

THE TYPICAL PROSPECTOR

Volumes have been written about the prospector and the story then only half told. He is a creature of hope, optimism, cheer and industry. With a grubstake and a box of powder he will toil on day after day and nine times out of ten is like the Irishman who sold a mine for \$5, which afterwards paid millions in dividends, will never sell "until he digs the other fat." For one foot deeper in the Irishman's shaft bonanza ore was uncovered.

Had Dickens, Thackeray, or even George Ade discovered the genus prospector what descriptions might we not expect from them. But buried in the mountain solitude, untouched by the cares, wiles and vices of civilization, he lives and dies. Sometimes he makes a sale, and, betaking himself to the nearest camp, blows it in against wine, women and faro bank. At his cabin he is a prince in pauper's apparel, his latch string is always out, and if you be hungry or tired, food and sleep may be yours without even so much as the asking.

E. J. Kennedy, of the Golden West mine, down near Rochford, sums up the prospector in a little book called "The Black Hills" in a manner sounding like Ezra Kendall, says the Deadwood Pioneer Times. Of the true prospector he treats the matter fairly and squarely, and so for the croaker—well, we have all met him. He is always on hand, like a sore finger.

"Mining," says Mr. Kennedy, "like every other industry, has its peculiarities—only more of them. Commencing with the prospector and his prospect hole, we confront a proposition both unique and interesting. Generally speaking, the prospector is a man who never had anything and never will—not even a wife. He roams over the mountains, with a few pack animals, building cabins here and there, and digging holes in search of ore, and only one prospector out of fifty ever finds anything that afterwards becomes a mine of any consequence.

"He is a man able to stand lots of hardships, lives principally on flapjacks and pig's bosom in times of prosperity, and when he is out of luck, as he calls it—which means when the faro table works bad—he will eat ancient tin cans, old rubber boots or any old thing. He is always ready to pick up and run to every new mining excitement. Money and distance cut no figure. He will sell you his claim for \$15. It is true he asked you a million for it a month before. But he finally runs himself down in the course of years. Then, again, he always finds just what he was looking for all his life, in very large leads of high grade ore! He is unable to show it to you, but he knows it is there. Can't you see the formation? Why, it is just like the Homestake, for all the world—and right in line!"

"But, old man, it's a little lean right here, is it not?"

"Oh, yes; but you know the Holy Terror mine at Keystone had a lean streak in it. You must go deep."

"Then it is discovered that the old man has contracted the prospectus—commonly called 'quartz-crazy'—and from that day on he is the happiest mortal on earth, a genius that any millionaire might

envy! He lives in exalted expectation. He has a million, but can't spend a cent 'just now.' But he is a good old soul, and will give you half of anything he has got in his cabin, and will stake you when he sells his mine—if he be a true prospector.

"There is of odd humanity in this unique district still another type—the would-be prospector, known as the croaker. This specimen sits in the dark and predicts disaster. Progress and enterprise are his perpetual night mare, and a suggestion of adopting modern methods is to him an emetic. He is a man who attempts to disguise cowardice and timidity under the name of 'conservatism.'

"He is particularly conspicuous during times of prosperity, prophesying the early collapse of what he calls an 'unnatural boom.' He sees in every mining deal a stock-jobbing scheme, and every successful strike is regarded by him as a boost to raise the price of shares. He condemns every section of the country except the one he may be interested in, and with him every sample of ore is 'salted' or the assayer a fraud.

"He has been unsuccessful himself and sees everything going that way. He never sold a piece of ground in his life—he did not have the nerve—he was afraid some one would make something out of it.

"On the whole the typical prospector is a blessing to the community and a depressing prospector of this stripe is a nuisance to the community and a depressing influence for the country at large."

SECONDARY ENRICHMENT

The secondary enrichment of ore deposits by the oxidation of the ores of the sulphide zone, and the reprecipitation of the minerals under conditions which were favorable to their redistribution, at lower levels, has come to be accepted as a fact, but there are instances wherein it is difficult to account for the extreme richness of some of the ore found in the zone of enrichment. The phenomena have been chiefly studied with reference to the copper deposits of Butte, Montana, which appear to offer the most tangible evidence to support this really rational theory.

It was recognized for many years, before the "secondary enrichment" theory took definite shape, that the iron gossan of many copper bearing deposits had been deprived, to a great extent, of the copper contents, and that in many instances, beneath the "iron hat" was found a zone of rich carbonate and oxide ores of copper, beneath which again was an enriched sulphide zone, in which the ores were usually "glance" and similar minerals with high values in silver or gold, or both.

It was realized or believed that these rich zones were the result of the precipitation of ores from the oxidized surface portions, but the secondary enrichment theory, as now generally understood, had not yet been offered to account for these occurrences. In most cases where the secondary enrichment of copper ores had occurred the amount of superficial ore which has been leached has evidently been sufficient to furnish all the copper found in the zone of enrichment.

There are, however, other deposits,

wherein the enrichment must have been produced by the continued precipitation of solutions from below within the zone of and during the period of oxidation, for no other theory could account for the unusual richness of the ores, and their amount. Take, as an example, the rich chloride silver-lead deposits of Fryer hill, at Leadville, Colorado. The famous mines of that flat eminence—the Robert E. Lee, Matchless, Little Pittsburg, Annie, Little Chief, Chrysolite and others—all within the oxidized zone, and occurring relatively within a few feet of the surface and above the horizon of local drainage and consequently of possible secondary enrichment—produced millions of dollars.

It is now a well known fact, long since established that the normal ore of the lead-silver mines of that district are low grade pyritous ores, containing an abundance of zinc sulphide and some copper sulphide, and that the normal ore, with a few exceptions, is now in silver. On Fryer hill there was not enough ore available above the level of these rich deposits to have supplied the large amount of silver chloride and sulphide found in those noted deposits, within the zone of secondary enrichment, consequently the large amount of silver, mostly as the secondary products of the alteration of silver sulphide, must have been derived from below, not necessarily from the ore lying in the immediate neighborhood of the rich superficial deposits, but more probably from solutions which continue to rise from great depth, and which supplied the ore found in the normal deposits. There is no evidence, in fact, that these solutions are not still rising, and by their slow and imperceptible action still forming ore bodies.

The evidence furnished by the exposure of the rock strata in mine workings in Leadville district leads to the conclusion that the ores were formed in nearly horizontal beds at great depth—not less, probably, than 10,000 feet, and that the faulting which is such a marked feature of the district, geologically, topographically, and incidentally commercially, occurred long afterward, but there is no evidence that the mineral solutions are not still coming up from the barysphere.

It is an established fact that minerals are being deposited in certain fumaroles and hot spring formations, where the solfataric action is still in evidence, as at Steamboat Springs, Washoe county, Nevada, and at Sulphurbank, California. Curiously enough, the principal mineral deposited in each of these instances is cinnabar, though at the former place, it is said on good authority, both gold and silver also exist. An attempt was recently made to mine at Steamboat Springs, a shaft being sunk in the deposit, which, had it proven successful, would doubtless have furnished much valuable information in reference to the formation of mineral deposits; but the great heat of the mineral workings, the sulphurous gases, hot water and the low grade of the ore found made the attempt commercially and practically abortive.

The Comstock Lode at Virginia City, Nevada, affords one of the most notable examples of extensive mineral deposition as a result of solfataric action, and without doubt mineral is still being deposited in that system of fissures. To what the bonanza deposits owe their origin is a matter for discussion.—Mining and Scientific Press.

DRIVE LONG TUNNEL ON GOLDEN WIZZARD

J. M. McPhee, manager of the Golden Wizzard Mining and Milling company, returned today from Tacoma, where he went with Dr. L. O. Miller, of Three Rivers, Michigan, president of the company, a week ago to attend the annual stockholders meeting. With the exception of two new directors elected to take the places of R. Frary, Michigan, and C. E. Peterson, of Tacoma, who has moved to Raymond temporarily and could not serve on this account, the officers are the same as before. The new directors are C. F. Owen, of Tacoma, mine inspector for Washington, and Dr. McOmber, of Berrier Springs, Michigan.

The officers are as follows: Dr. L. O. Miller, Three Rivers, president; A. H. Garduer, Three Rivers, vice president; A. H. Banker, Three Rivers, secretary and treasurer; J. M. McPhee, of Sumpter, general manager. These with the two named form the directorate.

The minutes of a meeting which was held in Michigan just before Dr. Miller came west were read and other important business transacted. The stockholders have concluded to make surveys for a tunnel at some point on Stovepipe gulch, where sufficient depth can be obtained and drive a tunnel to drain the heavy flood of water from the mine. This tunnel will take some twelve to fifteen months and when completed will give plenty of backs to last the mill a number of years. Consequently it was decided to dispose of the sinking plant now at the mine and turn this money into tunnel work.

Dr. Miller left for Michigan after the adjournment of the meeting. Speaking of the minutes of the meeting referred to above, Mr. McPhee says:

"When these become known to the people of the district, as I intend they shall be, they will very likely see that there are times when the local and long distance tenderfeet and tinhorn knockers are badly mistaken."

There was only one copy of the minutes in question, and Dr. Miller took his back with him, but Mr. McPhee intends to have a duplicate sent him, which he thinks will place another phase on the situation.

E. & E. SAWMILL STARTED TODAY

The North Pole sawmill, operated by William Robertson, closed down yesterday for the reason that a sufficient supply of lumber had not been secured, and Mr. Robertson moved his crew down to the E. and E. sawmill, just above town, of which he also has charge. He started cutting there today.

The E. and E. company is getting out lumber for the new cyanide plant which is to be erected at once.

The democrats of Minnesota say they are going to run J. J. Hill for governor, and his boom has passed the formative stage. J. J. is a life long democrat generally speaking, but a republican in spots, as self-interest prompts. For instance, in Washington he is with the republicans tooth and nail to defeat the railway commission.