

the same business principles as a great manufacturing establishment. All expenses are cut down to the lowest notch, and capitalists watch the money they put into mines just as they do their investments in other businesses.

They do not hesitate to spend a great deal to bring about results. I visited a tunnel the other day that was being driven into the side of a mountain, in order to strike the gold veins which are supposed to lie there.

Every foot of the tunnel would cost at least \$20, and it was to be more than a mile in length. The company expected to spend more than \$100,000 in making the tunnel, and they were drilling through the rock by steam, forcing the drills into the granite by means of compressed air. In company with one of the men I entered the tunnel. We each carried a candle, but we had to shield it with our hands, for the water came down in torrents from the roof of the tunnel, and was carried off in a drain or box-like ditch, which ran under the car track. The men who were working in the tunnel wore waterproofs of white rubber, and their rubber boots reached to their thighs. We waded along the track for a distance of nearly half a mile before we came to the end of the excavation. Here the men were blasting down the rock by means of dynamite. Each man had a candle held in a curious wire frame and stuck into the rock by his side. Each man had hold of a drill attached to a pipe, through which the compressed air came, which turned it around and around with almost inconceivable speed. The men held their drills against the rocks, and as they did so the sparks flew from the stone, and atom by atom the drills bored the great holes into which the dynamite candles were to be placed. Before coming into the tunnel I had visited the dynamite warehouse. It was merely a closet filled with what looked like candles. Each candle was as big around as a broom handle, and about ten inches long, and each contained enough dynamite, I was told, to blow down any city house. The drills were of about the same diameter as the candles, and, after the holes were made by them, the candles were inserted and pounded in. I noticed that the pounding was very gentle. A too hard knock might set off the nitro-glycerine and blow the men to atoms.

A gentle tap, however, will not hurt, and the dynamite candles are driven into the holes, a fuse is connected with them and the remainder of the hole is closed with earth fitting in about the fuse and being carefully pounded or pressed against the candle. All of the holes are filled at the same time and then connected by electricity. Now the men leave the mine. The engineer in the boiler room, a half mile away, raises a lever, the sparks of electricity fly and a moment later hundreds of tons of rock fall to the ground ready to be carried off in great steel cars and dumped down the sides of the mountains. Nearly all mining is now done by blasting. There is little digging with a pick except to take out the rock which has been blasted down, and every manner of labor saving appliance that will cut down expenses or increase the output is used.

Standing on the dump of the Maid of Erin you get a good view of Leadville. It lies in a nest in the Rockies and it is surrounded by some of the most pictur-

esque scenery of the United States. Imagine an amphitheater, the walls of which are snow-capped mountains, and in one side of the arena there is a mass of dust-colored houses. Let there be buildings of red and yellow brick, log cabins covered with dust, wooden shanties and comfortable homes, all dusted with yellow, put mountains of broken rock here and there through it and let immense frame buildings which mark the sites of smelters show out below it, and you have a faint idea of the city of Leadville as it looks today. It is a city of schools and churches, a city of wealth and manufactures, a town of gold and silver and lead. It contains about 12,000 people, but it does more business than a town of three times the size in the east. It is the highest town of its size in the United States. Situated more than two miles above the sea, it is of all our towns the nearest heaven, but of all our towns it smells the most like h—

There are parts of it which are alive with brimstone, and when you drive in the direction of the smelters you have to cover your nostrils and mouth with your handkerchief in order to be able to breathe. The brimstone comes from the sulphur in the ore, which is liberated by the intense heat of the smelting furnaces. Mixed with this smell is the dust, which, when the wind blows, fills all parts of the city. The gold and silver ore is hauled to the smelters through the streets in enormous wagons, each of which is drawn by four horses. There is an almost continual procession of these wagons going through from daylight until dark, and the precious dirt under foot is ground to powder. It contains silver and gold, it is said, but silver dust and gold dust are no better for breathing today than gold was for eating in the days when everything that King Midas touched turned straightway into the yellow metal.

Speaking of gold dust, placer mining is still done near Leadville. This has been one of the greatest placer mining camps of the world. California Gulch, which lies just below Leadville, has produced the enormous amount of \$35,000,000 worth of gold. This was the great gold mining camp of 1859 and 1860, when the words "Pike's Peak or bust" should have been California Gulch or bust. The work was then done in old pans or rocking cradles and the stories of the gold nuggets and the gold dust found were carried all over the world. Two million and a half dollars' worth of gold were taken out of this gulch in 1860. The men who panned it noted that there was a heavy black sand mixed with the gold, but they did not realize that this sand was carbonate of lead until years afterwards, when it was discovered that the lead was rich with silver and the mining began which made Leadville one of the greatest silver camps of the world. One of the first big silver mines opened was discovered by the Gallagher Brothers, two poor Irishmen, and another was opened by Fryer, from whom Fryer Hill, one of the most famous mining districts here, was named. Fryer lived in a squatty little cabin on the side of this hill, and he was looked upon by his neighbors as utterly worthless and good for nothing.

One day he went into the pines back of his cabin and dug a hole. He struck ore almost at the grass roots, and opened up a mine which yielded more than a million dollars.

Another famous mine was known as the "Dead Man's Claim," and the man who acted as a grave digger on a certain occasion became its owner. A well-known miner had died, and his friends, who wanted to give him a good send-off into the other world, hired a man to dig his grave for \$20. It was in the midst of the winter. There were ten feet of snow on the ground, and the grave had to go six feet below that. In order to keep the deceased proper condition until the grave was dug he was laid away in the snow for the time. Nothing was heard of the grave digger for three days, and then the boys, wishing to carry out the remainder of the funeral, went out to see him. They found him digging away with all his might, but they found also that he had put up the stakes and gone through the ceremonies which gave him a miner's claim to all the land about the grave. In going down into the earth he had struck pay ore, and the rock which he got out was worth about \$60 a ton. The mourners at once staked out claims adjoining his, and the deceased was forgotten. He remained in the snow bank until the spring sun thawed him out, when he was awarded an ordinary burial in another part of the camp.

An idea seems to prevail that the silver mines are doing nothing. This is not true. There are many silver mines which run so rich that they are still worked with a profit, and if silver should again touch par with gold our silver product would be enormous. Mining has never been done so carefully as today, and science has never done so much to make the production of gold and silver cheap. Take the Creede camp, which has made so many men rich. Creede was a poor prospector when he discovered the "Holy Moses" which in 1892 netted more than one and one half million dollars. Creede sold it for \$10,000. He made other strikes, and he has now an income of a thousand dollars a day. Still he tramped the mountains for twenty years before he made his big strike, and he was fifty before he became a millionaire. He made the bulk of his fortune out of the Amethyst and other mines, and the great receipts of the Holy Moses went to Dave Moffat and his partners. A man named Renniger was riding through the mountains about Creede on one of these little donkeys known as burros. He had another burro to carry his pick and prospecting tools. He was a grub staker, that is some man had furnished him tools and groceries for a certain time with the understanding that the capitalist should have half of what he discovered. One night, when Renniger camped, his burros strayed away, and he spent days in finding them. When he did find them he looked at the rocks upon which they were standing and saw that they contained silver. He located on that spot what is known as the "Last Chance" mine, which paid \$250,000 in dividends from its surface production and which has produced fortunes. Near this mine Creede, now a partner of Moffat, discovered the "Amethyst" mine, which, in 1892, produced \$1,400,000 worth of silver, and which is now capitalized at \$5,000,000. This mine now belongs to Senator Wolcott and others. It is very rich.

Not far from Leadville is the great mining camp known as Aspen. It is in Pitkin county, out of which has been