

**WHY MINES NEED CAPITAL.**

**Good "Prospects" Must Have Means to Develop Them.**

Of mines which pay comparatively few would ever become valuable without the aid of capital, and this primary requisite the claim owner usually lacks. He may have muscle and grit and may be willing to work faithfully to the end, but at best his efforts will develop the mine superficially. Those who are fortunate to own a claim so favorably located that the development can be accomplished by means of tunneling, and with an easier road to fortune than those who must sink a shaft to accomplish the same purpose. In either case cash is necessary for the purchase of tools and supplies.

The facility with which a mine may be opened depends wholly upon its situation. Those ideal locations, where the vein may be opened by adits with a thousand feet of backs; where there is an abundance of fine timber to be had for merely cutting it; where a splendid water power is situated at the foot of the hill, and where every ton of ore is rich, are not found.

Good prospects, which have developed into great mines, in many cases have been situated in a region difficult of access, timberless and devoid of water, at least for power, and with every conceivable disadvantage surrounding them. These mines required capital to equip and develop them, and the result has been satisfactory to the investor.

The prospector who fortunately finds a vein of ore from which he can ship with profit at once needs no capital; indeed capital immediately seeks him and endeavors to purchase his claim, usually at a price considerably below what the finder thinks it is worth.

The other prospector who found a vein of low-grade ore is helpless without financial aid, realizing his helplessness, while firmly believing in the value in the value of his property, he looks to those having capital to invest in his mine. In consideration of these facts, the question so often put to the prospector, "Why do you wish to sell your mine if it is so good a thing?" is as absurd as it would be to ask the owner of a high-grade property, "Why do you not sell your mine since it is so good?"—Mining and Scientific Press.

**MINING ACTIVITY.**

**Never Before Has There Been So Much of It Evidenced.**

Never before in the world has there been such general and widespread activity in mining in all parts of the world and for all the important minerals. This activity is more concentrated and intense in the United States than elsewhere, but it is spreading in every region. Australia, Africa, China, the Islands of the Pacific, Europe, South America, British North America, Mexico, are all in the rush, as well as are we of the United States. It is an age of mining.

We have passed Great Britain now in the output of coal, far excel any other country in our production of iron ores, we raise a big part of the copper that comes out of the earth, and zinc, lead, antimony, etc., and the development of gold mining keeps up with the procession. In every mining state and territory of the Union there is an amount of work going on not heretofore equaled. The old fields are giving out enlarged yields and the new ones are constantly coming forward. Coal is the basis of modern energy, and steel and copper, the body and nerves of modern appliances and machinery in the arts and industries. This has given a foundation to mining which has taken from it speculative, uncertain features which have long kept it out of what called itself "legitimate business." Today there is no business so "legitimate," so stable, so certain of giving good returns for capital and labor put into it as mining, whether for iron or coal or gold or silver. The world needs, for its modern progress, the mineral wealth of the earth, and capital is as ready to go into mining now as into the most favored lines of other industry or production.—New York Financial News.

**THE COPPER BOOM**

**No Red Metal Accumulations at the Smelters.**

**IT IS SOLD IMMEDIATELY**

**From All Quarters We Hear "The Demand Equals the Supply."**

The strength of the copper situation is best seen by the steady disappearance of the metal out of the producers' hands. Formerly a good deal of the output from the mines was allowed to accumulate at the smelting works, or distributed to various points to await shipment on the consumption of sales, and mining companies were compelled to carry a considerable proportion of their product until able to work it off on the market. Now, however, producers have their output sold up while it is yet in the mineral, or even possibly in the rock before it has reached the stamp mill, and it is a rush to bring it from drifts and shafts, put it through the stamping process, hurry it to the smelter, load it on the cars, and send it by the fastest and most direct route to the consumer, who has it in the crucible with an alacrity that is truly indigenous.—Western Miner and Financier.

**YOU CAN'T ALWAYS TELL**

**Cheap Mining Prospects That Developed into Splendid Mines.**

Mr. William H. Hardy, writing to "Our Mineral Wealth," of Butte, Mont., tells the following stories illustrative of the fact that even the best experts can't tell just how a prospect will develop. Says he:

"In September, 1859, I camped on the bend of the Carson river. Miners were at work in what they called Gold Canyon; since it has been called Comstock mines. I visited the mines and in conversing with the miners I learned that they came from California and would soon return, as the canyon mines were bilks and frauds. I noticed the large quartz croppings (since called Gold Hill), but it was at that time considered worthless. Little did they dream that there was gold and silver there to enrich 10,000 men, that there would in ten years a city spring up, and 10,000 laborers be employed; yet the past is a real history, and the records may be referred to.

"Again, I think it was in 1878, some mining men from Chicago employed me to act as an expert. It seems that a party had reported to them that there was a copper prospect near the town of Prescott. I do not recollect if there was any name to the prospect. I found the prospect, got a bond on the property at \$10,000, and in case a real sale was made I was to have a part of this money. I went on to Chicago and found my men, but they were off. A great copper expert from the lake copper mines had visited the place and had made a report to the effect that the property or copper claim was a hoax and fraud and not worth a day's work. I returned home injured about \$200. Other parties tried the claim and set finally a man by the name of Clark visited the claim and bought it, and soon developed what is now the United Verde at Jerome, a mine that exports value at \$100,000,000.

"So, you see, we can't always sometimes tell what is in the ground at first sight. I could quote 50 mines with a similar history. There is no doubt that mining in the United States is in its infancy."

**THE DEMAND FOR COPPER**

The history of the copper market from month to month is a record of unimpaired strength. Demand for the metal continues to grow just a little faster than production, and the practically numberless avenues by which it goes to consumption result in a market that enables the producers to sell for future delivery metal which still sleeps in its rockbound bed where nature placed it countless ages ago.

According to the best information obtainable, it appears that in the case of copper a universally accepted natural law has failed to operate according to the economic rule. It is taught that the law of substitution of commodities always brings forward a second commodity to take the place of the first, in case there is a sufficient scarcity of the first to result in a considerable advance in its market value.

With the increase in its price several comparatively new uses for copper have apparently sprung into existence. Railroad cars, which were formerly roofed with wood, paper, tin, etc., are now being covered with copper. Indeed, the experiment has been tried of entirely covering passenger cars with a sheathing of copper, and it is said that the success attending the experiment will eventually result in its universal adoption.

It will undoubtedly be found that copper is the cheapest car covering that can be used—cheapest because best. Railroad companies pay from \$5,000 to \$15,000 each for their passenger cars. One of the very important items of expense in their construction is to finish the outside surface, fill and paint it and cover it with a varnish that will stand heat and cold, sun, wind and rain. When this is accomplished it lasts only a year or two, and then must be renewed.

A copper sheathing shuts out perfectly all of the elements. It is practically weatherproof. Exposed, it takes on that rich and beautiful metallic color which has won it the name of the red metal. All of the woodwork of the car is secured from moisture inside such a sheathing, and the outside will need neither paint, varnish or polish; it will last until the car goes out of style. Considering the present expense the roads are willing to go to in order to get the best, the added cost of a copper covering would not be relatively important.

Modern buildings, with their copper-covered fronts, gutters, etc., indisputably declare that the architects have learned and agreed that copper is the best metal to withstand the increasing attacks of the weather.

In the great, though comparatively new field of electrical equipment, copper has its stronghold. Twenty years ago telegraph and telephone wires were almost universally of iron and steel. At present copper wires are the rule, and iron and steel the exceptions. In some districts the old iron wires still remain, but they are rapidly giving way to wires of that metal which lasts many times longer and has vastly greater electrical conductivity.

In the street railroad world electricity is universally conceded, is by all odds the best motive power. This power has, indeed, made the street railway popular. Since its adoption these roads have spread like a prairie fire, and now reach out from the metropolis to the suburbs, and on through the country districts. And still they grow and reach farther away.

Europe is beginning to equip her tramways with electricity, and in doing so she unconsciously arranges to keep the price of copper up to a high figure for several years to come. With electrical equipment must come longer trolley routes on the continent, there the same as here.

The twentieth century will not long tolerate the snoring, puffing locomotive, with its noise, smoke and dust. The ownership of sufficient present-day rolling stock to do business with is a strong argument against a change to the average trunk line management. The fact, however, that an express train weighs fifty times as much as the passenger is capable of carrying, and the manifest waste of such a system, is already presenting a problem to intelligent capitalists for solution. Already branches of several large railroad systems have been equipped with electricity; and but a few years' operation will be required to prove the great economy of the change. Lighter rolling stock that can travel short distances quickly and make stops at slight expense is in the line of progress.

All this means electricity and copper. How much copper it will require to equip the trunk lines of this country with electricity is incalculable. The mines now in existence certainly could not supply the demand for copper which would grow out of such a change in motive power. It would have an effect on the price of copper similar to that which the general adoption of the incandescent electric lamp had upon the price of platinum. Before this sudden demand for this metal was dull and quiet at between \$4 and \$5 per ounce, when it came the price promptly advanced to above \$20 per ounce and hardened steel, etc., were used, but unsuccessfully as substitutes. After a year or two the prices sagged back temporarily below \$10, and then rose to \$15 and \$16, where it has ruled for several years.

If electricity as a motive power reaches the plane of popularity where it is adopted by steam railroads, substitutes for copper will have to be used until the various districts where the metal is found are developed and sufficient copper produced to displace the substitutes. While this result is being accomplished the price of copper will naturally be gauged by its relation to other metals from a standpoint of conductivity.

There are bears in all markets, and here copper bows to the universal rule. Bears there are who have worn threadbare every conceivable argument that the present price is unwarranted. They have made some success in scaring people with aluminum as a substitute for copper, because it is a metal of which so little is popularly known.—Copper Situation.

**Revolution in the Copper Industry.**

The time appears to be at hand when a genuine scarcity of copper will be not only made manifest but remain unsatisfied indefinitely, unless fresh deposits of unusual richness are discovered or are distributed in conditions which will render their development possible at a cost that will enable the product to be marketed at a profit. The statement is made on the authority of the Engineering and Mining Journal that in the rich Lake Superior copper areas, a period of three years and an expenditure of \$750,000 are necessary in order to prove the value of a mine and put it in a profitable producing condition.

The average production of copper in the United States for several years last past, has been approximately 20,000 tons per month. During the first six months of 1899 the output reached the total of 124,487 tons, or an average of 20,748 tons per month. The mines of Europe, within this same period, have produced a total of 43,629 tons. The broad statement is made that at the present date all the copper produced in this country is in process of manufacture and that not a free ton of the commodity is obtainable. In Europe, notwithstanding the bulk produced since January 1, and given above, the entire stock of copper does not exceed 16,000 tons.

Within five years the price of copper has advanced from 10 cents to 18 1/2 and 19 cents per pound in New York. In 1894 copper was produced from the best mines and delivered in that city at about 8 cents a pound. Today the cost of production and delivery is 8 cents a pound, and on this basis of calculation the mine owners are realizing a profit of 10 cents per pound on their product. On the other hand there are many mining properties which have for several years been lying idle for the reason that they could not be operated at a minimum of profit with the selling price ruling at less than 12, 13 or 14 cents a pound.

The constantly increasing use of copper in electrical devices and appliances of every sort has annually swelled the demand for the metal, not only here, but in Europe, wherever electricity is being introduced and its generative industrial powers availed of. Since 1894 the demand has increased 50 per cent. Previous to that date there was an annual increase in production of about 10 per cent., but thereafter it has averaged a fraction less than 4 per cent. Meanwhile the demand upon the United States from European countries has been constantly augmented and since January 1 the United States has exported to the United Kingdom and the continent 43,430 tons. In order to meet the demand from all sources copper scrap is being sought wherever available, for melting over and casting into bars. In this connection the interesting statement is made that recently 10,000 bags of copper coins were imported from India for remelting and casting into commercial copper.

While at the present the advance in the price of this metal is unquestionably due to the increased demand, there are indications that the closeness of the two conditions of supply and demand are likely to be availed of by combinations for the future control of the output. It has been quite appropriately remarked by an Eastern expert that a copper mine is of more value than a gold mine.—Minneapolis Times.

**Aluminum Is Not a Substitute**

J. R. Bentley, aluminum expert of Buffalo, N. Y., says:

"There is a good deal of talk at present of aluminum being used as a substitute for copper in electric cables, etc., owing to the recent big advance in price of the latter metal, but I am skeptical of the practicability of the scheme. Copper is still nearly 15 cents a pound the cheaper of the two and aluminum has only about three-fourths its conductivity."

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**SENATOR WM. A. CLARK.**

**How the Copper Senator Became a Multi-Millionaire.**

Senator William A. Clark, one of the copper kings of America, who owns almost all the stock in the United Verde, one of the richest copper mines in the world, is frequently mentioned as a man who rose from a day laborer in a mine to be a multi-millionaire. While this is literally true, the statement, according to Mr. John Stanton, conveys a false impression of Mr. Clark's career.

Said Mr. Stanton not long ago: "Mr. Clark came into my office in this city on a matter of business some years ago, and upon my expressing my pleasure on meeting him he said that it was not our first meeting. He then told me that he had worked for one of my copper companies in the Lake Superior region, and he reminded me of a talk he had had with me on one occasion when I visited the mine. I remembered him then very distinctly."

It appears that Mr. Clark had been engaged in some mercantile business, but, not finding it satisfactory, he studied the situation and became convinced that his forte was mining. In order to acquire a thorough knowledge of the business he went to work in a mine, first as a laborer and afterwards as a full-fledged miner. Then he returned to this city and took a regular course in metallurgy in Columbia college. Thus thoroughly equipped for mining he returned to the business, this time going west.

The United Verde had been twice condemned as worthless when he bought it, report says, for about \$70,000. He developed the mine, and it is now returning him annually about six millions of dollars in profits. He emptied his purse into his head, and his head has since not only filled his pockets but his bank coffers as well.

Mr. Clark is now building a veritable palace on Fifth avenue, in this city, and while in Europe this summer he is credited with purchasing pictures and statuary for its adornment costing over a third of a million dollars.

**COPPER MEN HAPPY.**

Copper producers were never so happy as now. The average cost of copper delivered in New York is not above 8 cents a pound. The average selling price is 18 cents a pound, and the demand is so active that every pound of it offered is eagerly snapped up.

No wonder the copper men wear smiling faces, and no wonder that copper stocks are prized as are rubies.

Copper is King and his reign bids fair to be long and lasting.—Copper Situation.

**FACTS WELL STATED.**

From a pamphlet recently issued by the Montana Copper Mining Co., we take the following excerpt, which contains several facts very forcibly stated:

"That great fortunes have been recently made in the copper mines of Montana is true, but a much larger number of people have derived comfortable and handsome profits by purchasing the original issue of treasury stocks in good prospects.

"The present phenomenal prosperity of the state of Montana is to a great extent due to the hundreds of people who have made comfortable fortunes out of very small, insignificant investments in this way."

**LARGE DIVIDEND PAYERS.**

It is said that the largest dividend payer excepting one among the mining companies in America and probably in the world last year was the Calumet and Hecla, which distributed among its stockholders during the year \$7,000,000. This amount is exceeded by the De Beers Consolidated Mines, which paid in dividends last year a total of \$7,687,300. In addition to this the latter company paid \$82,500 as interest on its debentures, and \$642,400 for retiring a portion of its bonded debt, making a total of \$11,594,900, bringing the total payments in the nature of profits to \$9,192,300 or \$2,192,300 more than the Calumet and Hecla. The proportion of profits to the capital stock of the De Beers company was 40 per cent., while that of the Calumet and Hecla was 280 per cent., the capital stock of the latter being rather small.—Copper Situation.