come to our knowledge the pleasing reminder that those of our citizens who have for so long earnestly proclaimed the golden wealth of old Grizzly Mountain were not visionaries, idle boasters or men who spake without foundation for what they said.

But the completion of the railroad, about November next, is not the only enterprise relied upon to bring the Bohemia mineral region into National fame. About the first of May, or possibly June, of this year, work will begin on a smelter to be erected in this city, to be especially adapted to the treatment of Bohemia ores. Of this project Mr. P. J. Jennings, of the Helena Consolidated Mining & Milling Company, before his departure for the East a few weeks ago, said to an Oregonian representative:

"Our company will construct a smelter in Portland during the season of 1902. It will not be a thousand-ton affair, nor half that capacity, but large enough to handle the production of our property."



no difficulty in shipping 300 tons of our own ore each 24 hours, so that if we have no other business but that of our own, it will pay us to make the large expenditure it will entail."

"Do you expect to organize a company in Portland to build the smelter?"

"We shall not ask for or solicit a dollar of Portland money. That matter is as good as arranged for in the East. The entire sum will come from one source, so what would be the sense of securing a dribble here and a dribble there from local persons? The money will be placed in our hands and we will use it to the best advantage. We know in advance

what the outcome will be. Our own stamp mills at the mines, in operation the past two years, inform us of the value of our ore; our thousands of feet of tunnels declare its vast extent; the favorable surroundings apprise us of the cost of mining, and our long experience in this field of effort enables us to very closely approximate the necessary expenditure of smelting. As a matter of fact, we have now blocked out a body of ore sufficient to supply a 300-ton smelter with all the rock it could handle for many years to come."

The mining corporation for which Mr. Jennings spoke was organized only a few months ago, and is one of the strongest institutions of its kind in Oregon. Still it is not a new concern. When the last New Year's edition of 'The Oregonian' went to press, P. J., R. J. and J. J. Jennings, three brothers, who had grown to manhood in the mining business, and Mr. C. B. Bruneau, comprised what was then known as the Helena Mining Company, operating in the Bohemia district. This company was the owner of the Helena and Helena No. 2 mines, two of the best gold quartz propositions in the state. These properties were located on the opposite sides of Grizzly Mountain. On the apex of this mountain was situated the White Wings mine,

owned by other parties. The development of this property demonstrated its worth as one of the prime prospects of that part of Oregon. Negotiations for the purchase of this claim were entered into by Mr. P. J. Jennings, manager of the Helena Company, resulting in its acquisition early in the Fall of 1901. It was desired and was of special value to the Helena Company because it enabled it to penetrate the mountain with its tunnel from side to side, thus connecting by this underground passageway Helena and Helena No. 2. In pursuance of this purpose, so soon as White Wings was secured, work on the tunnel was prosecuted with the usual vigor of the management, resulting in the discovery of a body of ore, properly that of the purchased mine, so fabulously rich as to at first create a smile of incredulity when its worth was named. Ore that assays up to \$3000 per ton is there in plenty, and when this fact became known in Portland there was a hurrying and a scurrying for shares of the company, such as was never known before in this metropolis. The market value of the paper soared skyward until every obtainable outstanding certificate was snugly tucked away in places of security, and today it is doubtful if a share could be had at any reasonable figure. After the purchase of White Wings the properties were consolidated, a new corporation formed under the name of the Helena Consolidated Mining & Milling Company, its management being the same as that of the Helena and Helena No. 2, and renewed energy has been instilled into the development of the company's holdings. In fact, there are now tunnels in every direction, crosscuts, upraises, etc., to such an extent that millions upon millions of dollars' worth of the richest kind of ore is exposed to view. Smelter tests of from \$30 to \$1000 per ton are common, and \$3000 rock is often met with. The properties of the Helena Consolidated Mining & Milling Company are not prospects. They long ago passed into the category of thoroughly developed mines, several hundred thousand dollars having been expended to accomplish this. But the mines have been generous in return. The Helena is a liberal dividend-payer now, and when its ores and those of its sister mines

Other Properties of the Company.

Besides those mines mentioned, the same management that so successfully engineers the Helena Consolidated affairs controls several other valuable Bohemia properties. The Musick Mining & Milling Company is fortunate in having the indefatigable, industrious Mr. P. J. Jennings at its helm. This is probably the most extensively developed of any, and as a reward has returned to the stockholders more than \$250,000 in dividends in the last few years. In its lower levels thousands of tons of base ores, of almost incalculable value, are in sight, awaiting transportation.

The Star Consolidated.

Here is another of the great prospects belonging to the same people, and addressing itself to this property, The Portland Evening Telegram, in a recent issue, said:

may be brought by rail to the Portland smelter it will be difficult to estimate its value. As an example of the snap and energy with which Mr. P. J. Jennings conducts the affairs of the corporation of which he is the official head, may be mentioned the fact that in November last he organized a company to build a telephone line from Cottage Grove to the mines. Work was begun within two days after the incorporation, and at the expiration of six weeks the 35 miles was covered, an office opened in Bohemia, and conversation with the district may now be had from any telephone office or instrument on the Pacific Coast.

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The Company's headquarters and offices are at 112 Sherlock Building, this city. Persons interested may obtain full information by addressing the secretary, Mr. R. J. Jennings, who has considerable literature bearing upon the Bohemia section of the state.