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THE SOUTHERN CALIFORNIA BRANCH.

The Southern California Branch of the State Miners' Association is now an active organization, having been formed at a meeting held in the Los Angeles Chamber of Commerce on the 29th ult., as has been reported on another page. It was not to be expected that all who were desirous of becoming members of the Association could attend that meeting, for private or business reasons prevented many, but to all who desire to become members the invitation is extended to kindly send their names and address to the local Secretary, O. S. Brees, of the Southern California Branch of the C. M. A. at Los Angeles, together with the entrance fee of two dollars, which entitles them to membership and privileges for one year. For reasons a large increase of membership is desirable, both as a benefit to the work carried on by the Association, and as a matter of personal interest and profit to the members individually. The approaching meeting of the American Institute of Mining Engineers is to be held in San Francisco in October next, a large representative membership from all sections of the State is desirable, and as many of the Southern California members may find it convenient to present at that occasion and at the meetings of the California State Miners' Association, which is to be held on the following days, these two important events have special interest to all mining men to have their district well represented. Identification with the Association at the present time has special personal interest to all who are engaged in mining or connected with the industry in its numerous branches.

THE VERY LATEST NEW DISCOVERY.

It is simply amusing how easily an excitement or stampede is made to some point of supposed rich discovery in a reported new district. Such an event is reported in the daily press two weeks ago, in the discovery of rich ore in the district south from Kramer, San Bernardino County. The ore is reported to have been found which is said to be equal in value to that now being mined at the Yellow Aster Mine, at Randsburg, Cal., which has been of such value. The fact is that mining has been prosecuted in the district south of Kramer for a number of years, but on account of a short supply of water, and also of sufficient wealth only has marked the development of that section. It is earnestly to be hoped that the reported find will prove a rich reality for the owners and the district. Of course, a rush of prospectors and others has been made to the new locality, and, like all such excitements, many will be doomed to disappointment. The only short cut to the best locality in which to find a bonanza is to go to work and prospect in an intelligent and industrious manner, and, by locating promising claims and developing them, you thereby get in on the ground floor of the enterprise and district, and the southwest is full of such chances as yet undiscovered. To rush to a new district where rich finds are reported is to go too late in the day, as the chances are that the good ground is already located before you arrive. Such has been the history of mineral discovery in recent years, as the early days of California and Australia, with large areas to explore, are not now in the market. The new discoveries of this period are narrowed down to the confines of a few miles of territory included in a mining district.

HOISTING WORKS AT A MINE SHAFT.

The too common practice of placing the hoisting works of a mine in the same building with the shaft house is a custom which may be economical, but is not advisable on account of the danger from fire. That, is, the gallows frame at a mine shaft or the head gear around the collar of a shaft should be a separate and distinct building from the engine house or hoisting room. A mine shaft with a nest of buildings immediately over it is a death trap in case of a fire or explosion, in which there is no excuse except ignorance or extreme carelessness. It very seldom happens that the ground surrounding a mine shaft is so situated that it is only possible to make the shaft house and engine house combined in one and the same building. In rare instances there are difficult, steep hillside localities where a combined building might be made an excuse for economy and convenience in choosing such a position for both, but due regard for safety from fire and good pure air for ventilation are objects more worthy of consideration than any economy a wrong custom can save. Where there is only one shaft or means of exit, the custom is most common, for when the mine becomes larger the danger is changed by using separate buildings. The most common causes of fire have been, thawing frozen powder in the engine room or on top of the boiler, contact of the chimney stack and roof, or not sufficient length of smoke stack. With the advent of fire, explosion of the boiler and fire starting in the woodpile where wood is used for fuel, have all made such an arrangement of buildings a death trap which can be avoided. Agreements are made and fire starts from underground in a mine where much timber is required to be used the buildings over the shaft when such an accident occurs are sure to be lost also. The mistake is much more common in metalliferous mines than in coal mines, where underground fires are much more common.

THE RIGHT TO USE WATER FOR MINING.

The first instance of a recent complaint in Southern California, of a miner improperly using water for hydraulic mining purposes, is the case of Mr. Allen, who has been in charge of hydraulic mining operations in the upper San Gabriel Canyon, Los Angeles County, Cal. As a consequence of his disregard of an injunction against him the court considered the improper use of the San Gabriel River water, Judge Allen, of department six of the Superior Court, imposed a fine of $250, for disregarding the injunction, and as damages of the right to said waters which were claimed to belong to the citrus lands in and adjacent to Covina, Duarte and Azusa.

The industry of hydraulic mining in Southern California is exceedingly small, and intermittent with the melting of snow on the mountains in spring, the water in some small mountain streams is insufficient to use.

During past years, the amount of gold taken from San Gabriel River in that way has amounted to over $1,000,000, which is a handsome sum to have added to the wealth of any community, and far exceeds the value in the part which the citrus interests of Covina, Duarte and Azusa have added to the state's store of riches.

The use of such water for hydraulic mining purposes is not against the interest of the parties who use for irrigation, as the rich alluvial it may contain act as a fertilizer on the land so irrigated. The storing up of water for hydraulic mining purposes at the time when the land required it would act as a hardship on the land owners. As the scene of the hydraulic mining operations is located many miles above the point where the waters are taken for irrigation use, there is no cause of trouble arising from the debris due to the use of such water for hydraulic mining, but is in consequence of the past two years there has been no lack of interest as regards the use of the water when both parties claimed the right to the short supply on hand at this season.

THE TRUST QUESTION.

Not even the subject of expansion, imperialism, or the money question is attracting so much attention, or absorbing so much public thought as the trust question. The trusts control nearly or quite seventy-five per cent. of the productions of the country, exclusive of agriculture, and the influence they control is equal to fifty per cent. of the distribution. In the last twelve months trust stocks have increased more than one billion dollars.

Their power has actually become alarming, and their purposes, when executed, as they will be unless interfered with by the government, are crushing to individuals, enterprising and oppressive especially to the people. They have it in their power to control prices of raw materials, the wages of laborers and the prices of commodities produced. Many important lines of industry are already in their hands, and it may be apprehended that when a little farther along, there will be a combination of trusts,
and all important industries will be under the domination of a single monopolistic autocrat. Even a profit does not cause their grasp to be practicable to seize hold of it.

And for what purpose are trusts formed? For none other than to render capital dominant over labor, so that profits on paper instead of money may be enhanced. It will not be unnoticed that they seek to make profit out of raw material producers, laborers and consumers. The plea is to throw laborers over the backs of the industrious by the introduction of greater economies.

The defense of trusts is that they are essential on account of changes in economic conditions. There has been a change in the larger employers of machinery in production, which makes it necessary to construct large plants, and the association of laborers. It is doubtful less through scattered producers it would be impossible to supply the demands for consumption on account of growth of population, increase of wants wrought by civilization and superinduced by accretion of wealth. But the plants and associations of labor can produce as much operated separately as in combination.

There has been and is a conflict between labor and capital; but this conflict has been ended up, not by strikes, but through labor organization. The demand of the working people is for a share of that wealth produced by their toil, and of that which nature has created. The main objection to the trust is to place capital in a situation where it will have the strategic position as against labor. By these tactics the trusts expect to be able to dictate the wages of labor, the prices of raw materials, and of the commodities consumed by the masses. They are striving for advantages at both ends.

Public sentiment is fast becoming enlightened to the evils which menace the country from trusts, and the great question now being considered is one of remedy. Denunciation merely will do no good, the trusts do not care for that. As the boy said, "Scolding doesn't hurt any." What is needed is some positive and effective action on the part of government. To that the best thought of the American people is instinctually directed. We have confidence that the intelligent American will ere long discover an appropriate and sufficient remedy.

The question of trusts has also entered into politics, and will become more conspicuous as time advances. The trusts have no politics beyond promoting their own interests, and they will unitarily support the party least inimical to them. In the meantime, as did the slave power, the trusts will defray the cost and goad the people in the confidence in their strength. They will for the thousandth time illustrate the truth of the old Roman saying that "whom the gods would destroy they first make mad."

The trusts are really doing more to advance the cause of socialism than all the socialist agitators. They strike down competition for their own gain, and thereby prepare the way for putting public affairs under direct government control.

NOTICE TO MINERS.

I desire to thank the miners of Southern California for the courtesy shown me in their selection of me as Secretary of the Southern California and Nevada Miners' Association, but my connection with the most prominent mining publication in the west, THE MINING AND METALLURGICAL JOURNAL, makes it impossible for me to devote the time and consideration the duties of secretary of such an organization demand, so I most respectfully decline to hold the office permanently.

As I have the best interests of the Association at heart, I will, however, remain temporary president until such a time when the Executive committee can appoint some one to take the secretary's office.

In the meantime, those wishing to become members will have to send their names, addresses and two dollars ($2.00) for initiation fee and one year's dues to the undersigned. It is desirous that all interested in uniform mining laws, the preservation of our national forests and other mining matters pertaining to legislation should become members of the society.

O. S. Breese, Secretary.

SOUTHERN CALIFORNIA MINERS' ASSOCIATION.

The convention of miners of Southern California was held in the Assembly Room of the Chamber of Commerce, Los Angeles, Cal., Saturday evening, April 29th.

Secretary E. H. Benjamini, of the California Miners' Association, opened the meeting with a few words, regretting at not being able to have President Jacob Neff with him, being detained at home on account of illness.

Vice-president W. C. Abston telephoned his greetings to the Hon. Stephen M. White, of San Francisco, who acted as vice-president, so he was accordingly called to the chair.

O. S. Breese was elected temporary secretary, and, on the nomination of Mr. Allen, a committee of five was appointed to draw up resolutions of organization, J. J. Mellus was appointed chairman. Senator John F. Davis, Walter S. Maxwell, George N. Nolan, and F. W. Braun constituted the committee.

Attorney-General Tiley L. Ford then addressed the body. He gave a short review of the past history of the California Miners' Association. He expressed the desire of miners as stated by the miners themselves as being the solution of the workers' feeling between the farmer and miner in Nevada and Placer Counties in the latter days of hydraulic mining in those counties. He said:

Through the influence and work of the Association, and especially that of the recent Convention, has passed the Comstock Act, authorized the Delbon Commission, through which 300 and more miners have been reinstated and recompensed $250,000, for the erection of restraining dams.

Now, for some reason, the State has no recognition of the miners of Southern California, and I hope one will be organized to affiliate with the parent body, in order that representation shall be made in the state that may be uniform. The State Association of Southern California, 1892, has, in the by-laws and resolutions of the Association, and I believe it is the highest body of the state north of the Tehachapi. It is organized by the miners for the benefit and protection of miners alone. One of the greatest difficulties that miners in the state face is that of an organized body that has authority of any mining department in Washington. The State Association was moving in that matter, and already had the promise of a better state of affairs, so that the Interior Department when war with Spain was declared.

In speaking of the need of a Department of Mines and Mining, with the Secretary a Cabinet officer, he further said:

"Fifty years ago, when the Interior Department was organized, the annual product of the United States was $1,000,000,000; now it is nearly if not quite $1,000,000,000, and the annual product of the State of California is $250,000,000; now it is nearly $275,000,000; there has been a great advance in the state, and the State Association sent men to Washington. The Southern California, with its rapidly increasing mineral production should join heartily and go with us hand in hand in this work."

"To the miners we owe our statehood, to the miners we owe our great industries; we have had a very good war with Spain was unfortunate, but it is California's opportunity, as she sits at the head of the world, let all pull together and all industries will advance as one.

Mr. White then introduced Charles G. Yale, statistician of the State Mining Bureau, as a miner who knows what he is talking about.

Mr. Yale referred to sections of the mineral statistics given in another column, and further stated:

"An enumeration has been made by the United States mining bureau to ascertain the number of men engaged in mining work in California, and the census shows that there are 19,823 miners then employed, and from the Southern California Bureau of Mines, Santa Barbara, Ventura, Los Angeles, San Diego, Riverside and San Bernardino, it was found there were 1365 men in this kind of mining, leaving 18,358 miners in the southern counties, these southern counties have 2,427 men engaged in mining gold, silver, copper and lead, as against 17,995 in other counties. Men working in petroleum, clay, borax or other substances, except those that are not recognized in any of the counties. The mineral production of the southern counties, including Kern, are, total, $8,487,457, for the year 1892; $7,008,702, including Kern, gold, $2,275,783; north, $12,820,715; in other counties, including Kern, men, 2,427; north, 17,369.

A. H. Ricketts, chairman of the Mines Lands Committee of the California Miners' Association, was then introduced to the assembly and in speaking of the methods and plans of operation of the State Society said:

"Let me now inform you of the method by which the State of California is conducted. In each county there may, and in many counties, are two or more county organizations, governed by its own constitution and by-laws, and having its own officers, etc. Said county organization meets at least once a year during the year to suit its convenience, and if it has any grievance it suggests the remedy. Upon coming to the State convention each county organization may present its statements, whenever they may be, and ask the entire body of miners of the State to assist them in obtaining the needed legislative or other relief.

The State organization holds its session in San Francisco, and there is no organization of miners as may be represented by any county organization is then considered by the convention, and if found to be for the general good of the miners is recommended by resolution, or otherwise, by the convention. This Executive Committee subject to appropriate action by the Executive Committee of the Association, to which is intrusted the administration of the Association. This Executive Committee is composed of representatives from the different county associations. All officers of the association are subordinate to the Executive Committee; for instance, the Legislative Committee, which has charge of the matters pending before Congress and the Legislature of the State. The Mineral Lands Committee has charge of all matters relating to the preservation of the mineral lands. The question of the mineral lands is, whether the railroad companies shall acquire title to the mineral lands within what is called the reservation of the miners that the government never intended that the railroad companies should acquire the mineral lands within their grant. The railroad companies are too numerous to mention in which such lands have been claimed, and which have been patented by the Land Department of the United States. This Mineral Land Committee gives its entire attention to the business of which we miners, and mineral lands only, shall be restored to the public domain in order to accomplish this end this committee must prepare the proper arguments and furnish data to the members of the government and through Congress to the great industries of this country for restricting the railroad companies in their efforts to acquire lands which are owned by the miners, and thereby protect the rights of the miners in the matter.

In the case of this particular committee in order to effectuate the purpose for which it was created, it..."
has been necessary to file protests against the action of the mining companies seeking to remove claimants to lands containing mineral and lying within their grants and which, under the unjust rules of the Land Office, were patented without limitation, is a matter of course. All this has involved a great deal of work and expense, although there have been far more claimants than attorneys who have willingly given their time, advice and professional services free of any compensation. In fact, none of the several attorneys who have gone to Washington from time to time upon this and other matters have received any fees whatever for their services.

The Legislative committee is another important one. Matters to be brought to the attention of either the Congress or State Legislature are in charge of the duty of obtaining the necessary bills, obtaining sponsors for their introduction into the proper legislative body, and, also, in solicitation of Congressmen and legislators friendly to the miners' interests to secure the passing of such acts as the Executive committee may endorse.

In charge of another special committee is a most important measure. It is the one which provides for a Secretary of Mines and Mining, in order to give the miners the same standing that agriculture now has in the President's Cabinet.

"Until the formation of this Association there was no mouthpiece for the mining industry except through the bodies which the representatives of this industry were never brought to public attention. The Association speaks uniformly through the influence now maintained by a large body of men engaged in the same business and united in that effort.

"The only reason, possibly, why more prominence has not been given to the industries which are exclusively or largely dependent upon mineral resources in the fact that the Association has not been so well informed, and, therefore, the representatives of the convention in those sections in which those particular mineral substances are found. It is for the interest of the miners of the State to represent from counties in this part of the State.

Ex-Senator White in his remarks urged affiliation with the State Association and pleaded for nothing but the conveniences of the State. "We are the best friends of the Association and the interest of the miners."

The committee on organization at this juncture reported as follows:

"We, your committee, respectfully recommend that the organization be constituted and known as the Southern California Miners' Association, that its headquarters be located in Los Angeles, and that the officers be a President, Vice-President, Secretary-Treasurer and three Executive Committee to consist of three members at large and one member from each county in Southern California to be appointed by the members of this Association who have been elected by the miners at the last annual meeting. The temporary officers be made permanent for the first year, and the President, Secretary-Treasurer and members of the Executive Committee be elected after organization is effected; that the membership fee be $1 for initiation and the dues $1 per year, that all persons friendly to the interest of the miners be eligible to become members of this branch organization.

A. Richardson introduced a resolution in the nature of a substitute, calling for the organization of a "Miners' Association of Southern California," whose purpose it should be to look after mining interests in the county. In this section and calling a convention for the purposes of such organization on July 12.

On motion of Mr. James the substitute was tabled. Mr. Alston moved a second, which was seconded. The vote of thanks was tendered the Chamber of Commerce.

H. Z. Osborne moved a vote of thanks for the presence of Att'y. Gen. Tirey L. Ford, A. H. Ricketts, E. H. Benjamin, Charles G. Vale and Senator Davis, and they were given with a will.

Mr. Chas. G. Vale said that as the State Mining Bureau had a large collection of documents from the State, he asked a S. C. Copper had requested him to place a cabinet at the disposal of the Southern California Branch.

Some sixty-five names were signed to the roll of the meeting, while numerous others left before the rolls reached them.

Utah Mining Stocks.

Business in the Salt Lake City, Utah, mining share market last week reflected a greater volume than was the case the week before, but the market as a general rule was in the hands of professional traders, and the quotations made reflected this condition.

With a few exceptions, stocks close firmer tone, and there is a much better feeling manifested among traders. It should not be many days before the present condition for ore hauling and shipment to the smelters should be materially increased. A general resumption of operations and movement of ores would doubtless be followed by a much improved market stock market. The advance in silver is also extremely encouraging.

On nice dealings, Ajax held its figures of last week and was in good demand. The properties are looking very well and some high grade copper-silver-gold ore is coming from them. Under the new management, operations will be systematic, economical and promising. It is expected that the new mill is standing up well. The mill is in operation and the properties are making a splendid shipping record. Buckeye was stationary, maintaining its figures of last week. Centennial Eureka hanged $5100 closely, with offerings one dollar higher. A very fine showing is being made at the properties, which are showing signs of being in high grade ore. It is anticipated that operations at the Chloride Point mill will be resumed within the next ten days, all preparations to that end being now under way. Meanwhile, the stock remains dull, although new life should be put into it by the starting of the mill.

Daly was stronger and in much better demand. The talk of an early resumption of operations at the Ontario has had a sympathetic effect upon the stock. Offerings were comparatively limited. While doing some business, Daly-West remained about unchanged. Heavy shipments of ore from the mines on the G sometimes quantities of shipping ore are broken in the mines and stored in the bins. On profit taking, Dalton & Lark lost some little strength. The buyer declared that for the week the operations to commence operations at once. Dal ton was fractionally stronger. Dexter was in heavy demand and sold materially higher. Good sales of full operations are to commence at the mill at once.

Again did Daisy fluctuate considerably, ranging from 27 5 to 30 cents. The stock above $500 stock was stronger and with indications of a further advance. The results of the recent experting were satisfactory. Messrs, Dern, Airis, and associates have some thirty-five days yet on their option on 100,000 shares at 40 cents per share. The outcome of the deal is still problematic, however. Heavy buying for conservative people has followed the making of these low figures, the feeling being that there will sooner or later come a marked reaction. Eagle & Bluebell, law suit sold off $675 and $190, although the business done in the stock was comparatively limited. Work at the properties continues as usual.

Latest Mining Decisions.


A mine, referred to by name, is a permanent monument, within Laws 1895, Act No. 42, Sec. 1, requiring the notice of location of a mining claim to refer to some monument to identify it. Kinney vs. Fleming et al., 56 Pac. Rep. (Ariz.) 723.

Where an action contesting the validity of a location is brought before the expiration of the time allowed by statute for the filing of the notice, defendant may show acts of location independent of a certificate of location. Kinney vs. Fleming et al., 56 Pac. Rep. (Ariz.) 723.

Where a mine is referred to as a permanent monument in notice of location of another claim, the burden is on one attacking the validity of the notice to show, as contended, that there is no such mine as the one referred to. Kinney vs. Fleming et al., 56 Pac. Rep. (Ariz.) 723.

A mining claim was located in the name of four persons. The one who located it, who was the only one who had anything to do with it, testified that after working it awhile, he was not interested in the monument, and went away with the intention of having nothing further to do with it. Held that the claim was abandoned, so that a subsequent location, made before the statutory time for forfeiture, was valid. Kinney vs. Fleming et al., 56 Pac. Rep. (Ariz.) 723.

A notice of location of a mining claim, reciting that: "Said claim is 1,500 feet in length, and we claim 500 feet on each side of the line or discovery of the full length of the claim. The general course of this lode deposit or premises is easterly and westerly," sufficiently complies with Laws 1895, Act No. 42, Sec. 1, requiring such notice. Held that the full length of said claim, and the number of feet claimed on each side of the center of the discovery shaft lengthwise of the claim, and the general course of the lode, deposit or premises located, so as to be admissible in evidence. Kinney vs. Fleming et al., 56 Pac. Rep. (Ariz.) 723.

A valid agreement, definite, and fair and reasonable in its terms, for the lease of a tract of coal land, to be mined by the lessee. The lease would necessarily extend through a number of years. The quantity to be mined each year was uncertain, and payment of a royalty was to be made to the owner according to a sliding scale, varying from year to year. Owing to a known fault in the vein, the extent of which was unknown, and the quantity of coal to be mined was very largely a matter of uncertainty. Held, that specific performance of the agreement would be decreed at suit of the lessee, on the ground of the inadequacy of his remedy at law for a breach of the contract, arising from the impossibility of determining the amount of his damages with any reasonable degree of certainty.
WHITE HILLS.

The prosperous camp of White Hills, Arizona, has a history comparable with no other camp in Arizona. Some years ago an Indian found a peculiar looking mountain among the surrounding white hills, which attracted his attention, and he began an investigation of it in his primitive way.

The country rock proved to be a red, clayey substance and the mineral veins traversing through the mountain were highly impregnated with silver and lead. The Indian told an old prospector of what he had found and through some arrangement the prospector located the ground, which he held for several years and eventually disposed of it to R. T. Root, a noted mining man of Mohave county. Through the energy and perseverance of Mr. Root, English capitalists were interested in the property, and buying up the mountain claims, which had been located in the neighborhood, they began development work under the name of the White Hills Mining and Milling Co.

Some 78 claims are now included in the patent which holds the ground, and some of the richest silver ore ever produced in Arizona has been taken from the numerous prospects and mine-claimed by the company.

A ten-stamp mill was placed on the ground which did good service until the latter part of 1896, and the fore part of 1897, when the erection of a 40-stamp battery was begun. The mill is one of the ordinary wet crushing type, including amalgamating pans and settlers.

The ore is crushed in a two stage mill and then ground, and the pulp flows into settling tanks where the excess of water is drawn off. The remaining thick pulp is shoveled in regular charges into the amalgamating pans in which it is worked several hours (from six to eight hours). The contents of pans are then run into large settlers where the quicksilver with the precious metals in the form of amalgam settles to the bottom. The quicksilver and amalgam are separated in the strainer, and the amalgam is then cleaned from all the waste matter in a clean-up pan. After this the amalgam is heated in a retort. The precious metal remains in the retort while the quicksilver evaporates and condenses again in a condenser connected with the retort.

The principal mines which the company are now operating are the Norma and the Treasure. Between eighty and one hundred men are employed at the present time. The mine difficulty encountered in the successful operation of the property is the lack of water.

Extensive works have been completed for the storage of water, a reservoir some 90 feet in diameter has been excavated, and lined with concrete. A pipe line has been laid some miles up the mountain to a place where water is to be secured, but the extremely dry weather the southwest has witnessed the last few years has had a bad effect on the supply obtained here and water from the mines is the only source of supply at the present time.

The company is at present leasing its extensive prospects to the "chloriders" on a royalty and no doubt other large properties will be found among them.

The town of White Hills is located about 60 miles north of Kingman, in Mohave county, from which place all supplies are at present hauled by teams; but a railroad from Kingman to White Hills is now in course of construction under the management of the Santa Fe Pacific Ry. Co., and it is expected by some that the railroad will be continued on to Salt Lake City, in which case a vast territory of rich mineral land will be opened up for location.

One view printed herewith of White Hills is an excellent one and clearly shows all the important places of business in the town, and the road to Kingman. The new 40 stamp mill when in course of construction is shown in the dexter side of the illustration.

On another page are we present a view of the plant as it appears to-day, being a rear view, showing drainage tanks, where the water is returned to mill.

Theo. Lexow, the importer of Carbon and Bortz, of 195 Broadway, New York, has removed his office to Nos. 12 to 16 John street, near Broadway. This firm is one of the oldest establishments of the kind in America.

Graphite is one of the forms of carbon, the same as the diamond and charcoal. It is not affected by any degree of heat, nor by acids or alkalies. This property makes it of great practical value, and enormous quantities are used in the manufacture of goods for a thousand different uses.

Amalgamated Copper Company.

So much has been said of the great copper combination, and the stock of this combine has attracted so much attention, as will be seen by our Boston correspondence on another page, that we deem it advisable to give our readers the facts of the subject.

The charter of the Amalgamated Copper Company, present issue of capital, $75,000,000, with power of unlimited increase has been filed at Trenton, N. J. In New York City the company organized for business with the following officers and directors: President, Marcus Daly; vice president, H. H. Rogers; secretary, and treasurer, Wm. G. Rockefeller, Executive committee: President ex officio, Wm. Rockefeller, Henry H. Rogers, A. C. Burrage. Directors: Marcus Daly, Wm. Rockefeller, Henry H. Rogers, A. C. Burrage, Rb. Bacon of J. P. Morgan & Co., R. P. Flower, of Flower & Co., F. D. Olcott, President Central Trust Co. of New York, James Stillman, President National City Bank.

Seventy-five million dollars of the capital stock is offered for public subscription at $100 per share by the National City Bank of New York.

Commissioner General Peck has cabled to Major Fred Brackett of the United States Commission to the Paris Exposition, announcing that he has secured an additional 8000 feet located in the Vincennes annex, which space will be devoted to the display of American articles. Colonel Peck expected to leave Paris for New York May 13.

All exhibitors desiring to exhibit in this new section of space will communicate with the Commissioner-General in the Auditorium at Chicago, Ill.
The Pneumatic Supply and Equipment Co. has been organized under the laws of the State of New York and has opened an office at 120 Liberty street, New York. It is the purpose of this company, as its name implies, to deal generally in compressed air equipment and it will make a specialty of the installation of complete plants, eliminating the division of responsibility which has heretofore existed in the trade. The company's bringing out several specialties in the compressed air line, such as Pneumatic Oil Rifling Forges, quick acting Hose Couplings, and has in addition closed agencies for several standard types of compressors.

Mr. J. W. Dunley, the President of the Chicago Pneumatic Tool Co., is the President of the new company; Mr. E. B. Gallagher, formerly with Messrs. Patterson, Gottfried & Hunter, is the Vice President and Engineer, and Mr. W. E. Pressinger, formerly Manager of the Clayton Air Compressor Works is Secretary and Treasurer.

The rapidly widening scope of compressed air application opens a large field of usefulness for the new company and the character of its incorporators is an assurance of its ability to meet the requirements of the trade.

### Southern California Counties and Their Output in 1898

#### Los Angeles County
- Bricks: 25,908 M. $188,586
- Clay: 50 Tons 500
- Gypsum: 2,500 Tons 18,500
- Macadam: 2,400 Tons 32,500
- Petroleum: 1,462,871 Bbls. 8,462,871
- Sandstone: 10,500 Cu. ft. 5,250
- Serpentine: 7,500 Cu. ft. 3,000
- Sulphur: 72 Tons 50
- Gold: 2,300

Total: $1,732,357

#### Riverside County
- Bricks: 300 M. $2,400
- Clay: 800 Tons 3,200
- Petroleum: 60,000 Bbls. 60,000

Total: $65,600

#### Ventura County
- Asphalt: 4,105 Tons $50,775
- Bricks: 236 M. 2,288
- Petroleum: 4,276,000 Bbls. 571,000

Total: $654,062

#### San Bernardino County
- Borax: 5,600 Tons $1,120,000
- Bricks: 2,600 M. 16,000
- Cement: 50,000 Bbls. 150,000
- Granite: 3,550 Cu. ft. 7,530
- Limestone: 90,000 Bbls. 35,000
- Marble: 1,200 Cu. ft. 8,000
- Paving Blocks: 350 M. 7,410
- Limestone: 6,600 Tons 6,600
- Gold: 261,512
- Silver: 32,000

Total: $1,644,152

#### San Diego County
- Bricks: 672 M. $2,688
- Granite: 6,500 Cu. ft. 4,875
- Mineral water: 4,320 Gals. 3,000
- Rubble: 6,623 Tons 5,359
- Salt: 600 Tons 5,000
- Gold: 673,196
- Silver: 300

Total: $994,418

#### Santa Barbara County
- Asphalt: 19,735 Tons $351,400
- Bricks: 700 M. 700
- Mineral Water: 15,000 Gal. 7,000
- Natural Gas: 135,000 Cu. ft. 135
- Petroleum: 132,217 Bbls. 112,549
- Gold: 1,000

Total: $472,784
Anthracite coal has for a long time been known to exist at various points in the Andes Mountains of Peru, and is mentioned in the writings of Peruvian authors and travelers. Up to the present time, however, there has been no use for it, locally. The silver mines, which are plentiful, have always been worked in the most primitive way and never below water level, so that there has been no necessity for steam fuel. Lignite, which gives a flame and is abundant in some places, has been preferred for roasting ores in the lixiviation process, which is the method most extensively in use for the extraction of silver. The climate is such that no artificial heat is required for warmth, and a few sticks or handful of charcoal is sufficient for the primitive methods of cooking in the mountains.

There has therefore, until recently, been no effort made to prospect or in any wise develop the Peruvian coal; consequently, but little is known in Peru of the extent or value of the anthracite in the Andes.

We were called upon, during the past year, to make a hurried investigation of the coal resources of a vast area in northern Peru, and this paper is composed in part of extracts from our report.

TOPOGRAPHY AND CLIMATE.

The region along the coast of Peru is mostly a desert plain for about 20 miles in width, and to the eastward of this rises the precipitous wall of the Andes Mountains. Near to the coast the climate is temperate and delightful, a continual breeze from the ocean rendering the temperature very regular, as it averages about 70° the year round, occasionally running as low as 65°, and seldom rising higher than 80° in the middle of the day. It seldom or never rains, and the sun shines continually the year round. Of course, this condition of climate prevents the growth of vegetation along the coast. The only tree which grows spontaneously is the Algaroba, which is a hard, tough wood similar to locust, and is used largely for fuel, both for domestic purposes and for power. The soil on this strip of coast land is very fertile. When cultivated by means of irrigation from the streams which flow into the Pacific, it produces luxuriantly all sorts of tropical fruits, rice, sugar-cane, corn, potatoes, yucca, barley and other grains.

The climate in the interior portions of the coast land not reached by the tempering winds of the ocean, is somewhat hotter than on the coast, the arid condition existing even to an elevation of about 9,000 feet above the sea.

Passing beyond the limits of the desert land, carrying a large quantity of water. They are impassable and dangerous to ford during this season, but during the dry season of the winter time they become very low, so that oftentimes the water is all taken for irrigation purposes, and none reaches the ocean.

The table land of the Andes is reached only by means of the narrow, crooked trails, which wind about or up and down over the rocky and precipitous mountain slopes and ravines, which are in places more or less dangerous. These trails can be traversed on horse or mule back, which is the only means of access to the interior.

There are two or three railroads which extend from the coast at Pacasmayo, Eten and Salaverry up the comparatively flat valleys of the larger streams, a distance of 30 or 40 miles, reaching an elevation of about 3,000 feet above tide. None of them, however, are extended up the precipitous slope to the top of the plateau.

After once ascending these steep mountain sides, we find an elevation of about 10,000 or 12,000 feet, a totally new and entirely different condition of affairs from that which obtains on the coast. The surface has an average elevation of about 12,000 feet. It is covered thickly with a succulent grass known locally as the pampas grass, which grows a foot or 18 inches high, and is a most excellent food for cattle. The surface of the country is much broken and very irregular. Multitudes of mountain peaks are to be seen, stretching up from 500 to 2,000 feet above the general level, while the limpid streams which are formed by the copious rains of the wet season, and the occasional showers of the dry season, cut deep channels for themselves through the surface of the plateau.

The valleys of these streams, while often deep canyons containing a more or less luxuriant growth of small trees, bushes, ferns, vines, etc., are occasionally broad, fertile valleys which are doubtless susceptible of extreme cultivation.

The climate on this mountain plateau, during the wet season, is extremely disagreeable and stormy. It rains nearly every day,
which causes the trails to become muddy, slippery and extremely dangerous, particularly along the precipitous mountain slopes. During the dry season the weather is very pleasant and averages about 60° at mid day, and in the higher altitudes, during the night, about 30°, but falling and freezing occasionally as low as 29°. The soil is exceedingly fertile, and in many places can be cultivated without irrigation, producing abundantly crops of potatoes, melons and other vegetables; but owing to the lack of transportation very little land is cultivated except by the Indians on the small gardens or farms around their huts.

This plateau is divided into two parts by a longitudinal ridge about 90 miles distant from and parallel to the coast, having an elevation of 13,000 feet, with an occasional peak towering far above this. This ridge forms the Continental Divide of South America. The streams previously mentioned drain the western slope, while the eastern slope is watered by the many streams which flow eastward and northward into the Maranon River, which may be considered as the main source of the central trunk of the Amazon River system. In this vicinity this stream is said to swing to the right, flowing in a torrent flowing along a rocky canyon, its course being nearly north, parallel to the coast.

**GEOLOGY.**

The geology of this territory, as observed in a hasty way while traveling along the precipitous trails, would seem to consist mainly, near the coast, of a thick formation of red and buff shales apparently of the triassic age. These sandstones and shales are cracked and red and black and black and white shales and sandstones, with some of them containing small fragments of granite, trap and other igneous rocks. They are apparently surmounted by a series of more recent rocks of the Jurassic, Cretaceous or tertiary age, consisting, first, of great thickness (2,500 feet in places) of fine-grained light gray or white altered sandstone, approaching quartzite. Overlying this is a considerable thickness of sandstone, red, yellow, red and white and black sandstones, and this is again capped by measures consisting largely of a very thick formation of limestone which, in the vicinity of Huilagoy and Banamar, contains all the usual forms of the animal and plant life and contains many fossil shells of recent age. All of the above formations are most beautifully stratified, and their high and vertical cliffs present a picture delightful to the eye of the geologist.

While the above presents a general idea of the formation of the mountains, the rocks are by no means regularly disposed, being ruptured and distorted in a marvelous manner in places, by the fierce volcanic action which has prevailed in past ages. The canyons cut into the western slope by the streams flowing towards the center of the country often show clearly the rock stratification, showing the formation to be twisted and contorted in all directions, while the eruptive rock consisting of granite, trachyte, basalt, andesite, and tufa, etc., is visible at every turn, and immense dikes and high mountains of igneous rock are visible scattered all over the area covered by this territory. Where the dikes and rocks come into close proximity, the uppermost part of the underlying igneous rock due to this volcanic action is plainly to be seen. In some parts these disturbances are more marked; great mountains of trachyte, granite, etc., tower 1,000 or 2,000 feet above the plateau, while in other places the regular sedimentary formation still remains nearly normal, only slightly tilted from the position in which it was originally deposited. In these latter portions of the plateau there is sometimes very regular and free from volcanic rupture.

The rock formation which is not so much disturbed by volcanic action, is disposed in a series of large basins and saddles. These basins and saddles are separated by the basaltic plateaus from which they are raised above the floor of the valley by the upheaval of the crust of the earth. Where these basins are deep, we should have them filled by a sandstone and limestone of the more recent age, which are more or less eroded or washed off from the crests of the upland masses or anticlines. (To be Continued.)

**THE REDUCTION OF ORES.**

By C. B. ROGERS, of Seattle.

(Continued from our issue of May 1st.)

We will now start with an ore at the mine and case the smelter for a sample. At the mine the owner has three grades of ore, shipping, concentrating and refuse. His shipping ore is either the pay streak, which breaks down clean without any poor material having mixed with it, separated by sorting, which is selecting the high grade for shipping, using the hammer for breaking when necessary, placing the balance with the second grade or throwing it over the dam by the ravine as refuse.

This seemingly simple point is in fact one of the important ones about a mine. A well-trained man is necessary for the position. He must have a quick perception and be one who studies his ores. Every variety of ore should be tested by him. He should not only know that a certain appearing piece carries value, but how that value is there, whether as ruby, silver, in the gray copper, with the lead, carried with one of the sulfides or some of the dozen more combinations possible. Many a mine has had thousands of dollars thrown away by careless sorting by men who "knew ore."

While at the mine, the second grade had better be treated, if low-grade but at a small percentage of mineral, it can be concentrated the same as the sulfides of gold or as mentioned. In concentrating, the ore must be thoroughly understood as to where the ore lies to know what to save and how to crush. Some minerals of high value are brittle, pulverizing easily, and if not correctly handled the value will be lost. An ore high in sulfides but of low value can only be treated by some of the cheap processes of the future; it cannot be concentrated by mechanical means. Ore that cannot be put three or more into one is not worth doing anything with, as the burden of concentrating the ore would be so large. (To be Continued.)

**DRIK GOLD PLACERS.**

By PROF. GEO. H. STONE.

(Continued from our issue of May 15th, 1883.)

The most common dry-placer deposits are of two kinds:

1. Placer Gold in the ruins of sedimentary rocks.

   In the region of the Plains, Rockies and Great Basin we find many places whose deep bodies of sandstone and conglomerates have been eroded. These rocks, like all assorted sediments, contained more or less of transported metals, zinc and antimony, a limit is established, in the amount allowed in an ore. (At present in Washington this limit is ten parts per million. Below that limit the metal is treated without extra cost, but above that an additional charge of 50 cents for each per cent in excess—a 12 per cent zinc ore would cost $1 extra.

   (To be Continued.)
For these and other reasons much gold settles to the bottom of the gravel next the solid bedrock, as is the case of both the modern and ancient auriferous gravels of California and other northerly belts of the world. Frequently we sometimes find a layer of pipe clay or other matter so impervious to gold as to form a false bedrock.

The arid region the gold was mostly transported by streams that flowed for a few hours and then ceased to exist. There was no time to soften the underlying earth except for a few inches. In such a country there can be no deep bedrock, and the gold cannot settle upon true bedrock except when that happens to form the bottom of a wash or channel.

It is therefore necessary for us to divest ourselves of the idea of bedrock in the dry regions is where it is in the wet regions. The two regions are very different. In the dry countries there are many bed rocks. One of the most important of these is that which exists at or near grass roots. Many do not suspect the existence of such a bedrock and therefore it has done a great deal of mischief. Take, for instance, the case of the pinyon trees. Many are not removed by erosion. They fall to pieces and form an earthy soil. Occasional snows and drizzly rains soften this soil till it is practically in the condition of mud to deposit inches and feet. These roots were gold in the rocks it now sinks in the mud till it reaches the harder earth beneath it. At the bottom of that portion of the soil which at any time becomes so softened as to allow the gold to sink through it, we find a false bedrock. The surface soil is much more porous than it would be, because penetrated by a network of growing and decayed roots of vegetation by rain. Thus wind and rains place chiefly from the surface soil through which the gold has sunk. The surface soil thus practically serves to protect the gold from being carried away. The net result is to erode the waste of the sedimentary rocks relatively faster than that which contained the gold. This is, in fact, a process of concentration. In many places hundreds and even thousands of feet of sediments are eroded. These beds all contained small quantities of gold. Most of this gold can now be found on the false bedrock that in the arid region exists a few inches below the surface.

Time and again the miner has prospected the high mesas. At grass roots he found pannings at the rate of five to twenty-five dollars per cubic yard. These pannings were made on a bed of gravel several hundred feet deep. He expects these gravels will become richer all the way down. A company is formed to work these marvelous deposits. The stockholders expect enormous dividends when we get to bedrock. They bring in washers at a big expense and put up a $70,000 house for the engineer. The hydraulic giant is set to working along true bedrock and all summer they are making good expectation. When the clean-up comes they find the mass of gravel as a whole does not average a cent to the cubic yard. They wonder how they came to make such big leaks. The way it happened was as follows:

Their gravel consisted of an old Tertiary lake bed. From its surface hundreds of feet of the old lake gravel and sand have been eroded, and gold that was scattered through this deep body of sediments has been concentrated by the natural process and is now found on the false bedrock at the bottom of the soft surface soil. This false bedrock contains hundreds of times as much per yard as the average of the lake beds. The stockholders turned their imaginations loose and pictured the riches of bed rock. They were already in bedrock, the richest bedrock they ever found.

Shallow or grass-roots concentrations of a similar character can be found wherever sandstones and conglomerates have been eroded. They are often known as high bench placers. Beware of them unless your samples are taken all the way down to the bottom of the deposit. The moral is plain. When you are in a dry region throw away all your ideas of bedrock derived from a wet region. The laws applying to the two cases are different. Bedrock is where you find it. In a dry country you can expect second floor as well as bedrock at various depths. In many cases the grass roots bed rock carries more gold than any other you will find. This is always the case in placer composed of the ruins of sedimentary rocks.

Placer gold contained in wash from volcanic mountains.

As a type of this class of deposits we take the dry placer of St. Peter and Gold in the southern highlands of New Mexico, as well as those of the Jicarilla mountains in Lincoln county, New Mexico.

These mountains are composed of various light colored acidic eruptives. They rise from 500 to 1,500 feet above the surrounding plains. They have steep slopes and have begun to be dissected by numerous valleys of erosion. In both localities the eruptive rock has uplifted the sediments. This indicates that the eruptive masses began their careers as laccoliths, but toward the last the lavas found vents and rose as dikes and in the Jicarilla also overlapped on the surface. There are no traces indicating explosive eruptions in either place.

(Tob be Continued.)

CORRESPONDENCE

CALIFORNIA

(From Our Special Correspondent.)


EDITOR JOURNAL: I am pleased to hear of the organization of the Southern California Branch of the California Miners' Association. I would like to have been present at the meeting, April 29th.

Kern County was almost exclusively a mining county, and the county seat was at Havilah. Not one of our old quartz mines is known to be exhausted, while one of them will produce $75,000 in bullion this year. Still, the men actually engaged in mining seem to have fallen into a mood of unconcern as to the condition of mines throughout the state. Miners seem to look upon these organizations as mines (some mines) here, which in reality have not yielded bullion for thirty or forty years. I wrote you something like a year ago in regard to a supposed case when, in fact, had its parallel here. The company was incorporated under the laws of Colorado, had its principal office in To- ronto, Canada, had the office of its principal secretary at Rochester, N. Y., held its elections in the City of New York, without refer-
and an extra force of forty clerks was employed. Seventy-five million dollars worth of stock was described five and a half times, and the subscriptions were from all parts of the United States and Europe. This indicates that the interest in copper mining is as strong as ever, and that the price of metal is fully alive to the statistical position of the metal and the possibilities of reaping large profits from investments in legitimate copper mining enterprises. The Elm River property, which is the centre for copper shares, can be seen from the fact that this section subscribed for $200,000 or more worth of Amalgamated stock.

Several new companies have been quietly floated during the year. Among these is the Elm River property, which was so eagerly sought that the amount of shares for subscription was exhausted almost before the street learned that there was a new company in process of formation. Stock is now selling at a premium of three to five dollars over the subscription price. The Oneco is being quietly floated by W. F. Fitzgerald and associates, and it is understood that the allotments are in good demand. The Kaukauna is being floated by A. B. Turner and company, and although the subscriptions came in rather slowly at first, owing to the general apathy of the public at the time the subscription was opened, yet we understand that the list is being rapidly filled, and that the subscription is fully subscribed.

The Phoenix property is being brought to life again, and in spite of the dismal record which the first property made fifty years ago, the subscriptions are being rapidly taken in New York and Boston. The fact that John R. Stanton is to be the President of the new company created a strong following among New York and Boston investors.

We are of the opinion, however, that time will show how unwise it is to invest money in copper properties solely on the strength of the names of the backers. Standard Oil people cannot make copper where it does not exist, and we are of the opinion that many companies floated by less well-known people will prove to be better investments than some of those we have just mentioned. If investors would give more consideration to the merits of the various copper mining propositions which are presented to them that they use in their business, there would be fewer failures to charge up against the mining industry in general. Our experience has shown that inadvisably made in copper mines are the most profitable to be found in any line of industry, and yet we know that many schemes being floated are absolutely worthless. We sound this note of warning for the sake of the good name of legitimate mining enterprises, and we feel sure that time will prove our position to be a good one.

Among the curb stocks Mayflower sold at 9¾, Victoria at 8 and Wyandotte at 10½. Robert B. Bickford, Stock Broker, No. 50 State Street.

UTAH.

(Special Correspondent.)

SALT LAKE CITY, Utah, May 5, 1899.

EDITORIAL.—The Utah Mining share market this week was only moderately active. There was a marked weakening in copper, and a strong inclination to buy was not apparent. A prominent factor in the market at present is the rise in silver. It must be remembered that the price of metals has advanced heavily during the past year. Silver may be considered, under existing conditions simply a by-product of gold, copper and lead mines, and the same interests which have succeeded in retaining control of copper and other mining have brought along the practical control of silver production. It is not to be believed that these interests, which have been playing a strong advance in copper, will fail to use their advantage and best efforts to start silver to a higher level. In illustration, it may be cited that Eureka, a large mining property near Mount Massive, is one of the largest producers of silver in the country, having an output of something like 6,000,000 ounces annually. Considering all this, the outlook for silver appears to me to be more encouraging than it has been for many years. The opportunity to double the selling price of silver is one that can hardly fail to be taken account of by the allied moneyed interests of the east. If my clients accept this view, they should act accordingly.

Ajax made very decided gains, under heavy buying and reports of improved conditions. It is rumored that the stock will soon be listed in Boston. Anchor was lifeless, as was also Alliance. Shipments of concentrates are now coming from the Bullion-Bell meek, and regular shipments of ore from the mines. This mine is in a very active condition, and the price of copper has been advanced to 70 cents. The stock was scarce and in good demand at ruling figures. Buckeye did nothing. Centennial, Eureka continued strong and steady, and Portland still holds the lead. Chalice Point will not yet have been resumed, although the leaching of ore to commence at once. The stock was again dull, but held around last week's figures. Good strength was developed by Daly, although in the advance seemed to be entirely due to sympathy. At the close, the stock was scarce and in demand. Last week's figures were well maintained by Daly-West. The condition of the roads still prohibits the movement of much ore. A railroad spur will probably be built in as far as the mouth of the Uinta tunnel, and this improvement will prove a great saving to the Daly-West company on ore transportation. Dalton & Lark was featureless, but there are always plenty of buyers on any break. Dexter held up well, its support being continuous. Ordinance, the state capital, did not change materially. A complete change in management and director occurred on Saturday last in Daisy, and the stock at once reflected the change in higher figures, selling at 30 for 20 at the close, taking 500 shares, and losing some of this new strength, however, but closes several points below the best. Mr. Arthur Murphy, a very practical mining man, is the new superintendent, and Mr. John Dern, president of the Mercur, is one of the directors. The mines will be worked more economically than in the past.

WASHINGTON.

(From Our Special Correspondent.)

SPOKANE, Wash., May 5, 1899.

The market has been extremely active, a large business having been done both in high and low-priced stocks at a rise in prices. Republican Consolidated is in evidence and the eastern demand for this stock was extremely large. Very little stock of this, however, was obtained, present holders being reluctant to accept the price offered. It is the general opinion this stock will touch $2 before sixty days. Orders for over 40,000 shares remained unfilled.

The market was again very active and advanced 20c further.

Lone Pine was fairly active,while Morning Glory advanced from 9c to 16c. This was the scalp of the week. This stock will bear watching, as insurgent was dull, owing to liquidation, the market closing 10c off at 14¾ bid. Princess Maude came to the front with a very lively local market, although Montreal is quoted at 75c. The stock is weak, the property is looking splendid, and the high values are now apparently assured. Butte & Boston is slowly regaining its losses. We are not inclined to buy, but have secured an option and has been subjected to a rigid examination resulting in a very favorable report from the expert. San Poil was somewhat weak, as also Eureka Queen; the latter, however, was a good buy, at a price for the past two weeks. Should the consolidation of the Blacktail, San Poil and Lone Pine be effected, Eureka Queen will play a very important part. Surprise was a prime favorite, development proving a vein 17 feet wide, assays from which we give in detail: No. 1, $8.60 gold; No. 2, $13.38 silver; $12.82 copper and 3 ounces silver; $7.25 gold; No. 4, $7.50 silver; $12.00 silver; $7.25 silver; $12.50 gold; No. 6, $5.40 silver, $11.48 gold; No. 7, $5.42 silver, $35.67 gold. Combined averages give an average value of $26.23. A small demand for stock. Quisp was very weak, closing at 1½ bid, a net loss of 4c. Rebate is developing well, and insiders have gathered in the floating stock. Patrick Clark has been quoted at 20c, and has secured an option on all the large holdings. Looking Backward extension of the Rebate is showing up well and we look for some heavy advances. Troubadour is showing up wonderfully and is a great favorite among investors on the Sound. Blacktail regained some strength on the report of the consolidation. Tom Thumb people are pushing development, but the money that of Ben Hur, is very little in evidence.

Opportunities for securing large returns upon investments were never so favorable. Seven companies which were organized and floated in September, 1898, for $35,000 are today selling for over $3,500,000—more than eight times the purchase price.

Republic declared its usual monthly dividend of 5½ cents, payable May 15th, making $1900 in all.

BRITISH-CANADIAN INVESTMENT AND MINING SYNDICATE.

Miscellaneous Mining News.

ARIZONA.

Richard Farrell has made a shipment of the copper ore from his mines three miles from Harshaw. The ore will average 20 per cent. copper and 12 ounces in silver. The ore goes to the Silver City Reduction Works.

Harry Carpenter returned to Yuma the first of the week from a trip to Globe, where he made the first payment of $4,000 on the McCoy group of copper mines on which Senator Dorsey has secured a bond of $40,000. The mines adjoin the Old Dominion property and are considered one of the best copper properties in the territory. Mr. Dorsey also has a bond on another property in the Globe district on which he will pay the first payment of $7,500, ten per cent of the purchase price, the first of next month.

D. M. Riordan, president of the King of Arizona gold mines, says there are sixty men working in the mines. At a depth of 200 feet the body of ore is very large and very fine grade, which has been determined by driving
and cross-cutting. Arrangements have been completed to bring water to the mill from the Colorado river, a distance of 37 miles, and the project will be completed inside of four months. When this is completed the King of Arizona will be one of the great gold producers of the Rocky Mountain region, and it will be turning out daily many thousands of gold dollars.

ALASKA.

Mill tailings at the Alaska Treadwell mine average about 50 cents per ton. The concentrates are treated by the chlorination process, about 90 per cent. of the assay being saved. Doubtless, as in other cases, a higher percentage might be saved, but where 90 per cent. is saved at a profit it is more satisfactory from a commercial point of view than to lose money saving an extra five per cent. There is no data to hand on the 320 new stamps lately installed, but it is learned that during the preceding ten years the mill crushed 2,536 tons of ore, yielding $5,705,657.36 in free gold and $3,185,170.64 in concentrates. During that time the average cost of mining and milling was $1.47 per ton, and at times the cost of milling was 30 cents per ton. During the ten years mentioned the aggregate profit was $4,167,154.99.

CALIFORNIA.

AMADOR COUNTY.

The Treadwell mill at Sutter Creek, which had on it a small mill, was neglected by the Treadwells, who owned it, and M. D. Nixon located and filed on it. The former owners gave Nixon a deed to the mine and he allowed them to mine the machinery. Nixon is arranging to organize a company to operate the property.

Work has been commenced at the Newton copper mine at Ranlett. The water is being taken out of the shaft preparatory to making repairs, straightening the crosscuts and taking ore. The water is on the ground and will be treated in time to begin smelting as soon as ore can be extracted. Arthur Ranlett is superintendent of the works.

The Reward mill, at Pine Grove, is pounding away night and day on Tellurian rock, and two teams are engaged in hauling rock from the mine to the mill. About 20 tons are crushed daily. Operations at the Tellurian consist of clearing out and repairing the tunnel, which is about 1,400 feet in length. The tunnel is lapped by a shaft 330 feet in depth. It is expected by the management of this mine to rush development work as rapidly as possible.—Amador Ledger.

CALAVASAS COUNTY.

The Bald Hill mine at Albany Flat, is showing up splendidly and meeting every expectation of the company now operating it.

The stamp mill at the Demarest mine, below Fourth Crossing, was started up this week. Some fine looking rock is being run through the mill and good results are expected.

W. H. Clary, former superintendent of the Sheep Ranch mine, has taken a bond on the mine belonging to the Plummer Brothers, near San Andreas, and will commence to develop the property at once.

EL DORADO COUNTY.

William Craddock and Thomas Swansborough, who have been at work on the Dench & Craddock mine on the eastern side of Quartz Hill for some time, are preparing to make a run with a two-stamp mill. The vein is small but the rock is rich.

A new mining enterprise is being started two miles from Nashville, on a ledge located on Charles Evans’ ranch. San Francisco capital is engaged in the work, and James Richards is superintending it. Beach & Co. have contracted to put up hoisting works, a boarding house, offices, etc., to accommodate the employees while property is being developed.

A rich body of ore has been struck on the 600-foot level at the Griffith Consolidated. At the town of the Griffith, a strike of high grade ore is reported on the 400-foot level. The ledge on this level is five feet in width, two feet of which will go for $20 to $25 per ton and the other three feet from $8 to $12 per ton.

COLORADO.

Colorado Minerals for 1898.

Following are the figures by counties and the total production of gold and silver in Colorado to date:

<table>
<thead>
<tr>
<th>County</th>
<th>Value of Gold</th>
<th>Market Val. of Silver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arapahoe</td>
<td>$702,447</td>
<td>$6,453,749</td>
</tr>
<tr>
<td>Archuleta</td>
<td>144.92</td>
<td>23.30</td>
</tr>
<tr>
<td>Boulder</td>
<td>581,381.42</td>
<td>53,815.94</td>
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<tr>
<td>Chaffee</td>
<td>275,535.36</td>
<td>47,517.52</td>
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<tr>
<td>Clear Creek</td>
<td>605,576.83</td>
<td>913,494.94</td>
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<td>Conejos</td>
<td>18,353.46</td>
<td>17,945.10</td>
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<tr>
<td>Costilla</td>
<td>5,358.89</td>
<td>578.47</td>
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<tr>
<td>Custer</td>
<td>723.54</td>
<td>146.85</td>
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<tr>
<td>Delta</td>
<td>224.57</td>
<td>9.2</td>
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<tr>
<td>Dolores</td>
<td>88,281.57</td>
<td>269,999.95</td>
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<tr>
<td>Douglas</td>
<td>1,146.12</td>
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<tr>
<td>Eagle</td>
<td>10,357.93</td>
<td>41,231.10</td>
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<td>El Paso</td>
<td>13,507.38</td>
<td>39,492.92</td>
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<tr>
<td>Fremont</td>
<td>7,807.02</td>
<td>798.79</td>
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<tr>
<td>Gilpin</td>
<td>1,985,743.87</td>
<td>17,662.68</td>
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<tr>
<td>Grand County</td>
<td>536.33</td>
<td>54.82</td>
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<td>Gunnison</td>
<td>81,005.73</td>
<td>89,005.00</td>
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<tr>
<td>Huerfano</td>
<td>1,141.69</td>
<td>73.3</td>
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<td>Jefferson</td>
<td>1,061.75</td>
<td>50.45</td>
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<tr>
<td>Lake County</td>
<td>2,075,935.64</td>
<td>4,117,533.48</td>
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<td>La Plata</td>
<td>30,384.90</td>
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<td>Larimer</td>
<td>11,161.80</td>
<td>34.95</td>
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<tr>
<td>Las Animas</td>
<td>128.32</td>
<td>114.56</td>
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<tr>
<td>Mesa</td>
<td>156.36</td>
<td>11.76</td>
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<tr>
<td>Mineral</td>
<td>45,383.48</td>
<td>2,433,606.83</td>
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<tr>
<td>Montrose</td>
<td>2,707.77</td>
<td>3,663.93</td>
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<tr>
<td>Montezuma</td>
<td>8,285.60</td>
<td>1,007.36</td>
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<tr>
<td>Ouray</td>
<td>8,558.82</td>
<td>877,334.72</td>
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<tr>
<td>Park</td>
<td>159,568.74</td>
<td>17,749.10</td>
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<tr>
<td>Pitkin</td>
<td>71,001.30</td>
<td>2,316,759.74</td>
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<tr>
<td>Rio Grande</td>
<td>3,720.69</td>
<td>913.36</td>
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<td>Routt</td>
<td>12,766.39</td>
<td>4,285.77</td>
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<tr>
<td>Saguache</td>
<td>19,727.84</td>
<td>1,224.59</td>
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<tr>
<td>San Juan</td>
<td>2,132,591.98</td>
<td>610,759.68</td>
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<tr>
<td>San Miguel</td>
<td>1,452,679.95</td>
<td>1,240,190.27</td>
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<tr>
<td>Summum</td>
<td>343,824.78</td>
<td>242,137.68</td>
</tr>
</tbody>
</table>

Total: $23,534,531.28

Total production for 1898:
Gold, 1,135,584 ounces at $9.73
Silver, 32,500,691 ounces at .5457.
Total: $43,670,265.15

The foregoing statistics are from Bulletin No. 2 of the precious metal production for the year 1898 which has just been issued by the State Mining and Bureau of Mines, and exhibits the same painstaking research that is characteristic of the work of the State Bureau of Mines.

MICHIGAN.

The Oliver Mining Company is now one of the biggest iron ore mines in the world. The following is the list of active mines of which it has possession:

On the Vermillion range—Pioneer, Zenith and Savoy.
On the Menominee range—Iron River, Dober, Isabella and Miller.
On the Marquette—Buffalo, North Buffalo, Queen of Wales, Blue and the Lake Superior.
On the Gogebic—Norrie, East Norrie, North Norrie, North Aurora, Pabst and Tilden.
In this list are some of the finest mines to be found in the Lake Superior region.—Iron Ore.

From Agent B. F. Chynoweth, it is learned that the new shaft on the Knowlton vein of the Adventure has been collared and timbered down to the depth of 55 feet. Some difficulty was encountered with sand in this shaft, but they will have it under control in a few days, when the work of sinking will proceed faster. Work in No. 1 shaft, 1,400 feet west, is advancing, drifting east and west, both in good coppery ground. Both shafts will soon be supplied with the latest hoisting machinery which is now coming in. As soon as this machinery is installed, the work of sinking will be pushed in both shafts.

MISSOURI.

Lead and Zinc.

Rudolph Finke, the well-known mine operator, and his associates purchased the Molloy and Randall mine on Kohinoor lease of the Empire ground, for $15,000. The property contains the shafts on the Empire and a ten-foot tract on the Mohawk and an adjoining tract of land. The purchasers are Boston capitalists and the price paid was $50,000 in cash. The Tuttle & Co. mine, one of the richest ore-producing properties ever opened in the district, is located on the Minor & Rodgers tract and there are several other good mines upon it.

Encouraged by the outlook of the Brewer Bros.' mine on the Snapp-Warren lease at Tuckahoe, purchased two weeks ago by Dexter, Johnson & Co., and J. F. Wallach, of Chico and through the agency of A. P. and H. C. Cosgrove, they closed the deal for the purchase of the entire lease of seventy acres from Morgan and Johnson. Thirty acres on
the Dixon land and forty acres of Snapp land. The consideration was not given out.

After this week, the tract will be known as the "Ajax Lead & Zinc Co.," and will be incorporated for $150,000. —

J. Morisc, lessee of the Pamlico mine, in Hereworth district, shipped this week, 22 sacks (4½ tons) of ore to Bob Stewart's mill at Soda, and as a result received a gold bar worth $5,308. This is the result of one man's work for three months.

Jas. Barger, who has the lease on another portion of the same mine, shipped about two tons of ore, which milled $1,000. The mint receipts bear out these statements. —

**NEW MEXICO.**

Output of Hillsboro Mines. Output of Hillsboro gold mines for the week ending Thursday, April 27, 1899, as reported for the Advocate.

<table>
<thead>
<tr>
<th>Tons</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wicks</td>
<td>20</td>
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<tr>
<td>K. K.</td>
<td>15</td>
</tr>
<tr>
<td>Richman</td>
<td>15</td>
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<tr>
<td>Snake Group</td>
<td>65</td>
</tr>
<tr>
<td>Opportunity</td>
<td>20</td>
</tr>
<tr>
<td>Sherman</td>
<td>5</td>
</tr>
<tr>
<td>Cincinnatus</td>
<td>10</td>
</tr>
<tr>
<td>Tripe</td>
<td>5</td>
</tr>
<tr>
<td>Rex (silver lead)</td>
<td>5</td>
</tr>
<tr>
<td>Eureka</td>
<td>10</td>
</tr>
<tr>
<td>Freeburg</td>
<td>10</td>
</tr>
<tr>
<td>American</td>
<td>15</td>
</tr>
<tr>
<td>Warren</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
</tr>
</tbody>
</table>

Total output since January 1, 1899—4,705.

**OREGON.**

A few days ago, in Baker city, Oregon, the ore, the producers, was being loaded this week from the Wasp No. 2, in the same district, which was also to be sent to Spearfish. The mine owners in the camp are making plans to erect a cyanide plant at the mines this season.

Last week, a large force of men was set to work grading for a site for a hoisting plant on the ground recently leased by the Colorado Company of Lead and Kilk, Dakota. The deal has been on some time, and it is gratifying to state that such a large enterprise has gone through. The company has reorganized and has acquired two prominent mining men with unlimited capital with which to work. It is believed that the Home-stake ore bodies extend south through this block of claims, and it is the purpose of the company to sink a large shaft to the ore contact as rapidly as possible. —

**WASHINGTON.**

Republic Camp.

There is magnificent looking ore taken from the Princess Maude. No one could give any information as to its value.

Manager Harvey states that the Retreat shaft is 70 feet deep. The ledge has been crosscut at the bottom of the shaft, and there are 12 feet of good ore. The average assays are 640 per ton. A shaft is being sunk on the D. D. There has been some surface work going on for the past two weeks for the purpose of determining the proper location for the shaft. The property lies west of the San Pail.

The ore in the Surprise gets richer each foot of development. It is rapidly becoming a favorite stock with investors. It is certainly one of the prettiest ledges in the camp, and its location is such that it can scarcely be over-rated.

The water has been removed from the Mark Tapley shaft, and a drill driven about four feet towards the ledge that was recently uncovered on the surface. The rock is hard and therefore slow progress is made. It will take three weeks at the present rate of progress to cut the ledge.

**GENERAL NEWS.**

Jackson Hand-Power Rock Drill.

The Thornton N. Motley Co. of 43 John street, New York City, one of the largest exporting machinery houses in the United States, have just completed a contract with the Jackson & Wiggins Co., of Denver, Colo., whereby they become the sole licensees for the sale and manufacture of the Jackson Hand-Power Rock Drill, throughout the eastern United States and all foreign countries. That they have taken hold of the matter in a very energetic manner is evidenced by the fact that they have ordered a number of drills from the factory at Denver for the purpose of exporting, twenty-five of the machines being for Mexico alone.

C. L. Berger & Sons, successors to Baft & Berger, the manufacturers of surveying, engineering and astronomical instruments of 9 Province Court, Boston, Mass., have issued a new catalogue of their equipment containing a full description of their latest improvements in the instruments manufactured by them. Attention is particularly invited to improvements in mining transits and new leveling instruments, among which are their hydrographic and new engineer's precise level instruments, pages 104a and 104ad. The high reputation of making the finest and most accurate instruments in the country is enjoyed by this firm.

**MINERAL PRODUCTS OF CALIFORNIA.**

State Mineralogist A. S. Cooper, reports the yield and value of mineral substances of the State for 1898 as follows, as per returns received at the State Mining Bureau in answer to inquiries.

- **Asbestos**: 10 tons $ 200
- **Antimony**: 40 $ 1,200
- **Asphalt**: 25,690 $ 482,175
- **Bituminous Rock**: 40,836 $ 137,575
- **Borax**: 8,300 $ 113,000
- **Cement**: 50,000 bbls $ 150,000
- **Clay**: 100,000 bbls $ 575,352
- **Brick Pottery**: 21,978 tons $ 19,712
- **Coal**: 143,045 $ 337,475
- **Copper**: 21,543,229 $ 2,477,193
- **Gold**: 3,043,437 $ 5,900,288
- **Granite**: 9,36,900 $ 147,732
- **Gypsum**: 3,100 tons $ 2,300
- **Lead**: 655,000 lbs $ 23,907
- **Lime**: 297,860 bbls $ 254,010
- **Limestone**: 27,686 tons $ 24,528
- **Macadam**: 452,691 $ 369,082
- **Magnesite**: 1,263 $ 10,075
- **Manganese**: 410 $ 10,075
- **Marble**: 8,000 $ 21,545
- **Painting Plaster**: 653 tons $ 9,668
- **Mineral Waters**: 1,429,809 $ 213,817
- **Natural Gas**: 74,724 $ 74,724
- **Paving Blocks**: 180 $ 21,725
- **Platinum**: 6,000 oz $ 4,800
- **Petroleum**: 2,424,088 bbls $ 3,376,420
- **Pyrites**: 6,000 tons $ 30,000
- **QuickSilver**: 31,052 B/S $ 1,888,626
- **Rabble**: 724,764 tons $ 44,305
- **Salt**: 93,421 $ 170,855
- **Sandstone**: 37,298 tons $ 45,384
- **Serpentine**: 75 tons $ 3,000
- **Silver**: 141,055 $ 41,800
- **Sla**: 2,800 $ 2,800
- **Soda**: 7,000 tons $ 154,000
- **Sulphur**: 2 $ 50

Total: $37,289,079

The relative rank of the Counties of the State, in point of mineral production is given in the following table. In each case the value given includes that of all mineral substances combined produced in the respective counties for the year. Some counties produce in addition to gold and silver, five, six, or seven other substances, in other counties which yield little or no gold or silver, produce in large quantities, quicksilver, mineral oils, copper, lead, iron, gravel, and other materials. The figures after each of the counties indicate aggregate value of all mineral products.
for the year, including the precious metals.
The term "undistributed" includes total values of such substances as are grouped to avoid disclosing private business, as the case of single operations in a county. In the large and complete tables published by the State Mining Bureau, from which these figures are taken, the amount of value of each substance in each county is set forth. It is therefore necessary in some cases to place the figures in the "undistributed" column.

<table>
<thead>
<tr>
<th>County</th>
<th>Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shasta</td>
<td>$3,510,728</td>
</tr>
<tr>
<td>Nevada</td>
<td>$2,072,624</td>
</tr>
<tr>
<td>Amador</td>
<td>$1,941,452</td>
</tr>
<tr>
<td>Siskiyou</td>
<td>$1,355,585</td>
</tr>
<tr>
<td>Kern</td>
<td>$1,199,473</td>
</tr>
<tr>
<td>Calaveras</td>
<td>$1,015,807</td>
</tr>
<tr>
<td>Trinity</td>
<td>$1,010,749</td>
</tr>
<tr>
<td>Siskiyou</td>
<td>$795,125</td>
</tr>
<tr>
<td>San Diego</td>
<td>$794,318</td>
</tr>
<tr>
<td>Ventura</td>
<td>$564,663</td>
</tr>
<tr>
<td>Napa</td>
<td>$555,966</td>
</tr>
<tr>
<td>Butte</td>
<td>$523,295</td>
</tr>
<tr>
<td>El Dorado</td>
<td>$495,973</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>$472,784</td>
</tr>
<tr>
<td>Alameda</td>
<td>$443,735</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>$434,766</td>
</tr>
<tr>
<td>Sierra</td>
<td>$399,973</td>
</tr>
<tr>
<td>Plumas</td>
<td>$369,669</td>
</tr>
<tr>
<td>Humboldt</td>
<td>$357,288</td>
</tr>
<tr>
<td>Mariposa</td>
<td>$357,411</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>$351,485</td>
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<tr>
<td>Santa Cruz</td>
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<tr>
<td>Riverside</td>
<td>$247,022</td>
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<tr>
<td>San Benito</td>
<td>$212,585</td>
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<tr>
<td>Fresno</td>
<td>$205,957</td>
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<tr>
<td>Yuba</td>
<td>$166,565</td>
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<tr>
<td>Madera</td>
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<tr>
<td>Contra Costa</td>
<td>$141,440</td>
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<tr>
<td>Sonoma</td>
<td>$132,795</td>
</tr>
<tr>
<td>Sacramento</td>
<td>$121,438</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$129,595</td>
</tr>
<tr>
<td>Lake</td>
<td>$102,095</td>
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<tr>
<td>San Joaquin</td>
<td>$91,289</td>
</tr>
<tr>
<td>San Luis Obispo</td>
<td>$84,267</td>
</tr>
<tr>
<td>San Mateo</td>
<td>$77,625</td>
</tr>
<tr>
<td>Marin</td>
<td>$67,800</td>
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<tr>
<td>Orange</td>
<td>$65,600</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>$53,760</td>
</tr>
<tr>
<td>Stanislaus</td>
<td>$37,760</td>
</tr>
<tr>
<td>Solano</td>
<td>$36,370</td>
</tr>
<tr>
<td>Santa Barbara</td>
<td>$32,148</td>
</tr>
<tr>
<td>Tulare</td>
<td>$25,900</td>
</tr>
<tr>
<td>Tehama</td>
<td>$24,940</td>
</tr>
<tr>
<td>Kings</td>
<td>$8,450</td>
</tr>
<tr>
<td>Mendocino</td>
<td>$3,330</td>
</tr>
<tr>
<td>Colusa</td>
<td>$1,933</td>
</tr>
<tr>
<td>Yolo</td>
<td>$1,540</td>
</tr>
<tr>
<td>Undistributed</td>
<td>$219,999</td>
</tr>
</tbody>
</table>

Total: $77,289,079

All the asbestos produced in California in 1898 was from Riverside County, and the abundance of all came from Kern. Asbestos was produced in Kern, Santa Barbara and Ventura Counties. Bituminous rock came from Mendocino, San Benito, San Luis Obispo, and Santa Cruz Counties. The borax yield was from San Luis Obispo and Inyo. Inyo was utilized in Alameda, Butte, Contra Costa, Fresno, Humboldt, Kern, Kings, Los Angeles, Madera, Marin, Mendocino, Monterey, Orange, Plumas, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Sonoma, Tehama, Tulare, Tuolumne, and Ventura Counties. Pottery clay came from Amador, Los Angeles, Placer, Riverside, and Santa Clara. All the hydraulic cement came from San Bernardino County. Coal was produced in Alameda, Contra Costa, Orange, Riverside, and San Benito Counties.

The annual meeting of the Joseph Dixon Crucible Company was held at the company's main office, Jersey City, N.J., Monday, April 17. Out of a probable attendance of 7,500 shares, 7,500 shares were voted, elected the directors, and the time in the present year, the total value of certain substances, including precious metals, was $20,023,074 of non-metallic substances, $2,102,072, hydrocarbons and gases, $3,079,046, and of structural materials, $2,093,579. Total, $25,290,079.

The annual meeting of Joseph Dixon Crucible Company was held at the company's main office, Jersey City, N.J., Monday, April 17. Out of a probable attendance of 7,500 shares, there were 7,500 shares voted for the re-election of the old board, consisting of Edward G. Young, John A. Walker, Daniel T. King, Edwin H. Butler, William M. Sauter, T. McGill and Joseph D. Bedell. President E. C. Young, Vice Pres. and Treasurer John A. Walker, Secretary George E. Long were re-elected by the directors. Judge Joseph D. Bedell was also re-elected as counsel.

## Personal News Items

- **W. B. Johnson**, of New York City, has lately purchased Mr. Thompson's interest in the Karma mine, located about 4½ miles southwest of Mojave, Cal., for $10,000. This mine has produced and shipped from 150 to 200 carloads of ore, valued at $20 per ton net. The ore body improves as the mine is developed, and the mine in time will stand up to the front with numerous other Southern California properties. There is a shaft on the property about 120 feet deep which is connected with a tunnel 130 feet in length at a depth of 150 feet.

- **J. S. Graham**, of McKinney, B. C., left Spokane, Wash, a few days ago for an extended trip through the Rockies.

- **R. H. Channing**, late manager of the Sparta mine near Sparta, Minn., has resigned to take charge of the Highland Boy copper mine at Bingham, Utah.

- **B. M. Swingler**, of the Keystone Mining Co., near Sinking, Mo., spent a few days last week in Spokane, Wash.

- **J. H. Lottmeier**, vice-president of the Manlave Mining and Milling Co., Pahrepo, Nev., has left for the east and will spend a few days in Pittsburgh, Pa., at which place the company's general office is located.

- **J. H. Delany**, secretary of the Baltimore and Deadwood Company, is in Deadwood, S. Dak.

- **J. Parker Curtis**, has been appointed superintendent of the Treacle mine, Douglas Island, Alaska. He is to succeed Robert Duncan, Jr.

- **Hiram Dotson**, a well-known mining man of Blackfoot, S. Dak., has lately left for Chicago, Ill., to work on large metal contracts.

- **Sam Cohan**, of Leadville, Colo., leaves in a few days for South America, where he will represent a large placer mining company.

- **J. Hague**, mining expert, has returned to New York City, after a short stay in the Black Hills, S. Dak.

- **T. M. Johnson**, in Deadwood, S. Dak., examining some mining prospects for Denver parties.


- **Johnson**, of Great Falls, Mont., went last week in Spokane, Wash., on business connected with the Dixie camp, in which he is interested.
THE MARKETS.

All quotations, financial reports and other financial figures given under this heading are New York quotations, unless otherwise stated in each item. These figures are carefully recorded and guarded, and constitute a very accurate compilation of statistical material.

New York, March 14, 1909.
The following are the Silver, Copper, and Lead quotations for the last two weeks:

<table>
<thead>
<tr>
<th>Silver</th>
<th>Copper</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>62 4/5</td>
<td>62 4/5</td>
</tr>
<tr>
<td>2</td>
<td>63 4/5</td>
<td>63 4/5</td>
</tr>
<tr>
<td>3</td>
<td>64</td>
<td>64</td>
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<tr>
<td>4</td>
<td>64 4/5</td>
<td>64 4/5</td>
</tr>
<tr>
<td>5</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>6</td>
<td>65 4/5</td>
<td>65 4/5</td>
</tr>
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<td>7</td>
<td>66</td>
<td>66</td>
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<tr>
<td>8</td>
<td>66 4/5</td>
<td>66 4/5</td>
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<tr>
<td>9</td>
<td>67</td>
<td>67</td>
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<tr>
<td>10</td>
<td>67 4/5</td>
<td>67 4/5</td>
</tr>
<tr>
<td>11</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>12</td>
<td>68 4/5</td>
<td>68 4/5</td>
</tr>
</tbody>
</table>

SILVER.

The silver market has remained steady and dull this week, but closed with former tenacity on the prospect of French tenders next week.
The small amount of dollars received in the first quarter of this year is noteworthy. It is known that the China market is not in favor of movement in this way, and the buyers in Mexico have been able to do better at home than by shipping to China. There has been a larger increase in both gold and silver bullion.

COPPER.

Copper continues in good demand. Lake, which is difficult to get for prompt delivery has improved in value, it is said that as high as 1b4 has been offered. June, July and August, however, quoted at 1b4. Prices for electrolytic copper remain unchanged at 1b 7 b, per 10 lbs.

LEAD.

Leads remain dull. There is as yet no improvement in the demand as the policy of the American Smelting & Refining Co. becomes clearly defined. In the meantime consumers appear to be inclined to await developments. We quote: Lead at $4.40. The foreign market is still firm at $141.10 for Spanish, and $141.25 for French.

SPELTCH.

Spelter remains unchanged at $6.20. St. Louis, and $6.50.00 New York. The foreign market is very steady, the latest quotations received quote spelter at $27 8s 9d, for ordinaries and 28s 9d for specials.

ANTIMONY.

The prices for Antimony remain unchanged at 10b 10s 6d for Cookson's, 9b 60s 6d for B. C. U. S. Star and Hungarians.

NICKEL.

Nickel continues unchanged and no alteration of prices can be reported. We quote for ton lots 31b 4s 6d per lb., and for smaller orders 3b 4s 6d per lb., according to size of order.

Platinum.

The fluctuations of the market have been very wide, going as high as 25b 5c¢, and down as 24b 6b, but at last report the values have again improved the closing price being around 25b 5c¢. The foreign market closed at 2110 for spot and 2118 3d for three months.

PLATINUM.

The demand for Platinum has been very steady and prices have not changed. We quote for New York $15.50 per ounce for large lots and 15b 2b 2b for small orders. London is 52 6b 6b.

POTASSIUM CYANIDE.

Purified, 99 0 0 per cent., in cases of 120 lbs. at 25c per lb., in 5, 10, 25 and 50 lbs. costs in advance.

PHOSPHOROUS.

New York price remains at $42 per 100 lbs., the London price is 25b 5c¢, with 8b 1b 3b named for second hands.

POWDER.

F. O. b. San Francisco: No. 1, 100 per cent. nitro-glycerine per lb., in carload lots 1 5c¢ less than one ton, 1 7c¢; No. 1, 25 per cent., less than one ton, 1 7c¢; No. 2, 30 per cent., less than one ton, 1 7c¢; No. 2, 40 per cent., less than one ton, 1 7c¢; No. 2, 50 per cent., carload lots, 1 7c¢; less than one ton, 1 7c¢; No. 2, 30 per cent., carload lots, 1 7c¢; less than one ton, 1 7c¢; No. 2, 40 per cent., carload lots, 1 7c¢; less than one ton, 1 7c¢.

ANTIMONY.

The prices for Antimony remain unchanged at 10b 10s 6d for Cookson's, 9b 60s 6d for B. C. U. S. Star and Hungarians.

NICKEL.

Nickel continues unchanged and no alteration of prices can be reported. We quote for ton lots 31b 4s 6d per lb., and for smaller orders 3b 4s 6d per lb., according to size of order.

New York.

Concentration, in car lots, 1 7c¢ in the lots in sacks. 1 7c¢. Gas works coke, lump per bushel, 10b 7c¢.

Boron.

The San Francisco market in Borax is firm with a good demand.

The market is quoted as follows: Roughly, in car lots, 1 7c¢ in the lots in sacks. 1 7c¢. Concentrated, in car lots, 1 7c¢.

THE MINOR METALS.

Quotations are given below for New York delivery:

Alumina.

No. 1, 60 per cent., impure, per lb., $1.85.

Rolled sheets, per lb., $1.85.

Coke.

But little change if any, noticeable in the condition of the coke trade, which is quite steady and featureless otherwise.

CARBONATE OF SODA.

American, 1 125¢ @ 1 25¢. English, 2 125¢ @ 2 25¢ per 100 lbs., according to brand and style of package.

SULFUR.

For domestic 50c per 100 lbs., less the usual discounts; English, 60b 2b 2b per 100 lbs. Concentrated acid-soda, 1 60b 2b 2b.

CHLORATE OF POTASH.

Chlorate of potash is quoted at $9.60 for 100 lbs. per 100 lbs. per 100 lbs.

CHLORIDE OF AMMONIA.

English prime品牌的 English prime brands, 1 60b 2b.

American, 1 60b 2b.

Ferric Chloride.

Ferric chloride is quoted at 10 7c¢.

ACIDS.

Consumption, satisfactory and deliveries on contract are moving more

MINERALS WANTED +

Gold and Silver Quartz Specimens, Crystals, Opals, Turquoise, etc., etc.

Buy in Any Quantities—Pay good prices—Cash

E. C. MOLLER,

553 East 56th Street, NEW YORK

The Pulsometer Steam Pump

"The Miner's Friend"

Often Inflated—Never Equaled Over 20,000 in Use

RECENT IMPORTANT IMPROVEMENTS

The Handiest, Simplest and Most Efficient Steam Pump for General Mining, Quarrying, Railroads, Irrigation, Farming, and Banking, Tank filling and the Pumps back on to suit the job. Heavy duty or light duty, highly impregnated with sediment. Muddy or gritty fluids handled without trouble.

AGENTS


Pulsometer Steam Pump Co.,

133 Greenough Street, New York City

BELTS WILL SLIP — BUT CLING-SURFACE WILL STOP IT PERMANENTLY.

CLING-SURFACE is to be applied to the inside of a belt.

It has been so universally satisfactory for the past three years that we can safely guarantee that its use will not only stop slipping, but that the belts will become soft and pliable, yet firm, if of leather, they will become as soft as calf skin, and also absolutely water proof, and guarantee that the belts can be run slack, and that the power will be increased so much that in a fair sized plant the cost of the sample run will be earned in a few months.

This applies to all belts, leather, cloth, rubber or a rope drive, whether new, old, or old. We will send you a sample can for trial; or, if you prefer, we will advise you further as to its nature.

A Practical Test ...

We asked a man the other day what he thought of our pumps.

"Well," said he, "I've used this pump for twenty years, and it's better than most pumps yet."

The best material, workmanship and patented construction—that's why our pumps wear.

Are you going to buy—Write us for full information and catalogue. All free for shipping.

W. T. GARRATT & CO.,

Pump, Bell, Brass and Machine Works,

120-142 Fremont St., San Francisco, Cal.

CLING-SURFACE MFG. CO.,

167-172 VIRGINIA ST., BUFFALO, N. Y.

REPRESENTED IN SALT LAKE BY

THE UTAH RUBBER & MFG. CO.
THE MINING AND METALLURGICAL JOURNAL

The statement of the United States Treasury, on Thursday, May 3d, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date last week.

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Amount</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>$1,876,847</td>
<td>70%</td>
</tr>
<tr>
<td>Silver</td>
<td>$2,910,681</td>
<td>90%</td>
</tr>
<tr>
<td>Total</td>
<td>$4,787,528</td>
<td>90%</td>
</tr>
</tbody>
</table>

Treasurer deposits with national banks amounted to $85,314,113, a decrease from $31,048,138 during this week.

WANTS

Advertisements of this class containing not more than five lines will be inserted for one year free of charge.

COOPER MINE. State full particulars in regard to development work location, distance from water, price of fuel, character of ore and returns from shipments. Must have at least 1,500 tons of development work. Send all information.

JAMES HOWARD, Carely Journal Office, 150 Nassau St., New York, N. Y.

GOLD mine anywhere in United States, must have at least 1,000 feet of development; where coal is not over $6.00 per ton and wood $4.00 per cord delivered; plenty of water; no objection to low grade ore if profit can be made by large yards, some granules and concentrates; want 6 months working bond, no property considered unless owners are prepared to deposit 2% of first check. For expenses of engineer if property is not represented. Address with price and full particulars.


Watch this space for Want Ad next issue.

ORE TESTING

Complete mill for testing ores on practical scale by all processes to determine the best process adapted to treating any ore submitted. Processes in use investigated to overcome unnecessary losses, etc.

RICKETTS & BANKS, Metallurgists and Chemists

MACHINERY

John Wigmore & Sons Co.

MINE and MILL SUPPLIES, IRON and STEEL

ALL THE MINING CAMPS OF UTAH AND COLORADO ARE LOCATED ON OR REACHED BY

MECUR AND CRIPPLE CREEK

P. R. MUELLER

Salt Lake City, Utah

"NEW STANDARD" Neatly Pin Outfit by mail, prepaid $1.00

Unlike all others, the smallest, neatest & most durable ever placed on the market. Liberal discount to agents. W. H. A. ROACH, inventor and sole manufacturer, 44 Greenwich St., New York, U. S. A.

LARGEST GASOLINE PUMPING PLANT IN THE WORLD

The illustration shows the gigantic pumping plant recently built by the Hercules Gas Engine Works at the Parker Ranch, Denver, Colorado, by which 1,700 gallons of water a minute, 27 feet high, is furnished to the Denver Water Company. Hercules Gas Engines, 2 to 1,000 h. p. Send for Catalogue. HERCULES GAS ENGINE WORKS, DENVER, COLO.

FOR SALE

A GROUP of Copper claims in Northern Arizona, made for the insurance company and sold at a great sacrifice by Mr. E. P. HUNT, New York, N. Y.

TREMENDOUS TWO-STAMP MILL AT TUCSON. 150 H. P. Boiler Pump and every machine complete, set up ready for work. In excellent condition, used less than six months.

ANTIMONY BISMUTH

Prospects having locations of this nature and wishing to sell at cash or rent, will do well to address with full particulars.

F. O. G., San Francisco, Cal.

A VERY valuable, extensive Lead Mining Property in Southwest Virginia. Shells sink over 50 feet and actual work has demonstrated the property.

Address: GEORGE FRANK, Mineral Rights, Mineral Springs, Virginia.

FORAGE AT A BARGAIN

A 50-TON copper smelting Plant, consisting of two 3-ton furnaces, one of which has new, efficient furnace. Plant is complete in every detail. Also an 80-ton Lead Furnace, entirely new, never having been set up. All of the above located immediately adjacent to railroad,

Empire of Gambrills, Wyoming, Wyo., and dealers in Mining and Mill Supplies, Tucson, A. T.

See Mining Stock Quotations Page 21

RICKETTS & BANKS, Metallurgists and Chemists

No. 14 John Street, New York City

John Wigmore & Sons Co.

MACHINERY

Mine and Mill Supplies, Iron and Steel

117 to 123 S. Los Angeles Street, LOS ANGELES, CAL.

THE RIO GRANDE WESTERN RY.

THE SHORTEST, QUICKEST AND MOST DIRECT SOUTH TO

F. R. KOELLEBREK

Salt Lake City, Utah

ENGINEERING INSTRUMENTS

Barometers, Thermometers, Field Glasses, Microscopes and Accessories. Repairs promptly done.

ADOLF FRESE

136 S. Spring St., LOS ANGELES, CAL.

THE CLEVELAND LINING AND STOCK EXCHANGE CO.

New England Building, Cleveland, Ohio.

A Reliable Information Bureau for Miners and Investors to obtain FACTS regarding Capital and Mines. Stocks and Mines listed. Send for prospectus.

Morgan-Watson Mining and Construction Co.

Sgp-No New England Building, Cleveland, Ohio

MINES AND STOCKS

We Buy, Sell, Lease and Bond Mines of all kinds.

FURNISH TITLING in all Cases under special arrangement.

JAMES IRVING & CO. REFINERS

228 N. Main Street (Old Location) Los Angeles, Cal.

ALL THE MINING CAMPS OF UTAH AND COLORADO ARE LOCATED ON OR REACHED BY

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## INCORPORATED MINES PAYING DIVIDENDS.

### NAMES OF MINES  | LOCATION  | No. of Shares | Capital Stock | Par Value | No. of Dividend | Date of Last Dividend | Total Amount of Dividends Produced |
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<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
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<td>1 Austria Cons.</td>
<td>California</td>
<td>100,000</td>
<td>$500,000</td>
<td>$5</td>
<td>1910</td>
<td>Apr 1899</td>
<td>$3,600,000</td>
</tr>
<tr>
<td>2 Aurora</td>
<td>Alaska</td>
<td>200,000</td>
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<td>10</td>
<td>1910</td>
<td>Apr 1899</td>
<td>335,000</td>
</tr>
<tr>
<td>3 Alaska</td>
<td>Montana</td>
<td>600,000</td>
<td>$1,000,000</td>
<td>10</td>
<td>1910</td>
<td>Apr 1899</td>
<td>1,675,000</td>
</tr>
<tr>
<td>4 Alice</td>
<td>Montana</td>
<td>300,000</td>
<td>$1,000,000</td>
<td>10</td>
<td>1910</td>
<td>Apr 1899</td>
<td>9,750,000</td>
</tr>
<tr>
<td>5 Anaconda</td>
<td>Montana</td>
<td>300,000</td>
<td>$1,000,000</td>
<td>10</td>
<td>1910</td>
<td>Apr 1899</td>
<td>3,600,000</td>
</tr>
<tr>
<td>6 Anchorage</td>
<td>Montana</td>
<td>300,000</td>
<td>$1,000,000</td>
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<td>1910</td>
<td>Apr 1899</td>
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<tr>
<td>7 American Gold.</td>
<td>Colorado</td>
<td>1,250,000</td>
<td>$250,000</td>
<td>1</td>
<td>1910</td>
<td>Apr 1899</td>
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<td>8 American Sun</td>
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<tr>
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**Note:** S. Silver—G. Gold—L. Lead—C. Copper—Q. Quick Silver—I. Iron—Z. Zinc.

**Footnote:** M. B.—Companies not listed have not paid a dividend for the last twelve months.

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have sent, and must confess I got very flattering reports
from each.

Yours truly,
(Signed) W. F. Stevens, Pres.

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FRASER & CHALMERS

Mining Timbers and Construction Lumber

Baker Iron Works

Lambert Hoisting Engines

Joshua Hendy Machine Works

Bradley-Ramsay Lumber Co.

The Bartlett Concentrating Table

Parke & Lacy Company

Price of 14 ft. $300 complete.
12-foot $290.
10 ft. $280.
8 ft. $270.
6 ft. $260.
4 ft. $250.
2 ft. $240.

The Bartlett Concentrating Table

One of these Machines will take the place of TWO or THREE Belt Concentrators of any make and as good work. Separates ALL the minerals from each other at one operation. Gives Three Concentrate on the one Machine at the same operation. The Machine is especially adapted to the separation of Zinc and Lead.

Size of machine 4 ft. 8 in. x 8 ft. Weight 2,500 lbs. Capacity 35 tons per 24 hours.

Can be set up anywhere. Requires no special Foundation.

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