THE MINING AND METALLURGICAL JOURNAL

FORMERLY THE PACIFIC COAST BULLION.

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Los Angeles, Cal., October 1, 1896

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THE RECENT ELECTIONS.

The Democrats regard the results in Alabama and Arkansas as indicative of a defection of the nation when the final battle is fought. The Republicans hold the same views in regard to their victories in Vermont and Maine. The elections in these four states prove nothing. They are certain states and extreme in their majorities for their respective parties. The vote in any doubtful state would do something towards enabling one to make an approximately correct calculation as to the outcome. It should be expected that New England, New York, New Jersey, Pennsylvania and Ohio will vote for McKinley, for they are all fair to go. The present time seem doubtful. It is the vote of these that will determine the result. In regard to them there has not as yet been any election straws to show which way the wind blows.

There is unrest in the country, and a tremendous awakening of party lines. Different remedies are proposed for the existing ills—that of the Bryanites has not been tried, and as the others have been, it is not improbable that the people may reason that it is best to try a new remedy, for a worse condition cannot be produced. The successes, so far, of the Republicans have been in capitalistic states, and those on the Democratic side have been in the producing states.

The pending campaign is a contest between the capitalist section and the producing sections on the other. There are more electoral votes in the latter than in the former. The capitalists, as is their wont, will fight the next battle. Capital is said to be timid, but capitalists are not when their interests are at stake. Producers are more yielding and generous, and money changers more sordid. In Basle, men of commerce say: "It will assail with far more vigor and persistency than good men will defend good principles." The moneyed man will go farther in defense of the interest he possesses than the one who has interests to acquire. This principle renders doubtful the result in November.

WEALTH IS KING.

This is reported to have been said by Mr. Este, in a recent speech delivered in San Francisco. He is correct. All kings are sustained on their thrones by wealth. It is the very basis of monarchism and aristocracy. They exist by virtue of the wealth they possess. Mr. Este might truly have added that, when concentrated in the hands of the few, wealth is a tyrant.

For the last thirty years, our financial policy and business methods have been such as to lead to such concentration, and to-day the country is suffering from the exactions and tyranny of the money power. Steps taken to check gold inimical to the United States will pass under the absolute domination of a plutocratic oligarchy. The condition is little short of that now. Goldism was invented for the few and not for the many. Whether the narrow basis which it is based upon is to be endured depends upon the intelligence, virtue and courage of the people. The plutocrats rest upon a golden coinage, because, if adopted as a financial principle, it cannot be so easily concentrated. Wealth fairly distributed cannot be a tyrant, for there will be independence and the power to successfully resist the power. Poverty, long existing, emasculates manliness and self-respect, and what plutocrats want is that it shall be sufficiently prevalent to guarantee resistance to their exactions and tyranny, hence they oppose enlargement of the money volume.

STILL THREATENING.

M. H. De Young of the San Francisco Chronicle, has just returned from Europe, and in an interview expressed the opinion of the old threat, that if we adopt bimetallism, Europeans will withdraw their investments from this country. The goldites evidently believe in a parallel, and yet the long existing is too dependent to be otherwise than potent, when menaced by European capitalists. Europeans withdraw their investments! Where will they go for a better field? There can be no small opening in Europe or there would not be so much idle money. The accumulations of Europeans are from distant countries, American, African, and Asiatic, and in no country have their gains been so great as in the United States. They prefer to invest here than elsewhere, because we have an enlightened and stable government. No force has yet penetrated the country, where Europeans invest. Of course the capitalists across the Atlantic prefer that we should have the gold standard, as it assures larger gains than if we had the double standard.

Should foreigners withdraw their investments what would be the consequences? At first it would be a small matter, but it would be the cause of our adoption of bimetallism, which would redound to our future prosperity. It would be illustrative of that passage of Scriptures which says: "Our light afflictions which are but for a moment work for us a far exceeding and eternal weight of glory." It would emancipate us from the thraldom of the European money power. This is the policy is that of seeking and relying upon European money to carry on our enterprises. Had we resolved to build no faster than we had the means to do so, we probably would not have so many railroads or as much development in other respects, but we would have had some money of our own, and little or no foreign indebtedness. The consequences of that policy are that we have a deficit money volume, and are pressed and diatressed to pay interest on foreign loans and dividends on capital invested in our industries. The son of the land foregoes a change and rely upon our selves, and increase our money resources the better it will be for us, until we do so we will not be independent, nor be otherwise than an actual second-rate power. It is to cause population, intelligence, and natural resources we stand in the very front rank. It is demoralizing and debasing to the American character to be bullied, bemooned and menaced by foreign capitalists that they have enough virtue and stamina on the part of our people to assert their independence, and to get out from under the unremitting tyranny of the international financiers. Not so, we must suffer in our handcuffs and manacles.

LOS ANGELES OIL DISTRICT.

During the last three months, this oil field, located in the northwest part of the city, in the midst of a residence section, has been extended towards the northeast, making the limits of the field, so far as developed at present the length it was a short time ago. This has been occasioned by the drilling done, under the direction of Mr. William Duncan, on the land of General Broughton, between Yates and Adams streets, and north of College street, under a lease to Maier & Zohleim, brewers of this city. On the northwest corner of the land, near the corner of College and Adams streets, a well about 900 feet deep has been drilled. No oil was produced an oil of 18 degrees gravity, being superior in quality to any so far found in this field. A second well has been drilled to a depth of 1100 feet and while the oil was found, it was penetrated. This well is near the corner of Pearl and New Depot streets, and about half way between the old part of the oil field and the western boundary of the city.

As a result of this, more oil derricks are being built in the new section, on the line of strike from the new well to the older portion of the field on the west, along New Depot street. This extent marks a new era in the field and promises well for its future development and commercial importance to the city and district.

DENVER MEETING OF M. E. M.

The fall meeting of the American Institute of Mining Engineers was held in Denver, Colo., on the 25th and 26th inst. The eastern members from the well-protected iron mining and manufacturing states, with the representatives of enterprises in gold on Wall Street, had a good time. The speeches were made note of the want of protection granted to the silver interests of the west. If a visit to Colorado, and the sight of closed and abandoned mines and smelters cannot convince the protectionist, except to his own industry, that our silver interests require protection from the free trade by England in our silver product, there will be indeed little use to try to make object lessons act as a gold cure.
THE LABOR WAR IN COLORADO.

For over three months, the dispute as to the rate of wages between the mine owners and their employees, through the controlling influence of the Miners' Union, in Leadville, Colorado, has been going on. The strikers being agreed to on either side, the blockade was the inevitable result. On resuming operations with non-union help, some of the owners disregarded the threats of the miners. No wise councils prevailing on either side, this has resulted in open war and the loss of some valuable property and several lives. An act of retaliation is in the preparation of similar legislation of the labor issues, and the militia arms under arms. The ore supplies for the smelters come from the closed mines, and the surplus ore on hand will soon be exhausted, and more idleness and misery will fall to the lot of those who are not in the strike and desire to work. This account is but a reprint of the history of strikes where the negotiations are conducted by agitators and not by the miners themselves. In small mines and works, where labor is not organized, strikes are of rare occurrence, for the employees and management or owner are generally willing to work, each other and have personal regard for each other, or a feeling of interest in each other's welfare. In large mines and works, the opposite is too often the case, and the owner is little or not known to the men, and the mediums of communication between them are managers and foreman, whose object is to get the most out of the employees for the least amount of money and most credit, himself, in the majority of cases. In the last case, the employees become a mere part of the plant and machinery of the mine or work, and they are used as labor, under conditions mentioned, becomes organized into a labor union, unless the wisest councils prevail, the interests of labor so organized and those of united capital in the same industry become under these conditions, in the most favorable manner, opposed to each other. It must, however, be kept in mind that the union of capital was the first to combine against the employees. Labor was therefore forced to combine in self protection. When any body of men unite to guide or control their own actions, they are doing what is right and what they consider to be the actions or liberties of those who do not belong to their own society or organization, they are taking to themselves or assuming powers which alone belong to the officers of the law, and are consequently doing an illegal act. Herein it is that the trouble comes, when the suffering interests of labor are placed in the hands of agitators or third parties, and wisdom and kindness do not have the sympathetic consideration in mutual adjustment on both sides, and a policy of conciliation is disregarded.

The effects of this strike on the interests of mining in Colorado, both in Leadville district and in other camps, will be to retard the adjustment of capital in these sections. The condition of Idaho and elsewhere is only being repeated in Colorado.

THE TRANSMUTATION OF SILVER INTO GOLD.

"The next step was to ascertain whether the substance could be so treated as to be converted into substances of greater density than those of silver. Here the element of personal danger was introduced into our researches, and the success of our work on a commercial scale has yet to be assured by the construction and safe manipulation of new apparatus, in which vast energy will be employed." Working upon the necessarily microscopical scale of our experimental researches, we found that the substance called by us argentum can be aggregated into molecules which are heavier than that of silver molecules, and, we think, identical with that of ordinary gold molecules. Whether we are right as to this or not, the condensed argentum presents the appearance and is endowed with the properties of ordinary metallic gold.

For example, it is green by transmitted light, and yellow by reflected light; properties which, as all chemists know, are possessed by gold alone. Its resistance to the action of either nitric or hydrochloric acid alone, and its solution by a mixture of these acids, are also distinguishing properties of pure gold and of no other yellow metal.

Under the microscope it is indistinguishable from ordinary gold. We feel assured, therefore, that when produced in bulk, it will be accepted as the official silver of the United States Mint, and will be accepted by the commercial and financial world as being in very fact true gold.

It may be thought that all this work of ours is merely a resurrection of ancient alchemy, and that we are engaged in what for ages has been considered the hopeless quest of the philosopher's stone. This, however, is no means the case.

The ancient alchemists believed that some substance might be found by the mere touch of which base metals could be transmuted into silver and gold. Others, less in their ideas, believed that gold and silver were in reality base metals with the addition of some 'informing spirit,' and this spirit they held could be added if a suitable powder of 'projection' should be thrown into the molten iron or lead or other base metal employed.

Modern chemistry regards the matter from a very different point of view. It believes that the ultimate particles constituting gold, silver, iron, lead, zinc and all other metals are identical in substance, and that the different properties of the different metals depend upon the different ways in which the chemical particles of the common substance are arranged.

The periodic law of the elements is the foundation of this belief. It is called periodic because chemists have found that when all the known elements are arranged in the order of the respective weights of their molecules, each displays a remarkable similarity of properties when compared with the element separated by an interval of seven places in the table.

For example, the first element, sodium, in series 1, is succeeded by seven other elements which differ more and more from it in physical properties. But when we come to the ninth, namely, potassium, we suddenly find ourselves in the presence of a substance very similar in many physical and chemical respects to sodium.

This recurrence of properties at given numerical intervals in the table, or this periodicity, as it is called, that makes density of aggregation — is the determining cause of the properties that distinguish the various elements. This is no mere theory.

If a new element were to be discovered tomorrow, and any chemist were to be told its atomic weight, he, by merely noticing the position such weight would cause the element to occupy in the numerical table, he have mitioned, would be able to describe, with considerable accuracy, the appearance and physical and chemical properties of the substance without having seen or examined it. Prof. Mendeleef, the chief discoverer of the periodic law, found a certain gap in the numbers corresponding to the atomic weight.

He thereupon asserted that an element must exist having such and such properties. Some little time afterward this very element was discovered.
least of $3 per ounce upon all the silver we employ.

Stephen H. Emmens.

In addition to this letter, a statement was published in the same paper, which we quote below, in which Mr. Emmens positively asserts that he can make gold out of silver, and adds:

"The metal which we have made from silver answers every test to which the United States Government Assay Office subjects the gold offered there for sale. It is, therefore, gold to all intents and purposes. This metal made from silver, when covered by us could be proved to be gold in a court of law. It not only answers every test of the government mints, but it has every quality required by the gold of America, having the same color, weight and strength."

Dr. Emmens further says: "He has already made 4 oz. gold from about 6 oz. of silver, and that the loss in the process is about 25 per cent. If he can prove that his metal is pure gold, he has established his metal by the United States Government tests for gold, and he replied most positively that he had, and that it had responded to every test."  

In the issue of the F. & M. J. of the 12th ult. Dr. S. H. Emmens writes a characteristic letter of the following which are a few extracts:

"I thank you for your vigorous endeavor to impress upon your readers a conviction that gold cannot be made from silver. In my letter to you of August 25th, I expressed a desire for it to be proved. I thank you for suggesting the possibility of politics or improper money-making being the 'worm of the enigma.' This gives me the opportunity of saying that I could not have volunteered, namely, that in my arrangements with the friends who are cooperating in the establishment of the argentarium laboratory, I have expressly declined to receive any personal remuneration. I do not, however, profess to be a 'disinterested seeker after truth' of the kind alluded to in my previous correspondence with you. If it shall happen that the truth shall arrive at our laboratory, I shall, of course, receive my fair share of the same. I observe that you give notice of your intention in an early issue to refer at more length to the assumptions of Dr. Emmens as to the possibility of making gold. The accepted teachings of science, and to the discrepancies in his statements of the basal facts in his own work. I suggest, also, that before you publicly commit yourself to any final pronouncement based upon the accepted teachings of science, you should well weigh what is to be learned from the silence of science. Dr. Lardner is said to have once said that his hat if a steamship should ever cross the Atlantic. Cyrus Field found little in the accepted teachings of science to convince men of business, or even Mr. Carlyle's 'able editor's', that an Atlantic cable was practicable. What did science know of the substance that every philosopher and fool has been inhaling from time immemorial—by the time it was supposed to exist any the less because the accepted teachings of science said nothing about them? In view of these and the numerous similar instances, I think any Vassar student could ask, I may, perhaps, 'give you pause' by making another extraordinary statement. I have invented a force engine, by means of which I am in the habit of utilizing a pressure of over 800 tons per square inch. In saying this, I remain fully conscious of the fact that there is no material, at present known to man, capable of forming an apparatus able to resist such a strain. Yet I adhere to my extraordinary statement, and at no distant date, when the patent rights are duly secured by our syndicate, I will do myself the pleasure of showing you the engine at work, and of furnishing drawings and a description for your columns. The accepted teachings of science exist as to the molecular changes possible or probable in substances submitted to the action of such a force engine? And when I tell you that this new development of energy is only one of the tremendous and hitherto unemployed powers at the disposal of the workers in our argentarium laboratory, you will, I think, feel less inclined than ever to follow the example said to have been set by Dr. Lardner. It may not be unnecessary for me to inform you that I long ago publicly predicted what I am now engaged in actually performing. In 1883, a London paper published the following two short articles written by myself, viz.: "A Vision of Space," and "The Modes and Might of Electricity." If you will refer to these, you will find certain extraordinary statements are the logical sequence of very many years of philosophical work which began and was continued long before the present presidential contest appeared upon the political horizon."

(Signed) Stephen H. Emmens.

New York, Sept. 5, 1896.

CORRESPONDENCE

CALIFORNIA.


EDITOR JOURNAL:—We note something of a revival of business here. The Los Angeles Gold Mining Company has all the large timber on hand for their mill two miles below this place. The ground has been leveled off for the mill site, the carpenters are on hand, the machinery is on the way and everything promises well. We are not the only mining company on the Tom Lane and Maminno mines at Keysville. Everything is planned on a scale for a forty stamp mill but I hear that only ten stamps will be started at present.

The Plexiglass mining company on the Kern river five miles below here is promising well at the present time. The boys crushed eleven tons at Tibbet's & Hooper's mill at this place and had $540.

Grove & Ely have bonded and leased the Ross mine owned by Barton & Gibson and have every reason to expect to crush a good ton and a half of rock within two months. It nets them four dollars per ton to haul and mill this rock.

There was a meeting today, the 15th of September, of the miners of Keysville district and the inhabitants of the Spang's Valley for the purpose of putting a bridge across Kern river two miles below this place. Mr. Wilshire of the Los Angeles Gold Mining Company is to deliver the iron and to deliver the iron on the ground and also pay fifty dollars of a carpenter's wages. Others volunteered to haul the lumber and do the drudgery, and work, and it was resolved to go at it once and have the road open for travel in two or three weeks.

It is expected that work will start in earnest on the Kern River & Los Angeles electric canal within the next six weeks.

Stephen Barton.
MECHANICS INSTITUTE FAIR

A Grand Display of Home Manufactures at San Francisco, Cal.

A Description of different Exhibits as they Appeared at the latest Fair

The twenty-ninth annual Mechanics' Fair held in San Francisco will long be remembered as one of the best and most complete exhibits of home manufactures ever made on the Coast. California has gradually been extending its manufacture and the district south and the demand for California manufactures has grown to such an extent that the manufacturers have felt justified in making everything there is a demand for instead of bringing it from the East. Although the progress in all classes of manufactured articles has shown a very satisfactory increase, the output of mining machinery has cleared ahead of all others, as the exhibit made by the foundries and machine shops at the fair plainly demonstrates. The handsome displays of machinery are all running and an opportunity afforded all to see how the miner extracts the precious yellow metal from the worthless country rock. The first exhibit seen on the left side of the main entrance from the street is that of

TUBES CORDAGE CO.

They have a display of rope varying in size from the smallest hawser to immense coils over eighty inches in diameter. The company was established in 1856 and has had an increasing trade since that date. Their works are located at Potrero, a few minutes ride from the centre of San Francisco. They do an extensive business with the mines not only in the United States but in South America, Mexico, Central America, Columbia, Alaska and other foreign countries.

H. N. COOK BELTING CO.

Is the next exhibit encountered on the right side of the main entrance. They have a variety of leather belting and have everything very artistically arranged. This house has been in existence since 1856, and is well known all over the coast. They manufacture all of their goods in San Francisco and have equipped some of the large mines with belting, among others the Standard Consolidated Mining Co., Hidden Treasure Gavel Mining Co., the Webb Gold Mining Co., Soulsby Gold Mining Co. and the Golden Gate & Sulphur Mining and Development Co., all of California. The Alaska Treadwell mine on Douglas Island, Alaska, also uses their belts. Their trade extends into Mexico and is shown in the Office of the T. V. Co. having this display on the left and going towards the main body of the building you next reach

FRED K. COOK

This house is one of the oldest on the coast engaged in the manufacture of leather belting; packing and draperies. Although Mr. Cook is a young man he attends strictly to business and is building up a trade that will be a formidable rival to any establishment of the kind in the West. The house has for years past done business with the mines both in direct shipments and through the jobbers. They have furnished the great Utica mine at Angels, Cal., the Standard Consolidated Mining Co., Bodie, Cal., and through the mining country generally. Mr. Cook is now working to extend his business extensively in Mexico. There is nothing of interest to mining men between this exhibit and the next

JOSHUA HENDY MACHINE WORKS.

By agreement with this group of machinery is considered the finest in the hall, and the Joshua Hendy Machine Works deserve great credit for taking so large a space and arranging the machinery to such good advantage. Among other exhibits are ore concentrators, Improved Challenge ore feeders, a Hendy improved triple discharge, two-stamp mill, ore cars, crushers, mortars for stamp mills, double-jointed hydraulic giants, shoes and dies and sawmill machinery of all sizes and kinds. The Hendy Machine Works is one of the largest and best known manufacturers of mining machinery in the United States, having been established in 1870. Their foundry and machine shops are located in San Francisco. They have long made a specialty of manufacturing mining machinery and sawmills, and wherever they have built one mill they have encountered little difficulty in obtaining other contracts in the same district. Among the many large plants that have been built by them we can mention the following: The Lucille Gold Mining Co. at Plymouth, Amador Co., Cal., 40 stamps; Grand Victor Gold Mining Co., Placerville, El Dorado Co., Cal., 60 stamps; Nash- ville mining Co. at Nashville, El Dorado Co., Cal., 20 stamps; Big Canon mill, Big Canon, El Dorado Co., Cal.; Webb Mining Co., Browne Valley, Yuba Co., Cal.; National Mining Co., Placerville, El Dorado Co., Cal.; Placer Co., Cal.; Old Glory mine, Oro Blanco, Arizona, 30 stamps; Golden Cross Mining Co., Hedges, Cal., 40 stamps. They have also sent a great deal of sectional machinery to South America. Their sawmill machinery business extends all over the northwest and British Columbia and is rapidly extending to the southern republics. The Joshua Hendy Co. have also been responsible for the celebrated Wilson forged high grade shoes and dies made by the Western Forge and Rollings Mills in St. Louis. On the left and just across the aisle is the display of

L. P. Degen

Where well arranged assortment of leather belting and rubber goods attracts a great deal of attention. Since 1876 this house has been doing a profitable business on the Pacific coast and no small amount of trade in foreign countries. They have furnished leather belting and other goods in all the mining camps of the west, and we noticed some well known properties on their list. The Keystone Consolidated Mining Co., Amador Co., Cal.; W. Y. O. D. in Grass Valley, Cal.; Pioneer mine, Sierra Co., Cal.; Pennsylvania Mining Co., of Grass Valley, Cal.; California Mining Co., Auburn, Cal.; Providence and Federal Loan mines of Nevada City, Cal., are a few of the California mines using Mr. Degen's belting. He has also shipped his goods to the mines in the South American Republics, Mexico, British Columbia and China.

WASHBURN & MOEN MFG. CO.

Occupy the next space to Joshua Hendy Machine Works and across to the right from L. P. Degen. It is hard to know where to begin in describing this display in the fact that it fills up this space. There is wire so small that you almost need a microscope to see it, and some so large that it puzzles the observer what it can be used for unless it is to swing the world on. One of the most unique features of the exhibit is a large frame containing two known to have been made here. This attracted a great deal of attention at the World's Fair in Chicago. The Washburn & Moen Co. have been established many years and are well known manufacturers of the country. Their principal works are at Worcester, Mass., where they employ 600 men. At Waukegan, Illinois, they have 500 men, and in San Francisco, where their Pacific Coast Works is located, they employ a small army of men. They manufacture every variety of wire for electricity, cables, springs, nails, and in fact anything made from iron, steel and copper wire. They have placed most of the wire cables on the large mines of the west, their list including mines from the extreme northern portion of British Columbia to the most southern point of Australia. They have also done a large business in wire rope for mining hoists in Colorado. It will be 3/8 in thickness, 8 inches wide and 1800 feet long. Against the wall of the fair building is simply marvelous and is from the department where the machinery is running is the exhibit of the

PACIFIC SAW MANUFACTURING CO.,

Founded in 1855 by Messrs. Sheffield, Spaulding and Patterson. Their different varieties of saws and knives are tastefully arranged on the walls and in the cases, the works of the company. We would imagine that some of the saws are made for look only, as they are beautifully finished and polished, yet these same saws when placed in the position in which they would be used, when placed would be a formidable set of cutting tools. When the Comstock lode in Virginia City, Nevada, was in its glory, the Pacific Saw Mfg. Co. did a large business with the different mining companies using them. When it is considered that the Consolidated California and Virginia mine alone frequently used 200,000 feet of timber in one day, it can readily be seen that the demand for saws was great enough to form a large and profitable market for them. We were informed by one of the Pacific Saw Co. firm that their goods found ready sale in South America, Japan, British Columbia, Australia and Alaska. The second exhibit in the machinery building, the

CALIFORNIA TUBE AND ALUMINUM CO.,

Have a practical demonstration of the value of their material for resisting heat. They have a steam pipe covered with their pipe covering, with a thermometer on the outside. By turning on the steam and looking at the different thermometers, of which there are four on four different exhibits, the adaptability of the different coverings for resisting heat and the insulating qualities are readily seen. Patents were applied for by Captain Whipple in July, 1896 for this preparation, which is simply made of asbestos and tufa fibre. The company is manufacturing their product in San Francisco entirely from California products under patents controlled exclusively by them. On pipes over three inches in diameter the plaster is recommended instead of the sectional covering. Five per cent of asbestos is added to the plaster in making the sectional covering. This is only done by them for large pipes. The different mining companies quickly discovered the value of the covering as a steam economizer, and it is now in use at the North Star mine, Grass Valley, Cal.; also the Rand Mine, Cal.; also the Minas Petras, Sonora, Mexico. The great Anaconda Copper mine in Anaconda, Montana, is also using the covering, as well as the Amalie mine at Amalie, Kern Co.
The MINING AND METALLURGICAL JOURNAL.

Cal. The Southern Pacific Railroad Co. and the Pacific Mail Steamship Co. are using the covering, and in every instance where it has been given application in the machinery building and the Cal. Tulce Anti Cal. oric Co. exhibit on the left is the only display of compressed air machinery, that of the RIC COMPRESSED AIR MACHINERY CO.

They have a compressor, hoists, rock drills, pumps, marble carving machinery and electric lights, all operated by compressed air. In the back against the wall is a large painting representing the past and present of mining. On the one side is the miner pounding on his drill with a small hammer, on the other the miner taking his ease and allowing the compressed air drill to do the work. The Rix Co. have agencies in different parts of the west who handle their machinery. The progressive firm of L. Booth & Sons in Los Angeles are their representatives in Southern California. Compressed air machinery is beginning to be used extensively in mining, and as the old fashioned element gives way to the progressive operator of the present day, so the old fashioned ideas of propulsion will be superseded by compressed air, which is clean, economical and especially healthful for mines, particularly in those where air is most needed.

During the last two or three years the attention of the engineering public has been absorbed to a great extent by electrical apparatus and electrical phenomena. Compressed air machinery has been considered to be an uneconomical means of transmitting power. This idea has in some way engaged the attention of the general public, and as a result of last year's meeting C. & P. that the futility of this proposition is being well understood. The truth of the matter is that compressed air is now being used in full as a great many branches of the art as electrical phenomena. There are hundreds of processes which depend for their economical value upon the use of this elastic fluid.

The largest power transmission plant in the world, viz., the one at Paris, of some 30,000 horse power, which is in active operation all the time, is one of compressed air. The pneumatic system of street car propulsion is now in operation in the cities in the United States with the greatest success, after having been in operation a number of years in Paris. The one at present running on 125th street, New York City, is pronounced by every one, who has seen it, to be the most satisfactory for the traveling public.

There seems to be no end to the possibilities in the use of compressed air. It is not dangerous to use in any respect, either to property or to human life, it being the essential element of our existence, and while it gives forth power, the exhaust from the motor, which is used for cooling purposes, and the entire energy stored within it made to yield up work of one kind or another. It is easily transported in ordinary pipes, at either low or high pressures, and in the high pressure systems more power can be carried for longer distances than by any other method of transmission known.

At high pressure it is used in the place of explosives, for handling pneumatic torpedoes in dynamite guns. It is the means of propulsion for marine torpedoes. Without the use of compressed air they could not be sunk nor bridges thrown across rivers. In fact, in the light of modern engineering, it is fast becoming the most reliable and satisfactory source of power which we have. There is a bright future for it, and a very satisfactory present.

Next in order on the left is THE ELIS CONCENTRATOR.

This machine for which letters patent have been issued to the inventor and proprietor, is now ready for the market.

In general appearance it resembles the numerous traveling belt machines, but is constructed upon different mechanical lines, and falls into play other physical and philosophical principles not hertofore applied in the concentration of ores in like machines.

The machine is wholly solid, the framework being entirely of steel, by which it rests being the only wood required.

The rubber belt upon which the pulp is conveyed from the battery or other pulverizing devices, is a traveling or moving one, as used on many other concentrators, but differs radically from all others, in that it is filled with small "bates" or pan-like depressions, and when the machine is in operation a gyratory motion is imparted to the traveling belt, and to each one of the many bates, so that the motion and the result produced is precisely like that imparted to the battery or miner's pan by the most skillful hand.

If during the operation any of the heavier bearing portions of the pulp or concentrates escapes from one of the bates, it will certainly be caught by one of the hundreds of the others, and be perfectly separated from the gangue or lighter portions before it reaches the upper end of the traveling belt to be susceptible attached to the machine for that purpose.

The concentrator works very rapidly, and from practical working tests it is demonstrated that the four-foot belt machine will handle from fifteen to twenty tons of ordinary pulp in twenty-four hours, and that the six-foot belt machine will take care of double that quantity of like pulp in the same time.

It has been shown that all the gold and amalgam which may escape from amalgamating plates of the mill will be caught upon the belt of the machine and deposited with the sulphurites.

The machine is not only a very rapid but a very close worker, and the values saved, as shown by various tests upon ores difficult to concentrate, amount to over one cent.

An apparently difficult, yet thoroughly successful test of pulp carrying thirty per cent of zinc and ten per cent lead, from one of the leading mines of Utah, was made upon this machine, and the galena was thoroughly and speedily separated from the zinc and cleanly deposited in the sulphuret box.

For further information touching this concentrator application may be made to Henry Rives Ellis, the proprietor, at his metallurgical works, 318 Pine street, San Francisco, California.

The machine may be seen and examined at the Golden State and Miners' Iron Works, San Francisco.

The Mids Gold Saving Machinery Co. come next. The principal exhibit is the GOLD KING AMALGAMATOR.

Which, although it has only been established a few years, has already taken a firm hold of the mining public.

They do not offer a new method of saving gold, nor have they tried a new piece of machinery, but they do offer a new mechanical device accomplishing the two essentials in plate amalgamation, that is repeated contact with the amalgamating surface without scouring, and ignoring specific gravity. The interior, or plate construction of the Gold King Amalgamator is of such form that the material which is fed in is driven to the bottom only of the plate surface, thereby allowing the cylinder to revolve around the pulp, neither do they force their amalgamating surface into the pulp. The entire mass of pulp with this amalgamator is given a continual forced contact with the plate surface, at the same time upsetting all of the material repeatedly, and at every instance allowing a fresh part of the material to act on the different portions of the material is accomplished by four radial wings or flanges running the entire length of the plate, and are placed at equal distances apart. Those at the center of the plate and cannot be moved, each plate being a solid piece of copper and containing 16 square feet of amalgamating surface, making 32 square feet of plate surface in each No. 1 amalgamator, which is electroplated with 1/4 ounces of silver to the foot. With this amalgamator, everything that passes through it is given from 150 to 300 positive and absolute contact whereby separation and amalgamation is accomplished. In fact, they can save gold by this method that is microscopic in its fineness as well as floured gold and mercury.

The manufacture of these amalgamators in the following sizes: No. 1 Amalgamator contains 32 square feet of plate surface, and requires 3/5 horse power to operate it, and is capable of handling all of the pulp from one battery: its weight, crated for shipment, is 1000 pounds. No. 2 Amalgamator, which contains but 16 square feet of amalgamating surface, and is operated by hand power has a capacity for handling from five to seven tons in ten hours. A triple-acting pump is attached to this size amalgamator, as is intended and built for a prospecting machine only, and not for mining mill purposes. Its weight, crated for shipment, is 350 lbs. Tests are made free of charge of ore pulp, tailings, or sand.

Sitting at the back of the Gold King Amalgamator, and running sixty feet west to the other entrance from the main building to the mining machinery building, is the HALLIDIE PATENT WIRE ROPEWAY.

In operation. This ropeway is made by the California Wire皈 Company, of San Francisco in 1852. The ropeway has been in operation in various parts of the world since 1851. The factory of the company is at North Beach, California. The ropeway is almost indispensable in some mountainous countries, where it would be impossible to transport ores from the mines to the reduction plant. It is coming into general use for transporting dirt taken from hills to be used in filling low places. A large number have been sold to the mines in British Columbia. At Nelson, the Hall Mines have a rope 127 feet long in two sections, with a capacity of 150 tons per day. It has 925 buckets, and the wire rope is one inch in diameter. The San Juan Mining Company, in Utah, are operating one, 12,356 feet long: La Compañía Minera de Panuco, Panuco, Sinaloa, Mexico, have one 14,000 feet long. At the works of the New South Wales Mining Company, of Bringham, Utah, it will be 8,000 feet long. The ropeway has been introduced in connection with mining operations, and has met with considerable success and labor-saver everywhere. In front of the Hallidie Patent Wire Ropeway, and next to the Gold King Amalgamator, going to the west, on the left hand side, is the...
HICKS' GAS ENGINE

Attached to an electric plant. This gas engine was brought into the market in 1892. It is a home product, and is manufactured in San Francisco, and can be used with gas, gasoline, distillate, or crude oil. It is in use in Plumas County, California, working a hoist on a mine, also in Carson City, Nevada, where it is used for pumping and hoisting. The engine is working extensively used all over the coast, and will soon be used in other mining districts, as soon as its merits are brought to the attention of the miners. The exhibit next to the Hicks is

C. H. EVANS & CO.,

Who manufacture all kinds of pumps. At the left side of the entrance to their space, under a glass case, are nine handsome medals; t gold, 6 silver, and 2 bronze, which are prizes that have been won by the displays of the firm at different places. They have a twin cylinder pump, and a large assortment of every kind of pumps on exhibition. The firm has been established since 1870, and manufacture all their pumps in San Francisco, Made of the large producing mines of the United States and Europe are supplied with pumps from this house. The Ybarra mine in Lower California, is equipped with their pumps; the same with the great Santa Juliana mine, at Zacatecas; the Ocampo, Mexico, the Lee mine, in Placer County, California, uses their pumps; and the Lava Bed Gravel mine, in Calaveras County, California, is using one of the most powerful pumps as well as pumps.

The firm has a well established reputation for honesty, and when they send out a piece of machinery it is always found as represented. Their trade extends over the continent, and into foreign countries. Still continuing west from the display of C. H. Evans & Co., one of the most interesting features is a mill man of a quartz mill is met with in the space allotted to

W. P. PENNINGTON & SONS.

The most amazing thing that can happen at a mining camp is something in good running order, and, after starting up, have a shoe break off at the Shank, as many cheap shoes do, the Pennington Brothers have worked hard until they have done the work without battering up or clipping off, they also guarantee the shoe not to break off at the Shank. Their shoes and dies are put in the desired shape under a large steam hammer, after which they are put through certain processes, which they control, which hardens them and closes in the grain, rendering them compact and very dense. The great advantage of good shoes and dies is particularly felt in districts where the transportation is high, as it costs no more to carry a shoe and die that will last one hundred and twenty days than it would to buy a shoe that will wear out in half that time. The shoes and dies of Geo. W. Pennington & Sons have found favor wherever used, and new orders have resulted whenever goods have been sold. Meeker, Pollard & McTigue, of Silver City, Nevada, are using their shoes, also the Texas mine, in Nuestra County, California. They are at present filling several orders for crushing stones and milling mines on the mother lode. Their trade is steadily growing, and they now have their shoes and dies in use from Oregon to Mexico. Their shoes and dies are made of best refined steel tool, drill and chisel steel, hammer, pick, machinery steel and iron and steel forgings of all descriptions. In front of this exhibit is that of

GEORGE CUMMING & CO.,

Manufacturers of portable forges. This firm was established in San Francisco fourteen years ago, they also have a factory in Chicago. Their display at the fair is composed of all that is necessary for portable forges which are used extensively through the mining districts. The forges are especially adapted for prospecting, as they are light, and can easily be transported on the back of a burro. The firm has exclusive rights for drill drills, as he has little opportunity to sharpen them, but this forge allows him to always have them sharp. George Cumming & Co. also manufacture hydraulic machinery and blowers. Their goods are well established all over the coast.

FULDA BROTHERS

Are in a west extension of the machinery building, and have one of their large wooden tanks, with patent bail and hose, fitted together with zinc extractor boxes for the cyanide process on exhibition. Since 1855, this firm has been engaged in building tanks, and are deserving great credit for the work. The South End mine and the Standard mine, both of Bodie, California, use the goods of Fulda Brothers, also the Uinta mine, at Angels, California, which is probably the most important mine in the world. In Arizona the Detroit Copper Co. at Morenci uses their tanks also. With the development of the cyanide process in the last few years the trade for cyanide tanks has naturally increased very greatly, and this enterprise firm have kept pace with the demand and have both their water and cyanide tanks in every mining camp where there is any demand for them.

T. S. VAN WINKLE & CO.

This firm, which is one of the oldest established iron houses west of the Rocky Mountains, having been established in 1849, have a large space in the machinery annex occupied by their Kinkaid mill, Daniel Best crude oil engine and Springer Concentrator. This company, realizing the demand that would be created for mining machinery with the great development of the mining industry in the southwest, have added a mining machinery department to their extensive business, and intend to depart from their usual custom of making machinery that is only within the reach of the capitalist or miner of larger means, and will devote themselves to turning out engines, mills and concentrators for the prospector, who, as a rule, has a lode on which he can make good pay if he can devote his own time to the milling instead of paying five dollars per ton to have it milled at the custom mill. The desert mining regions offer great inducements to miners when they know that they can at a nominal expense extract their own gold, and it is the opinion of T. S. Van Winkle & Co. to cater to this class of trade.

The parent plant of the Kinkaid mill is working in Virginia City, Nevada, crushing waste rock from the Consolidated California and Virginia mines, with which the bonanza kings Mackey, Fair, Flood and O'Brien made their fortunes. The waste rock which the four Kinkaid mills are running was considered by the operators to be of the regular milling process. The four mills are crushing forty tons of rock daily, using only eight horse power. The Springer concentrator is constructed by Messrs. E. H. & C. W. Baitz in Oak Park, California, and is working at the Eagle mine in Alaska. At the Cedar Valley gold and silver mines at Yucca, Arizona; at Marchant & Sexton's mine, Redding,Cal., and many other places through the mining territory. The Daniel Best crude oil engine has long been a favorite in the mines on account of the positive power which is essential in the engine lifting a hoist. Over sixty hundred of these engines have been sold on the Pacific slope, Mexico, Japan, China, Australia, Central America and Alaska, and it is recognized as the most economical power ever produced. The machinery furnished by the firm to their mining machinery department is a light and very portable prospector's five-stamp mill, which can be transported anywhere. The mill will be brought into the exhibit the balance of $400, and enables the prospector to develop his mine and realize daily sufficient for all expenses instead of waiting a month for his return when he ships to distant points.

Starting in the machinery building again and going east to

PACIFIC AMALGAMATOR CO.

Occupies the first space on the left. This company are giving great credit for their exhibit, which is the only one in the mining and machinery department from out of the city. The office, saleroom and factory of the company are in San Francisco, which is almost at the southern end of the exhibit, and the credit and amalgamators in full operation at the fair.

In presenting this machinery to the public, they confidently invite the most careful and thorough investigation by mine owners and amalgamators, of the scientific principles embodied therein. In order to save fine gold it must be brought into contact with the amalgamating material. Therefore, thorough agitation of the pulp, and a large exposure of fresh, clean amalgamating surface is necessary to accomplish the best results.

With their standard machine cylinder 12x46 inches, at 15 revolutions per minute, 360 square feet of bright, clean amalgamating surface is exposed to contact of the pulp every minute, the pulp being fed directly upon the plate as it emerges from the water, washed clean and bright thereby.

The machine is arranged below the battery tanks, the paddles are arranged, and especially designed for the purpose of saving that class of gold which has heretofore been deemed practically impossible to save. When the amalgamating material is deposited on the apron plates are dispensed with, and it is unnecessary to provide sluices or shaking tables.

Coarse free gold can be saved without difficulty, but fine flour or flake gold must be scientifically handled or it passes off in slimes or floats away with the water, thus rendering many mines, rich in fine gold, unprofitable to work.

In presenting the Pacific Amalgamator to mine owners, they confidently assert that for saving fine gold it has no equal.

By an improved arrangement, the pulp passes over the amalgamating plates and out of the machine, which is so arranged that not a particle of free gold, however fine or flaky, can escape amalgamation.

This continuous amalgamating cylinder, which is so arranged that it has no moving parts, is so arranged that the wages can be quickly removed and the amalgamated surface of the cylinder left smooth and unobstructed.

The Pacific Amalgamator is the result of careful and practical experiments, extending over a series of years.
Various theories have been explored and abandoned, and many different constructions devised, and the Pacific Amalgamator embraces all the features which have stood the test of practical working, and none of those which failed in the slightest particular.

By a simple yet ingenious arrangement, the Pacific Amalgamator is converted into a plate amalgamator. The gravel passes to the under screens, which are just beneath the cross-pipes.

Water is discharged through the cross-pipes, which swing to and fro and wash the fine material through the screen, and to the amalgamator, which is arranged out of sight below the screen. The gravel passes down to the steel riffles, which are in plain view at the front of the machine, and the water and fine material, after passing through the amalgamator, discharges upon the riffles and washes the coarse material down and out of the riffles.

In presenting this machine to notice, they wish to call attention to the following advantages which it possesses over any device of the kind in the market at present.

It can be readily taken apart and transported by pack train, or otherwise, and can be set up by any ordinary mechanic.

It is especially adapted to work any class of placer ground, since the machine does its own screening, and treats each separate class of material according to its requirements.

Porous and coarse material do not pass through the amalgamator to the true amalgam off the plates, but pass, instead, over steel riffles, which will last for years and will catch every particle of coarse gold.

Fine material all passes through the amalgamator. All material is thoroughly scoured before passing to the gold-saving appliances, thus adapting the machine for cement gravel or tailings.

Gravel is thoroughly washed while passing over the screens, the fine material and water passing through the screens to the amalgamator, leaving the gravel and other coarse material, comparatively dry, passes down to the steel riffles where it is again washed by the water discharged from the amalgamator. The screen is so designed that no other machine of like capacity can be successfully operated with so small a supply of water.

Durability: The machine is almost wholly metal and though light, is strongly constructed.

Clean-ups can be quickly and conveniently made.

Shifting jets from rockng spray pipes insure the washing of gravel with small expenditure of water.

Balanced shaking screens. Amalgamating plates and riffle board, adjustable as to pitch. Amalgamator.

Simple, light running, convenient, portable, economical, as to water, thorough amalgamation.

They guarantee their machines to save 95 per cent of all free gold contained in the material run through, it matters not how fine the gold may be.

THE PROSPECTIVE MINING AND MACHINERY MANUFACTURERS OF AMERICA.

Are in front of the Pacific Amalgamator Co., and have one of their Tremain steam stamp mills on exhibition. This company started in the business of manufacturing mining machinery in 1884, and have had a good sale for their steam stamp, which is their specialty. The proprietors stating that they have had to work the cam mill by direct action of the steam, and that they have not proved a success. In the Tremain stamp the work is accomplished by the exhaust steam, they use two stamps, each of which is 138 inches, and each stamps on 30 pounds of the blacksmith's steel and it has been found, by an ingenious device the steam which has already been used to lift a stamp, is now conveyed to the top side of the piston, which has a much larger area than the under side, and a blow is struck by the weight of the stamp, urged by the steam pressure of 1,000 pounds under ordinary boiler pressure. The height of the Tremain stamp mill is 7 feet 6½ inches, 182 inches, its screens consist of one 14 x 18 and two 14 x 27; the weight of the mill with feeder is about 2,700 pounds. The complete plant for operating the steam stamp on free gravel consists of: one complete steel stamp, copper tables and retorts. The steam power required is about four horse power.

The mill is very thoroughly distributed among the county, and in Spalding county, Wyoming, six mines are equipped with them. They are running in George-town, British Guiana, and several are at work near Joliet, Illinois, South Africa, in Canada, Alaska and Mexico, also in Central America. In California they are in operation in Clarkeville, El Dorado county, and at San Andres, Cal. In Wells, Kern county, Cal., a mill has just been erected for custom work. One is now being shipped to Central America. The company have many testimonials from users, all of whom express their satisfaction with the plant. The space on the side of the Tremain stamp mill is utilized by the Golden State and Miners' Iron Works, who have a hardening gas engine working there. Two new plants have been established in San Francisco since 1894. They make a specialty of mining machinery and the harding gas engine, and are thoroughly equipped for both the mining and pumping, transporting, crushing and amalgamating machinery. They equipped the Bunker Hill mine in Amador county, Cal., with a 20-stamp mill; the Esperanza mine, Calaveras county, Cal., with a 30-stamp mill. They furnished the Waihao Gold Mining Co. of New Zealand with their 60-stamp mill. In Amador county, Cal., they erected the hoisting works for 1,000 feet in depth on the Gover Mining Co.'s property. They also furnished the 20-stamp mill for the same mine. They are now building a large dredging plant for Japan to be placed at the channel of the harbor of Nagasaki. They are at the present time also putting in a tandem compound slide valve Corliss engine of 400 horse power for the Mutual Electric Light Co. of San Francisco. Their trade extends all over the western mining country and up and down the coast and from Australia to British Columbia.

Of the enterprising machinery houses in San Francisco, the

KROGH MANUFACTURING CO.

Must be considered among the first. They are between the Tremain Steam Stamp and Golden State & Miners' Iron Works on one side and the Hewson Multiple Expansion Steam Turbine on the other. Their display consists of one large engine, deep well centrifugal pump, wine pump, ore buckets and little giant rock breaker and pulverizer, for screening machinery, two gold stamping mills, deep-well pumps, cornish pumps, triple acting pumps, special mining pumps, hoists, link chain elevators and conveyors. They make a specialty of mining utensils and hoisting machinery, and intend in the near future to embark largely in the manufacturing of all kinds of mining and milling machinery. The hoisting machinery is from 1876. They are now making special arrangements to handle the Mexican trade that is coming to San Francisco. One of the proprietors is familiar with the Spanish language, and they are starting to build up a business that can extend to Patagonia on the south. They have had a long and practical experience in building machinery, and have given the most perfect satisfaction wherever they have placed their goods. They furnished the Congress Gold mine, at Congress, Arizona, with their pump for the cyanide process. The Town of Mining, at mining, Inyo County, using their pumps, also, they recently furnished a large reclamation pumping plant for the Sutter Island reclamation district. This was the most efficient and economical plant that ever was erected there. Their trade now reaches all over the west and southwest and is growing very satisfactorily.

THE HEWSON MULTIPLE EXPANSION STEAM TURBINE.

When the water turbine was brought into general use, it was considered to be the most economical application of power possible to find. People have built and now find that steam can be furnished cheaper than water in many places. This steam turbine is the invention of Robert Hewson, of San Francisco, and is the result of the experiments carried on by him for the last ten years. Turbines were built from 16 to 7 diameter, and tested for difference of power and speed. This is the kind of turbine that a diameter of 60 was the greatest which could be used and insure a good casting. The principle of the Hewson steam turbine may be briefly stated as follows. To apply a certain pressure or grade of steam, the expansive force may be utilized to rotate a disc, the peripheral velocity of the rotating disc to be 55 per cent of the velocity of the gas. This velocity is necessary only when the expansion and consequently the velocity, of the impelling fluid is comparatively rapid. The impingement and expansion of the gas must, like the motion of the disc, be continuous and regular. To utilize the expansive force of steam was found to be the main problem. The power of the turbine does not depend on the diameter of the jet, but the pressure and the volume of steam applied to it. A theoretically perfect steam turbine is one designed to gradually expand the steam, to arrest it elastically at all stages of the expansion of the steam turbine may be stated as follows: Total absence of vibration; no concrete foundation necessary; no oil can pass to boilers, as there is no internal lubrication; wear and tear are reduced to a minimum when occupied; the great reduction in weight; small cost of production; is not affected by the presence of any water which may be carried over with the steam; temperature of steam through which the steam is worked; the ability to use highly superheated steam. This steam turbine furnishes a cheap and simple motive power for hoisting works, and
all power to be applied to mining and milling. It can be adapted to any ordinary standard type of dynamics, and will give perfect satisfaction, being very sensitive, and the speed much more uniform than ever before attained in the ordinary engine. There is a very small piece of machinery between the Lowson Turbine and Union Iron Works exhibit, which is not noticed by many, partially because it is in an obscure corner and because it is so small, it is.

**THE VANDUZEN STEAM JET PUMP.**

The E. W. Vanduzen Company, of Cincinnati, Ohio, who manufacture the pump, were shown full working. The Vanduzen steam jet pump can be found in every state in the Union, and in all parts of the world. They are very simple and require no experience to operate—when you turn the steam on, it works; when you turn the steam off, it stops. It is the cheapest pump in the world, as they are sold as low as $7.00, and this small device will elevate 200 gallons per hour. For a poor prospector, or a poor man who has not the means to buy or get ordnance, and is always ready for use and need no mechanical skill to handle them. M", "San Francisco, California, is the general agent for the Pacific Coast, and will cheerfully answer any inquiries addressed to him, and will give all the information about the pump. One of the most complete miners' exhibits in the fair is made by the

**UNION IRON WORKS.**

They have a 2-stamp prospecting mill pounding away all day on ore. The mill is complete, and has a separation plating, and a separator, to concentrate the sulphurics. The stamps on the mill weigh 250 pounds each, and are complete and can be carried anywhere. It is especially adapted for prospectors who only desire to lay out a small sum for a mill. The Union Iron Works grew up in San Francisco with the first discovery of gold, and has been growing ever since. They have a large number of patents and have competed successfully against the big ships. The building of the building of the national ships for the United States navy was built, then they surpassed the speed she was built to attain, and the workmanship was satisfactory in every way. They have several exhibits at the fair, the largest being the one of the miner's server, being their ships and works at Potrero, in miniature, covering a space thirty feet square in the northeast end of the building. They also have miniatures under glass of the different vessels they have built; and at the west side of the machinery building, they have a magnificent display of electrical machinery, of the Siemens system. As builders of mining machinery, they have been very successful as in boat building, and their plants extend from one side of the continent to the other. They have plants in United States, California, and Virginia, Nevada. It was 80 stamps, with a capacity of 548 tons to the stamp in 24 hours. The two shops at the Atascadero mine, at Anaconda, Montana, were built by the Union. They also built the 100-stamp mill, of the Compania Huanaccha de Bolivia, and the mills of the Mines Protestants in Sonora, Mexico, were built by them, as well as some of the largest on the Mother Lode in California. They furnished a short time ago, for La Fortuna mine, north of Yuma, Arizona, which was bought as a prospect for $425,000. They have every facility for turning out any kind of work in the best possible shape. If any miner were asked which is the best-known mill, outside of the stamp, and which is the best mill, the small mills will be able to be distinguished from each other by the light weight of the materials, which makes it possible to combine every possible movement that could be given for the concentration of ores. She has been constantly patronized through the mining camps and we find his concentrator in use everywhere. He manufactures his machines in San Francisco, and has his office at 141 First Street. In Sydney, he has the Rand Drill and Rafter Rock. Many of them have been sold to Mexico. In the United States they are in use in California, Colorado, Oregon, Arizona, Idaho, Nevada, Washington, and other places. The Woodburry is also made in Denver, Colorado, the well-known firm of Hendrie & Boltz doing the manufacturing for Mr. Woodbury. The mining companies that have the mining machinery exhibited at the mining building and next to the Woodbury concentrate the

**JOSEPH MANUFACTURING CO.**

Have some unique displays, among others, a rack magnetic machine and small rack machine, which turn around the shows in the mining building. They have the only profit-making hay. The works of this company are at Emery Station, Alameda county, Cal. They have been in business since 1882 and are prepared to fill any order they receive for anything. They employ 100 men in their rolling mills, foundry, machine shops and bridge and nail factory. They manufacture an iron mining car which is becoming very popular in the mines. They also manufacture rails and other supplies for the mines and have shipped their mining goods to Mexico and all along the coast. We now come to a display which was very successful and awarded prizes, not on account of it being so extensive, although the space occupied was as large as any other exhibit at the fair, but on account of the perfect arrangement and taste exhibited in the placing of the different articles, which can be seen from any side and walked around.

**THE RISDON IRON WORKS.**

Occupy the entire eastern end of the Machinery building and have their massive displays well arranged, the Heine water tube boiler is all set up ready to run and occupies the entire depth of the space running from the main entrance on the right to the end of the building, two large engine houses and engine and look as though threatening to flood the house. The other exhibit area a Johnston Concentrator, hammer and steel shoes and dies, Bryan roller quartz mill 5 foot and batteries for mills, together with mining plates, manufactured by the San Francisco Plating Works. The Risdon is among the largest machinery houses in the United States, and it is true there was something in California. Their immense works, which occupy an entire block are in the city of San Francisco. They have built extensive plants in this country, and others in the mining provinces of riveted steel pipe in the world, having a capacity of 2 miles of 40 inch pipe per week, they built the largest hydraulic pump ever com-
structed, for the Chollar, Norcross and Savage companies, of Virginia City, Nevada, it has a capacity of 3500 gallons per minute from a depth of 4000 feet, they also built the Alaska Treadwell’s ore line in Alaska in 240 stamps; this mill last year crushed 53,670 tons of rock at a cost of 34 cents per ton. They are now putting up hoisting works on the Chollar and Norcross, and in Montana, the hoisting works have 3000 horse power, they have placed 60 stamps in Angels Camp, Cal., they built the Pacific and Plymouth mills, at Plymouth, Cal., 40 stamps each, also 80 stamps at Idaho and 40 stamps at each at Grass Valley, Cal. This company also makes a specialty of equipping hydraulic mines. They built the famous Evans hydraulic elevator at the Golden Feather river at Oroville, Butte Co., Cal. They put in a Heine boiler of 4000 horse power for the Edison Light and Power Co. of San Francisco, some time ago. They own all over the world and they keep pace with all modern improvements. This is the last display in the Machinery building proper.

Wowers Rubber Company

Being in the main building, west across from Jos. Hurd’s and Washburn and Moen’s exhibits. This assortment of rubber goods is very much noticed on account of the large space it occupies and the variety of the articles displayed. The most interesting piece in the display is the crude rubber mill which is in steady operation with an attendant to feed it, at one side of the machine is piled a lot of crude rubber and beside that a heap of pure rubber, washed, ready for making into goods; some very fine samples of hydraulic hose in two sizes, one 11 and the other 17 inches in diameter are shown, three concentrator belts, rolls of rubber belts and a machine making rubber belting; at the time we visited it there was a four-ply belt being made. The belts are afterwards vulcanized and stretched at their factory in a hydraulic press which weighs seventy tons. The Bowers Rubber Co. was established in 1888. Their works are in the city of San Francisco, where they employ a large number of men. In the mining line are concentrator belts, packing, belting and hose. The Alaska Treadwell mine in Alaska has their goods in use, also the Uteca mine at Angels, Cal., and also the Kennecott in all prominent California mines use their rubber; their shipments extend to Mexico, Australia and British Columbia, and their house brings a great deal of trade to San Francisco, they also do a very large business in supplying the jobbers in San Francisco who transact business with the miners. This exhibit finishes all that are connected with mining with the exception of two which are at a distance from those already described. On the left hand side of the west door leading from the main exhibit hall to the Machinery building the Paraffine Paint Company

Have arranged a display in a practical and business like way. They have their ready roofing, paint, manila paper and oil, all arranged so they can be easily inspected by the public. This Company is the best known in their line on the Coast, both on account of their liberality in advertising and on account of the quality of their oils. In the roofing, which is their specialty. We have seen quartz mills covered with this roofing which has stood vicissitudes of temperature ranging from 120 degrees above zero to 20 degrees below zero in the winter. The establishment of the firm dates back over ten years. Their works are at Golden Gate, Alameda Co., Cal. They have furnished roofing for many of the best known mining companies on this continent; among the copper mines are the Detroit Copper Co. of Wisconsin, the Tchimpeta Co. of Clifton and the great United Verde of Jerome, all in Arizona, also the Anaconda at Anaconda, and the Boston and Montana both in Montana. The Montana Mining District of Norcross, Sonora, Mexico, the Anglo-Mexican Mining Co., Sinaloa, Mexico, the Crescent Colorado, Mexico, the Uteca Mine, Angels, Cal., the Kennedy Mine, Cal., and the Intelligent Silver Mine will all use their materials. They have also furnished the British Columbia Smelting and Refining Co. of Trail, British Columbia, the Alaska Treadwell Mine, Alaska, also mines in Australia, New Zealand and Central America. Nearly all of the Cyanide plants through the mining regions are roofed with their goods.

In their branch booth at Amagansett is managed by Mr. E. G. Judah, who is considered one of the brightest young business men in Southern California. He travels through the mining country himself and is thoroughly familiar with the needs of the miners; this fact gives him many advantages in obtaining orders and he is building up a large business for his Company in the South-West. We now come to a large display of instruments, by no means the least in importance to the miners, and in fact mining in some instances would be almost impossible without the class of instruments manufactured by J. C. BALA,

Whose exhibit is in front of the stand and almost in the centre of the main building, a large glass case is placed at a convenient height in which he has different kinds of technical and scientific instruments, one of the most interesting to an engineer being the mountain and mining transit which should be in the office of every mining company, the knowledge of the use of the transit often saves hundreds of dollars as the miner knows exactly where he is at all times with the instrument to hand. Besides all kinds of instruments for mining they also manufacture thermometers and standard rain gauges and are prepared to make any scientific instrument which requires accuracy for mining purposes. The house was established in New York in 1834 but came to San Francisco six years after the discovery of gold. Their trade extends all over the world and the demand at home is likely to increase on account of the number of mining engineers who graduate every year from Berkeley and Palo Alto and require instruments for their professions.

In putting up the exhibits one cannot but realize the delicate position of the judges as all the exhibits have striven to excel in their different lines. Pairs of this kind can not go unnoticed, as they do the manufacturer and consumer into closer relationship and we sincerely hope next year will find us with the California manufacturers at the fair again and that the same intelligence, energy and enterprise that has characterized and made a success of the present one will be repeated in 1897. San Francisco is the gate-way to the rich country on the face of the globe and California, combined with all its natural advantages, has the most progressive manufacturers who work together as a unit for the advancement of the fair country in which they live.

In conclusion we wish to thank the different exhibitors for their universal courtesy in providing information without which a description such as we have attempted could never have been accomplished.

Miscellaneous Mining News.

ARIZONA

The Arizona Mining company now obtains a large portion of the mining timbers required near Atchison mine at Placerville, Cal. At Iron Springs Siding, a dozen miles south of Prescott, are great piles of hewn and split pine timber and logs, cut for the uses of the Congress mine even better for the purposes than hewn lumber and saving much in freight.

At the Congress mine the shaft is now down 1,800 feet and 350 men are employed underground. In addition to a cyanide plant with a capacity of 100 tons there is a forty-stamp mill which runs night and day and forty more stamps are to be added. About four miles of tunnels, shafts and stopes have been run. Besides the 1,800-foot shaft, two others have been sunk to the depths of 700 and 1000 feet respectively. Cross cutting to the second vein has been commenced. The present output of the mine is $50,000 per month.

A quartz mill of ten stamps is now being erected in Lost Gulch, which is about seven miles north of Globe city, on the group of mines owned of the Kasser Gold Mining company.

The Bonita mine, about six miles north of Globe city and adjoining the Rossalia group, belongs to Mr. M. Innis. Several men are now employed on the Bonita taking out ore and shipping the same to the United Globe smelters. All ores shipped so far have averaged about 20 per cent in copper. The mine is worked by open cuts and has been paying from the grassroots. The outlook is promising.

Jerome Mines.

Work still progresses on claims located a short time ago near Summit station, on the Jerome railroad.

Judge DeKuefu is taking ore from his mines on Cherry creek and will work them at the Wood Morton mill on Cherry creek.

Work is being pushed on the S. Peter-Martin properties. As progress is made in the tunnel a larger dredge and richer ore is being exposed.

Word comes from Cherry creek that the owners of the B. B. mine will commence work on that property. This mine has produced thousands of dollars’ worth of gold.

Dr. Wood and Bert Morton of Jerome have purchased the Watson mill on the Verde river and will do custom work. Mr. Morton, who is in the mill now, runs the business.

Billy Pemberton has started four men at work developing the Cliff mine. This mine is in the neighborhood of the now famous Equator claim. The mining experts in this country have given it as their opinion that the Cliff claim has indications of containing a large body of ore. The force of men will be increased in a few days.

From good authority we have it that some California people have taken a lease and bond on the properties belonging to Messrs. Crandall, Hill and Britton, and that work will soon be started on other claims which are situated near the Copper Matts group, about three miles below Jerome in the Black Hills. The development of these claims means more wealth for Jerome. — Arizona Mining News.
Arizona Sampling Works.

The following ore lots were received at the above works the week commencing September 13 as reported by the Mokave County Miner. Lefever and Flanagan, four lots of ore from the Prince Albert and Norma mines, White Hills. Ross Blakely, concentrates from Cedar valley. T. L. Ayres, one carload of gold ore from the Eureka mine, Cerbat. Samson mine, one carload. A. N. Eaton, two lots from White Hills. C. Galardo, two lots from Prince Albert. Hawley & Bean, one lot from Lorena mine. D. W. Earle & Co., carload from Ivanpah. J. W. Garrett, two lots from Diamond Joe. Prescott Development Company, one carload from the Elkhart.

Mr. Chas. Thompson, of the Columbia Mining company, is in Phoenix. He reports the work of development on the Columbia claims as going forward well. A portion of the new Allen stamp mill has been leased to work the ore and as the work of development progresses more men will be added to the force now employed.

There are eighteen men at work on the Elkhart mine at Chloride near Kingman for the Improvement Company. In the level from the 140 foot station a big body of rich lead has been encountered.

Reports from the Providence Gold Mining company’s mine are very encouraging. Three shifts of men are sinking the main shaft, now down 140 feet, and showing very fine ore. Drifts are being run by two shifts of men. The company has built a saw mill at the head of the Big Bug creek which started up last month. All machinery for the new mill is on the ground except three vanners which arrived in Prescott the fore part of last week. The working force of this company comprises fifty men, the monthly pay roll being $1,500.

St. Peter and Martin are exhibiting some rich looking rock from a new strike in their properties, near Jerome. Development work is being pushed.

The rich strike reported in the Metallic Accident near Kingman last week is improving daily. The find is in the old workings near where the rich body was taken out twenty years ago by the late Thomas J. Christie.

W. A. Smith reports the Clark Mining district to be quiet. G. A. Kirtley, who has stayed by the Camp for years is now running an arista and is doing fairly well.

Jas. P. Lindsey recently made an important discovery on one of his claims uncovering a four foot wide vein in gold and silver. Mr. Lindsey is now taking out ore which will pay to ship.

The Bull Dog mine at Goldfields Pinal Co., is running steadily, as is also the Mammoth, making the camp quite lively at present.

The Crowned King mill has closed down temporarily, on account of an accident to some machinery. Work was commenced Sept. 15, sinking the shaft 100 feet deeper, and during the time this work is in progress, the mill will remain closed until the ore has been removed and replaced with a bucket. It will take one to six weeks to sink the shaft this depth and establish a level at 400 feet.

D. M. Riordan on the 24th of last month bonded the mine on Cherry Creek, Yavapai county, known as the Jesse R mine, belonging to F. A. Bliss and operated by Butler & Murphy, consideration not known, but is understood to be very large.

The Old Dominion Copper Mining and Smelting Company at Globe received one of their 100-ton furnaces the middle of last month and the other has been forwarded from Geronimo. It will require but a short time to install them, as the Company has a force of good mechanics, and the work will be expedited in every way possible. The entire floor of the smelter has been raised fourteen inches. The furnace was accomplished in three days, which illustrates the rapidity with which alterations can be effected. There will be no interruption of smelting while the work of remodeling the plant is in progress. The new furnaces will be kept in blast until one of the new ones is ready to blow in. Work in all other departments is progressing and the Company will soon have its splendid property in first-class shape for a largely increased production of copper. —Silver Bell.

Capt. W. H. Hardy and Dr. L. W. Childs, of Phoenix, arrived in Kingman, Arizona, Sept. 18th. They have been making a tour of northern Arizona mining camps. They have visited Jerome, Prescott, Congress and other camps in Yavapai county and are now on their way to the Chemehevisigold diggings. Capt. Hardy is just recovering from a long and severe illness.

W. W. Clark returned Sept. 18th from the gold diggings of the Chemeheuisis mountains. He tells us that the ground is yet too wet to work with a dry washer but that many of the miners there are making good wages surfacing. Fred Leonard, Maynard Hart and John Roben are operating a dry washer well. The Printer’s galley is exceptionally rich and the typos are liable to make a fortune.

CALIFORNIA.

INYO COUNTY.

The Inyo Gold Mining Co. made a clean-up Sunday, Sept. 13th and obtained very satisfactory results. The ledge in the bottom of the shaft is reported to be looking better than ever.

KEARN COUNTY.

T. A. McLaughlin returned to Arroyo Grande the first part of last week from the desert mines near Mojave, and brought some fine specimens of gold ore, showing the yellow metal sticking to all rocks, like pine heads, also gray carbonate and peacock carbonate from six ounces of which was smelted out three ounces of gold, silver and lead combined. He represents the mines as wonderfully rich, and expects to see 15,000 people in there this winter. Mr. McLaughlin has spent nearly four months at the mines and has made many valuable locations and has returned to have assays made and arrange for the working of some of his mines.

LOS ANGELES COUNTY.

The largest chunk of gold ever taken out of Acton, was gotten out by the Red Rover Company last week: to our best estimate, it weighs about 30 pounds. 16 ounces to the pound, and is worth about $8,000 to $10,000. If you meet Hon. Henry T. Gage in Los Angeles, ask him if he ever seen a larger piece of pure gold; this is Acton gold, taken from the batteries of a small ten-stamp mill, and twenty-day run. He says this can be beaten in Southern California. The thousand mark in the value of the Red Rover mine has passed, and it takes a million or more to talk in buying the Red Rover. —Acton Rooster.

Messrs. C. H. Broderson and Paul Marth, who own some very promising gold mines in the Tejunga, up near Acton have gone to Hamburg and Berlin in Germany, and expect to be back in about six months with sufficient capital to open up these mines. Success to them and a happy journey home.

The old Union mine near Acton is being operated by the Western Mining Company, and the old shaft has been cleaned out to a depth of 95 feet. Some very rich ore has been taken out of this mine, and there is no doubt but what it will provide regular bonanza to its present owners, if they just go down a few hundred feet. Besides the ore, of which there is abundance, there is lots of water in this mine, that can be pumped into a reservoir and used to a good advantage in milling.

C. A. Richley was in Acton from Lancaster week before last looking after his mining interests there.

RIVERSIDE COUNTY.

During the inactivity of the gypsum mill at Corona (formerly South Riverside,) thieves entered the building and purloined every portable article, including the patent lubricator and other property to the engine which is gone worth $50. The large belts have been cut and carried off piecemeal, every available tool has disappeared, and the machinery has been tampered with. The financial loss sustained will amount to more than $100.

The people of Perris are glad to note that notwithstanding the prevailing business depression the neighboring mining property is booming up in a surprising manner.

The Santa Rosa, the present leader of the mines, is sinking in both shafts. In the old shaft they are below the 500-foot level. The mill is running to its full water capacity with the last three “clean ups,” a net profit of over $500 a day. The mill has added to its equipment an electrical apparatus which it is claimed will save all but a small percentage of the gold.

The prospect of Rawson and Bethlehem, the Junbo, a sister to the Santa Rosa, recently had a “clean up” of over $1000. The ore is very rich, and promises to out rival the Santa Rosa.

There is a well-founded rumor that the Golden Chariot and the Santa Fe mines will shortly resume operations.

At present all hands are busily engaged in sinking for more water. Water can be had in any place at a very small depth.

The Santa Rosa magnates have bought up several adjoining prospects and will work them in conjunction with the Santa Rosa.
Capt. Hasson has returned and devotes some time to his claim south of the Santa Rosa.

Los Angeles parties have joined hands with J. B. Dennis and will immediately open up the claims owned by Mr. Dennis.

H. B. Varcoe has returned from England, where he has been in conference with Gavilan stockholders. Mr. Varcoe promises to put all his resources towards the development of the Gavilan property.—San Bernardino Weekly Sun.

SAN BERNARDINO COUNTY.

A. B. Montijo is in San Bernardino from the Morongo district, and brought with him a ball of gold which he had taken out of 2300 pounds of ore from his claim, the Buena Vista, working it with an arrestra. He estimates that he was unable to save more than half of the precious metal and yet from that quantity of ore he has taken about $245 worth.

The mine is as yet but a prospect and the work is only intended as development, but it shows that it could be worked at a profit from the first. W. D. Wagner is associated with Montijo in the purchase of the claim, which is about a mile and a half from the Rose mine near Victor. It is the intention of the owners to take out several tons of ore, and ship it to a smelter and learn by a working test what it is actually worth.

A new gold strike has been made at Calico, and that right in the midst of silver mines, where old miners said no gold ever could be found. Mr. Stevens is the discoverer, and he has located fifteen claims. The ore is low grade, averaging from four to six dollars, but the ledge is over one hundred feet in width and is easy milling. The strike will certainly prove valuable.

E. Hammond of San Bernardino and B. Prosper of Los Angeles have a claim in the Rand district that promises to become a very valuable one. Returns from the last shipment made have been received recently, and from a three and a quarter tons, $250 reduced, this makes a total of almost $2200 that has been taken from the mine during the course of development.

Three shafts and endeavor has been to expose the ledge as much as possible. The richest ore comes from a ledge only 16 inches in width, but the average showing made has been at the rate of $121 a ton. The mine is located exactly on the border line of San Bernardino county.

A Well in the Desert.

An old Riverside prospector, who has spent much time of late on the desert sections of Southern California in search of the precious metals, took occasion Sept. 17th, to make a few remarks concerning the action of the Superintendents in establishing a well to be sunk between Indio and Palm Springs station. This old veteran said a more humane act they could not do, and neither could they expend the same amount of money on any other project that would return as good a profit to the country in the long run. A supply of water was greatly needed at the point named, and miners and all travelers will hail with delight the news that a water station has been provided there.

John Hall who is interested with Messrs. A. S. White and Silas Masters in some valuable mines on the desert beyond Indio and who was in Riverside for a few days last month returned to the mines Sept. 20th, accompanied by Geo. Master.

Mr. Hall has spent most of his time out at the mines for some months past, and he can now be considered a full-fledged frontiersman and miner. He was too busy before he left to spend much time in answering questions, but he did say that the mines in which he is interested are among the most promising on the desert.

NEW MEXICO.

The Graphic mine and smelter at Magdalena and Kelly are working away all the time and the smelter is turning out its usual quantities of bullion.

The Wichita Mining Company, represented by Mr. Majors, located in Grouse gulch, near Elizajetown, expect to have a mill in there soon.

Word reaches Las Vegas that a half-interest in a mine at Cow creek in the Hopewell district has been sold to Kansas City parties for $50,000.

The Perry Brothers are still taking out some very fine ore on the Little Eluemma mine at Kelly.

Rothgeb & Slattery have about completed the building of their smelter at the "Golden Dawn" mine in Water Canyon, Socorro county.

Messrs. Wickham and Mann, San Marcial carpenters, went to Rosedale to work on the new mill. Between twenty and twenty-five men are employed there.

The School of Mines at Socorro, opened September 21. There was a good attendance and the school started in excellent shape for another good year's work.

BLAND NOTES.

Work has been resumed on the Bland tunnel near Bland, on a small scale at present, but it is hoped that before long some extensive work will be done.

Last week a piece of quartz carrying fine gold was picked up on a claim in a canyon near Bland. It is of an entirely different character than any that has been shipped from the camp and is literally alive with the yellow metal.

George Ostrander was in Bland from Pecos during the week and reports that Harry Wood returned from Albuquerque and has resumed work with Joe Esther and A. Kornbluh, equal owners with Wood, on the claim in which they recently made a rich strike of high grade ore, which Mr. Ostrander says is a two foot vein of solid mineral. He also reports that Messrs. Leland and McFarland of Albuquerque have taken an interest in several of his claims on which some very extensive development work will be pushed.

The Bayard Smelting and Milling Company has filed petitions with the territorial secretary. Incorporators, George S. Cartwright, W. D. Murray, of New Mexico; Samuel L. Small, of Philadelphia. Object, mining and reducing ores; capital stock $500,000; life fifty years; directors, same as incorporators; principal place of business, Central City, N. M.

Sept. 18th a small rich streak was encountered by the crew of the Good Hope, near Bland. They have not reached the main lead, the strike mentioned being a spur of the main lead and very rich. There is every evidence that the Good Hope will be one of the ships of the district when the lead which was tapped in the upper tunnel is cut in the lower.

MEXICO.

The Regla Electric Power Transmission Company, of Pachuca, will begin about the first of this month, to send power into that important mining city from waterfalls 27 miles distant. The company expects that it will be able to furnish 1,200 horse-power. Several great reduction works will take this power at an annual charge of $450 per horse-power per 24 continuous hours. Nearly all the machinery and electrical supplies for this equipment are from the United States. An improvement in mining stocks is expected in that locality.

The mines of Pachuca, State of Hidalgo, turn out annually $7,000,000 or $8,000,000 worth of silver.

The Valenciano mine in Guanajuato is said to have yielded, in its time, $800,000 worth of silver.

This Year's Mines.

In the second half of the fiscal year, 1895-96, there were issued 1,044 titles to mines, covering a superficial area of 7,966 hectares, (nearly 2 2/5 acres) says the Financiero. The number is just equal to that of the deeds issued during the whole of the fiscal year, 1894-95, and the area covered is greater than in that year. This is very satisfactory, as it shows that the interest in mining here is on the increase. It is also a proof of greater activity on the part of the mining bureau in the dispatch of business.

The titles issued during the whole of the fiscal year numbered 1,924, covering an area of 15,451 hectares. The following table shows the number of deeds issued and the area covered therewith since the present mining law came into force: Fiscal year 1892-93, 417 titles, covering 2,660 hectares 7,904 square meters. Fiscal year 1893-94, 59 titles, covering 3,992 square meters. Fiscal year 1895-96, 1,924 titles, covering 15,451 hectares 5,161 square meters. Total, 4,454 titles, covering 31,853 hectares 387 square meters.

The Pachuca Mines.

The management of the Maravill mines in Pachuca, state of Hidalgo, has presented to the Secretary of Fomento a plan for the drainage of the inundated mines, which it is hoped will prove effectual. In accordance with this plan, those mines that have pumping machinery of their own will be taxed 5 per cent of the catchput, and those that do not, 10 per cent towards defraying the expenses of the work of drainage. The San Rafael and Real del Monte companies have signified their willingness to accept this arrangement.

The installation of the pump for the Carmen mine continues, and the balance of the pump is expected to arrive very soon. The pump is of English make.

A syndicate has been organized at Tacoma, Washington, for the erection of a 200-ton smelter at Vancouver, B. C., to cost $75,000.
Personal News Items

Malcolm McLeish left Phoenix, Ariz., Sept. 14th, for the Vulture mine. He has force of men at work putting up a stone plant.

Donald Stewart, representative of the Washburn and Moen Manufacturing Company, has returned to the City of Mexico from his trip to Guadalajara and other points.

J. R. Thorne, of the Holcomb Valley Company, in Holcomb Valley, San Bernardino county, near Victor, made the journey to a shaft to visit a hire he had sold years ago in England.

J. A. Phillips left Phoenix, Ariz., Sept. 16th, for Prescott, to inspect his mining claims near that place.

Mr. W. R. Boggs, the mining expert, and Mr. E. H. Essery, the assayer, have returned to the City of Mexico from their trip to Pichuana, State of Hidalgo. The properties of La Larga and Progreso were visited by these well known mining men who were tendered a sumptuous banquet by their friends.

J. B. Dennis of Perris, California, was a visitor at the Journal office from Perris, the 26th ult.

W. F. Hall was in Prescott, Ariz., Sept. 17th, from the McCallum Brothers.

Hon. J. Eves, Lieutenant, Secretary of the Treasury of Mexico, has decided to resign his official duties on Monday, September 21st.

Joseph Ceyber, the well known and popular superintendent of the United Verde copper mines, at Jerome, Arizona had a serious attack of the gripa for a couple of days, but is now free of it.

T. J. Cantrell, vice-president of the Ybarra Gold Mining Company, and J. M. Twigg, one of the directors, arrived in Los Angeles, California, from San Francisco, the 14th of September, going from San Diego by the steamer Almirante, and have gone down to the mines at Calmali.

E. M. Foltz, of the Gladiator mine, near Prescott, Arizona, was in town the 16th of September.

P. L. Griffin returned to Escondido, Lower California, September 16th from Los Angeles, California, and will start back this day. Mr. Griffin, with W. E. Hayward, are re-opening the Roperuma mine at that place.

Geo. R. Swepston, a mining man of Pine Mountain, Michigan, was in Prescott, Arizona, the middle of last month.

Frerek Baxter, of Walters Station, Riverside Co., California, was a caller at the Journal office the fore part of September. Mr. Baxter has been prospecting in the vicinity of the Eagle Mountains.

B. Rhiel, of Los Creces, was in White Oaks, N. M., the middle of last month, in the interest of his mining property in the Jacarillas.

Hon. G. C. A. B. E. B. E. left Prescott, Ariz., Sept. 16th, for the Santa Maria county, about 80 or 90 miles west of Prescott.

W. H. Smith, of Parsons, Kansas, was in White Oaks, N. M., the fore part of last month, looking for gold mines in that section.

Mr. Penrose, one of the owners of the Pearce mine, was in Pearce, Cochise County, Arizona, a few days, the middle part of last month.

E. Ross Brown, of San Miguel, N. M., is in White Oaks, N. M., inspecting some gold mines for eastern capitalists.

Jack Nelson, of the Crowned King mine, near Prescott, Arizona, was in Prescott, Sept. 16th.

W. A. Smith, of the Clark mining district, was a visitor at Solomono, Arizona, Sept. 15th.

Matt Doyle, an old-time miner of Silver City, was at that place, Saturday, Sept. 12th, from Pyramid, N. M.

Hon. Jos. B. Scott, of Tucson, the well known mining and ex-sheriff, returned from Phoenix, Arizona, from the Williams convention.

D. V. Coleman, the mill and mine operator, returned to Silver City, from Phoenix.

Two sons of J. B. Davis, recent arrivals in Kingman, Arizona, from Kansas, are assisting the old man in his work near Kingman, and will head the mining propositions. They are taking out about four dollars per day.

Col. Hugh McDonal, a prominent mining man of California, was in Los Angeles, Sept. 16th, as a guest of Mr. W. H. Lillevall.

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Mr. Heiser, a miner out in the Hells Canyon district, New Mexico, who was sojourning at Jensen Hot Springs the past few weeks, returned to Alamosa.

Mr. Goodfellow, a well known prospector and expert miner, who is engaged in prospecting for paying quartz out in the desert, was in Riverside, Cal., Sept. 10th.

Mr. A. Sweaney, of Raton, New Mexico, has gone to that place, N. M., to finish assessment work on his mining prospects.

H. N. Stockton started out from Bakersfield, Cal., Sept. 11th for the fore part of the season.

W. C. Rust, of Raton, returned to Hopewell, New Mexico, the first of the week, to continue development work on his own property.

G. F. Weeks left Bakersfield, Sept. 16th, for the desert mines in search of a fortune. We hope he успех.

F. Frank, who has been at Peralta canyon, near Bland, New Mexico, for the past ten days, looking after his mining interests, returned to Alburquerque, N. M., September 10th.

D. Brown left for the desert mines in the middle of September, with the intention of getting rich.

Arthur Nichol was in Lordsburg, N. M., the first of last week, returning from Silver City, N. M., to Arizona. Mr. Nichol and J. D. Smith are mining at Apache Pass, where they are opening up a fine gold prospect.

Mr. Briggs, of Perris, Cal., who lives at present at the Leon mine, near Winchester, Cal., is expected to return at the present time. Most all of his children have been summoned to his bedside. He has been a consumer for some years.

He returned to Lincoln, N. M., from the Organ mountains, the 15th of September, where he has been developing some mines which he is interested in.

Henry T. Cage, of Los Angeles, Cal., was in Acton, Cal., last month, looking after his interest at the Red Rock, and reports the mine is looking better every day.

W. W. Thomas was in Escalante, from Los Angeles, again last week, looking after the development of the old Escalante gold mines.

Chas Court, who has lived at Alvarado, Hico county, for the last three years, has left that section for Midus, (formerly Lones) Nye county, Nevada, where he will engage in mining.

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