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# Los Angeles Mining Review

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Vol. 30, No. 1

LOS ANGELES, CALIFORNIA, MARCH 25, 1911

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## CONTENTS

### Gold Mining on the Hassayampa



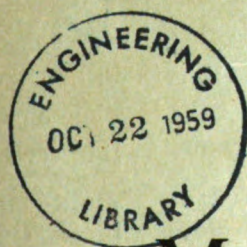
### Oil Fields of Tampico Mexico.—A Special Report



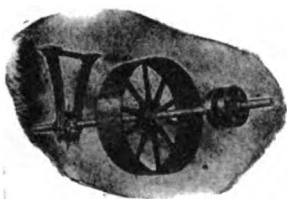
### Mining News



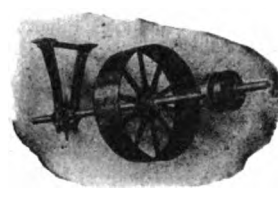
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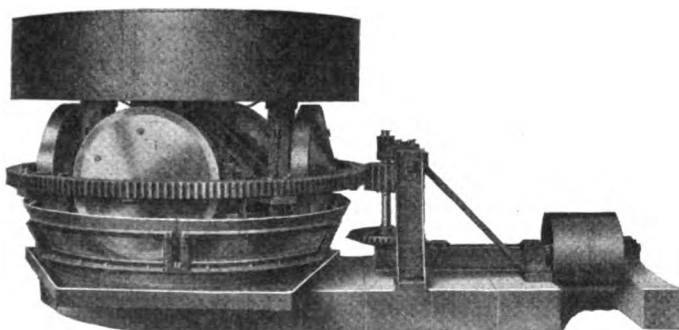
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SANTA BARBARA, CAL., Dec. 24, 1910

*To our Eastern and European Correspondents:*

In addition to our lands at Miramar, Riverside, Redlands, Lompoc, and at Ensenada and Magdalena Bay, Lower California, we have secured

**"Rancho Del Paso"—44,000 Acres**

formerly the Stud Farm of Col. James B. Haggin, and lately purchased by the

**Sacramento Valley Colonization Company**

O. A. Robertson, Prest., G. D. Eygabroa, Treas., James H. Burnham, General Mgr.,  
 John E. Burchard, Vice-Prest., Joseph C. Wood, Secretary.

Headquarters: Ochsner Building, Sacramento, Cal.; and we intend to make it equal to, if not of greater value to the State of California, than any of our well-known California Colonies. Being in the heart of the fertile Sacramento Valley and adjoining Sacramento City, is considered a valuable asset to said city.

It has advantages never known to any other Colony in the United States—and you will see the truth of this statement, when we show that it has two of the greatest Overland railroads running through it from Sacramento, viz., The Western Pacific Railroad and The Southern Pacific Railroad. It also has The Northern Electric Railway from Sacramento to Marysville, Oroville, Chico and soon to be extended to Red Bluff.

An important problem throughout the west is "Water," and invariably the question is asked by land buyers, "Where is the water?" and, "How deep must we go for water?" The Rancho del Paso, lying as it does at the confluence of the American and Sacramento Rivers, has a perpetual water supply absolutely assured. From the snow-capped Sierra Nevada mountains there is a continuous seepage of water which can be tapped at depths of from twenty-five to seventy-five feet. It is good, clean, pure water and there is enough of it for all domestic and irrigating purposes. The certainty of always finding water is best illustrated by the fact that hitherto when sinking a well it was the custom to put up the windmill for power first and then sink the well at its side.

Far superior is the modern method, for most of the pumping is done by electricity furnished by two great electric power lines which cross the Rancho, viz.: The Bay Counties Power Co. and the Great Western Power Company. The charge for power from either of these companies is very low.

**At the Door of Sacramento**

Great emphasis should be placed on this point, that altogether different from most tracts offered for small farms, this land is not far away from civilization. It is right at the door of Sacramento, the most thriving inland city on the Pacific Coast. A ten minute ride from the city brings you to the border line of the Rancho del Paso. The City of Sacramento has purchased 732 acres in the center of the tract for a Park, and it will be one of the most beautiful on the Pacific Coast.

The Sierra and Sacramento Railroad lines now in course of construction, will pass directly through the Rancho. When the contemplated extensions of other electric lines are completed, there will be no portion of the entire 44,000 acres of the Rancho del Paso more than three miles from a steam or electric road. It is safe to say that there is not another ranch of its size so near to a large city having so many different transportation systems, making every quarter so easy of access to the Sacramento and San Francisco markets.

After considering the availability of the land of this Rancho del Paso, its closeness to market and to transportation lines, considering that not one acre of it will be farther than three miles from a railroad or an electric road, considering that the Sacramento River—the largest in the state—flows through the heart of the city of Sacramento and connects with tide water at San Francisco, considering the sure and ample water supply, the rich, fertile soil, the conclusion is plain, there is not a section of land anywhere in the West that can compare with the Rancho del Paso for value at the price we have placed on it.

There will be, in a very few years, no good land obtainable at such figures as we are now selling the Rancho del Paso tract. The history of the entire country all goes to prove that land is the best and safest investment, as well as the surest way of achieving independence. A small farm in the Rancho del Paso will not only make your living for you, but will increase in value all the time. While we are selling many ten-acre tracts, we offer special inducements to the purchasers of 100 acres or more.

We are offering tracts in the Rancho del Paso at prices ranging from \$150 to \$300 per acre, on such liberal terms that it is possible for every man to make his land pay for itself with the returns from his crops.

We will forward you maps and booklets in regard to the tract.

No stock for sale in our Company.—R. A. Carmody, Secretary.

For further information address:

**W. H. MARTIN, Land Commissioner, 104 Chapala Street, SANTA BARBARA**

Thomas W. Moore, Sales Agent, 1201 State Street, Santa Barbara.

Byington-Renton Company, Agents, 211 Balboa Bldg., San Francisco, Cal.

A. F. Page, care of Laymance Real Estate Company, Agents, 1214 Broadway, Oakland, Cal.

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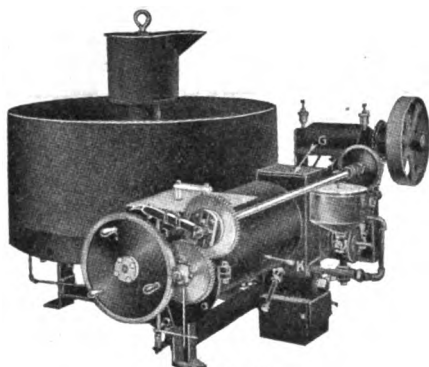
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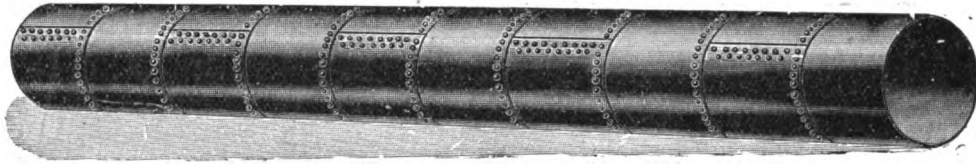
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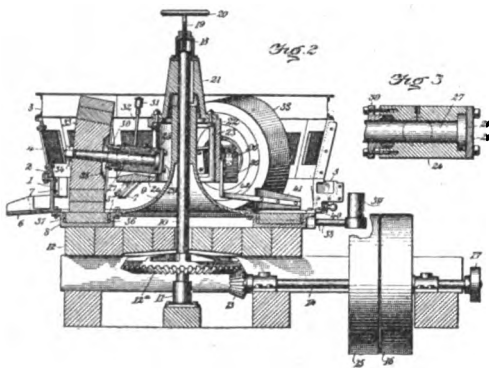
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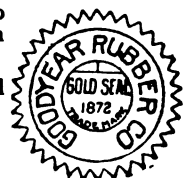
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Vol. 30, No. 2.

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Los Angeles, Cal., April 1, 1911.

## EDITORIAL

### ONLY PLAIN MINERS.

Nearly two years ago, a couple of miners who were working near Solomon, Alaska, were going up the river to work on their claims. In making the trip, they had to cross the Solomon which empties into the Behring Sea and, as the ice had begun to break up, there were numerous blow-holes or rotten spots. Trotting along with them was a favorite dog which ventured close to one of the holes, and broke through the ice. One of the men, Geo. Greenwood, attempted to save the dog and fell through himself. Harry MacLeish, his chum and companion, ran to his assistance and managed to get hold of his hand, but the ice kept crumbling under Greenwood until finally MacLeish himself was in. Oliver Flower, who had seen the accident, ran to the rescue but, as he was wearing rubber boots, he slipped on the ice and fell, and at this point was overtaken by a couple of big Swedes who finally held him down, for both Greenwood and Mac-

Leish had disappeared under the ice, and it hardly seemed reasonable to allow Flower to sacrifice his life in a perfectly useless effort.

The following July some Eskimos reported that there were dead bodies lying on the shore near the mouth of the Solomon River. After three months, and following a great storm, the Behring Sea had returned their bodies to the point from which they started. Just plain miners, God bless them.

\* \* \*

### MINING CAPITAL.

Before endeavoring to locate the place or places where capital may be secured most readily for mining enterprises, let us consider our own local condition and attitude toward investments of various kinds. Comparatively few of us are eligible to membership in the society of Native Sons and he who is not eligible very probably came here from some point east of the Rockies.

In most instances it was because of climatic conditions and he had been thinking the matter over for some time. He procured all the reading matter possible on the subject of California, going to the railroad offices for booklets, sending out here to the coast to various boards of trade for printed matter and even buying a few books on the subject.

All these sources of information mentioned wheat, barley, stock and poultry in a casual way but what beautiful pictures there were of orange orchards and great clusters of tokay grapes! And he was warned not to count on making more than \$200 an acre per annum although numerous instances could be given where men had made from \$500 to \$1,000 per acre net.

Most of the literature did not even mention mining unless to refer to the "good old days of '49," a good deal as we speak of the war of 1776, as something heroic but past. Practically every man coming out mentally determined that he did not want anything as tame and common as hogs and hay. Let the people raise such stuff who were unable to do any better. As for him he would raise oranges and by sending a few boxes to chosen and frozen friends "back home," would consume them one and all with envy. And he would have pictures taken of his grove with himself in the foreground, bareheaded and in his shirt sleeves, along about January 15th and send them to his acquaintances and

friends who were not quite entitled to a box of the fruit. Away down in his soul he meant to "slay and spare not," and then gloat over his victims when their writhings should be made manifest in letters.

And he really resented the idea that he should be asked to consider himself in the \$200 an acre class when the \$500 and \$1,000 classes were still open. Then he smiled inwardly and laid plans to discomfit the man or men who wrote the booklets.

He had not been here more than a few hours until he received the impression that he ought to hurry up and get his orchard before the "best in the country" was grabbed by some one else. He need not have been in such a hurry but he did not know that. He had been here but a short time when he became the owner of an orange grove, and not at such a wonderful bargain either.

Then how he did dig in and hustle around for an outfit to work with. He could hardly wait to begin pruning, irrigating and cultivating. He feed for his horses, his cows and his poultry; he bought his vegetables and his small fruit. This was not quite according to his ideas of farming. He had always believed that the best and most successful farmers always raised everything that was consumed on the place but the groceries. He mentioned this one day to the agent who sold him the place and was promptly asked if he was getting "cold feet"? Well, he hardly wanted to admit that his feet were getting frost bitten in a warm climate, so he tried to smother his misgivings and keep doggedly at his work and see how he came out at the end of the year.

He needed all his profits to cover the living expenses and feed bills and give any compensation whatever for his labor.

And the statements that were rendered by the commission men always showed \$400 freight per car. He probably remembers that even now. Presently he began to realize dimly that the freight always amounted to as much or more than his share of the proceeds. Next, he began to see that everything he bought in the way of feed or food, came from the east and, naturally, he paid the freight. Some one told him that great quantities of food were raised out here but he looked up the facts and found the home grown supplies totally inadequate to meet the demand so that even the supplies intended for the local mar-

ket commanded a price equal to or greater than the eastern products plus the freight.

In other words, the very able gentlemen who planned and built the continental railroads and were able to wheedle both money and lands out of Congress, these gentlemen and their highly efficient successors have always had the problem before them how and where to get freight to earn dividends on the stock. These men have exploited the state so thoroughly, from a railroad standpoint that everybody who comes here is fully determined to raise something to ship back east and proceeds to do so. But it was also necessary to get freight to move westward and by inducing the people to raise fruit, they have solved the freight problem both ways. How well they have done this is shown by the fact that they find it necessary to double track their systems to enable them to handle the increasing business.

Our mining friends can easily see why so little of the capital that is constantly brought in from the east is available for mining. It has been educated into other channels before it leaves home.

What is the remedy?

Well, one thing we would suggest is that you one and all drop letters to the papers back in your old home communities and tell them the truth: tell them that mining is the most fascinating work in all the world and pays larger and surer profits than fruit raising. Do you remember Jones of Binghamton and how we used to smile because he advertised "Jones, he pays the freight?" But he only paid it one way. Let us show our eastern friends that they are expected to pay freight both ways, when they come to the coast, and perhaps they will stop to think.

When you write to your eastern papers, tell them to write to the Mining Review for information and confirmation and, in your letter, tell people coming out here to call at our office.

P. S. We wish the question could be put squarely up to our Supreme Court to say whether or not Congress has now or ever had authority to donate the people's land to private profit.

\* \* \*

#### TAKING NO CREDIT.

One day, nearly thirty years ago, the superintendent of the Mt. Pleasant mine at Grizzly Flat, Eldorado County, California, made an early start to drive to Sacramento. He forded the Consumnes at Buck's Bar where the stream broadens out into a shallow stretch, murmuring and fussing a little among the pebbles. The team stopped in midstream to drink and then on and away, for it was a long drive.

Late that afternoon it began raining around Grizzly Flat and clear up to Cap's Crossing; not a downpour but a gentle drizzle that soaked into the earth until the soil was filled and could hold no more. Then the

water began trickling down the little hollows and ravines that emptied into the gulches and canyons which in turn, bestowed their waters with a rush to the keeping of the Consumnes and that river became a raging torrent. The rain continued for several days, the river rose higher and higher and, at Buck's Bar, a battle ship could hardly have withstood the rush and pound of the waters.

Sometime in the night the superintendent struck Buck's Bar on his return trip, with a tired team. No one knows why he attempted the ford but he did and his body was recovered a day or two later, from a drift a short distance below.

He had a brother who was sluicing on a bar in the river a few miles above, working away on a long stretch that had not been considered good enough in the earlier days of rich diggings. When some one brought him word of what had happened, he gathered a few men on his way to the ford, recovered the body, and made all necessary arrangements for the interment. After the funeral he returned to his diggings and the gold he cleaned up from his sluice boxes thereafter found its way to the home of the widow. You see he was a bachelor and his wants were few. A few months later another baby girl came to the lonely widow and the wants of the man down on the river grew less and less.

As the girls grew older they saw, once in a great while, a gray-headed, stoopshouldered giant that they were taught to call "Uncle Jim." They were given the same opportunities and accomplishments as other girls, reached womanhood in due time and were married.

The uncle still lives in the log cabin which he built a long time ago on the bank of the Consumnes, he still shovels the gravel into his sluice boxes and has never seemed to know that he carried anyone else's burden. In fact, he never knew there was a burden—it was a privilege.

\* \* \*

#### THE PIONEERS.

In this issue we have a picture of the Pioneers' Home in Arizona. It is just what its name implies—a home for the pioneers and provided by the commonwealth. The guests are made to feel that it is their home in reality and given by a grateful public, not as a charity but as fair play to those who made the way safe and profitable for the present generation.

In a letter printed in this number, by one of the old pioneers, C. B. Genung, he tells how they divided, both their gold and their grub with the man who had neither. This is not poetic fancy—it is absolutely true. The man who had gold, handed his bag of dust to the man in need and told him to help himself and went on about his work, not even making a memorandum of when or how much. If a man came along the trail, hungry and without food he went into the first cabin he came

to, cooked a square meal, ate it and passed on.

A great many people preach about the brotherhood of man but those men actually practiced it day by day. And can you not see that the man who was hungry would have died in such a country if no one would divide with him?

When word came along the trails that some man's stock had been run off by Indians, every man left his tools where they were, hurried to his cabin, took his gun, such grub as he could readily pack and then joined in the pursuit. These men were the first comers, the very pioneers and had first choice of all the rich diggings. They left their gold in their cabins, their rockers and long toms on their claims and some of them never came back. In reading Mr. Genung's contribution to the Mining Review you have probably noticed how he mentions the killing of men he knew and the finding of new made graves. What a country it was! and these men were worthy of it—equal to every demand.

This Pioneers' Home provides the comforts of life for the pioneers who need them, its erection is a just recognition of their services and a credit to the state.

Some member of the legislature in each of the mining states should take the matter up.

These men, the pioneers, who faltered not at hardship or hunger, these men who feared not the brutal outlaw or painted Indian and who laughed at death a thousand times, should not be allowed in their old age, to face the only thing that could fill the hearts with dread—the poorhouse.

#### \* \* \* ALASKA.

The readers of the Mining Review will have the advantage this coming season, of the best Alaskan mining news service ever offered. Not from men who guess or who write of gravel as "soil," but from men who have mined successfully in Alaska for years, men who have grown rich there, and who will be taking out the gold day by day in the very fields they write about. Nothing will be kept back or hidden. These men will tell you the exact conditions and just what you can make and where to go the next year.

\* \* \*

#### LAMBS WITH HAIR?

Our esteemed contemporary, the Saturday Evening Post, gives its first pages, in a recent issue, to an author who says in his very first paragraph: "It can be only a question of time until nothing is left of the lamb except some hair in the wolves' teeth."

For the benefit of both author and editor we would softly call their attention to the fact that out in the "wild and woolly west," the real lambs are woolly and not hairy.

The last two weeks' reports show that more than fifty prospectors and miners lost their lives in snow slides.



## MINING IN HAITI.

The mineral resources of Haiti consist of gold, silver, copper, iron, antimony, tin, sulphur, coal, kaolin, nickel, gypsum and limestone are as yet undeveloped. Remains of an ancient gold mine were recently discovered near Ouanaminthe on the Dominican frontier and iron deposits are known to exist in the same locality, while at Fort Dauphin and in the Limonade district, respectively, deposits of copper and iron were found. Near Les Cahobes outcrops of soft coal are reported, and at Camp Perrin, seven leagues inland, there are coal mines. In the vicinity of Jacmel there are copper and silver deposits which have never been worked, and at Terreneuve, four hours from Gonaives, a copper mine is in exploitation by a syndicate of German-Haitians. From a geological point of view there are probabilities that petroleum deposits will be discovered. This is strengthened by results from drilling near Ocoa bay, in the Dominican Republic, twenty miles east of the Haitian boundary. Several years ago an American company sunk a well at this place to 940 feet through strata of shale, slate and sand of the Cretaceous period. Oil was struck, the well proving to be a gusher, the gas pressure being so great, it is said, that at times the oil would rise to 180 feet. The capacity of this well was estimated at the time to be 2500 barrels per day. The grade of the oil as reported by the St. Louis company that did the boring was 24 degrees Beaume.

## FROM A READER.

Only two years ago I dropped into old Coloma, up on the South Fork of the American river, where gold was first found in California, and became acquainted with an old miner who was living in the bend of the river, a mile below. One day he told me that while he was mining in Lincoln County, Nevada, in 1863, a man drifted into their camp who told about finding a spring over on the edge of Death Valley with a big anvil and an old arrastra nearby; he said the miners had been killed by Indians in a desperate battle. Anyway an expedition was organized forthwith that crossed southern Nevada, skirted the southern end of Death Valley, finally concluded to go into San Bernardino for fresh supplies where the expedition broke up and the members drifted elsewhere. You see the man who found the spring thought the anvil had been taken in by miners to use in sharpening tools and then his imagination easily and naturally created the Indians and the bloody battle. The story of the two lost mines in a recent copy of the Mining Review, explains it all.

The goldfield in the Elfel Mountains, which has recently been discovered, is exciting considerable interest among German and foreign mining men. It begins on the western side of the Elfel, in the neighborhood of Ivelingen and Montenuau, and extends, in the shape of low sandhills, westwards beyond the Belgian frontier deep into the Ardennes.

## LOWER CALIFORNIA PROSPECTING

Little Trouble if Properly Equipped. Rich Placer Ground. Forty Hours Without Water.

During the spring of 1908 I had occasion to make a trip to the lower end of the peninsula of Lower California for the purpose of making an examination of certain pieces of mining property located on the west coast about 800 miles below the line.

I could of course have made this trip by water, by chartering a small boat at San Diego, but as I wished to see the country, I decided to make the overland trip. Before starting out on this trip I tried, for weeks, to find something in print or to find some person who could give me some information concerning the general condition of the country, as to the roads, trails, water and location of settlements where supplies could be obtained, but I did not succeed in getting any information whatever. Although this country adjoins California on the south, there seems to be very little known of the peninsula south of San Quentin, which is about 240 miles below the line. I could get no maps of the country excepting those made by the United States government Coast Surveys. These maps show the coast line of the peninsula and the location of many of the higher mountain peaks and were of a great deal of assistance to us on our trip.

At your suggestion I am giving you a brief account of our trip and of the country that it may be of some help to others wanting to make a similar trip.

The peninsula has a very small population and the only points where we found settlements worth mentioning were as follows:

The town of Ensenada is about 100 miles south of San Diego and the population is about 1500. It is the capital or the headquarters of the government officers for the northern division of the peninsula. The governor resides at this place as well as the other government officials and a regiment or two of soldiers. Ensenada is the only port of entry on the western coast of Lower California so that all imports going to that country clear through the custom office at this port. The surrounding country is generally mountainous with a few small valleys and streams. These valleys are all farmed in a small way but the principal source of revenue is from stock raising and mining.

The next settlement we found was San Quentin about 140 miles south of Ensenada with a population of about 50. It is located on a bay of the same name and was started by an English company about 1880. This company has a large concession and undertook to colonize this section. They built a few good buildings in the town besides a large salt plant and started fish canneries. They also

started in to build a railroad running from San Quentin to the American line near Yuma.

About 12 miles of this road was built and then the whole project was abandoned. The country around San Quentin is very fertile, but as they have no water for irrigation (the rainfall for this section only amounts to about two inches a year on the average) farming has not proved a success. Considerable stock is raised in this country and more or less mining done in the mountains directly to the east. We found this the best place to lay in a stock of supplies for our long trip to the south. Mr. Harry Cannon, an American, keeps a well-stocked store at this place.

Our next stop was at Rosario, about 40 miles farther south. Rosario is about five miles from the coast, situated on a small stream which runs through a very pretty valley which has about 30,000 acres of level land all of which is very fertile and productive when irrigated. The town has about 100 people. It is built of adobe houses all of which are white-washed and the streets, we found, were kept very clean and in all it made quite a pretty settlement. At this point we found the first of the chain of old missions which were built by the padres about 150 years ago, commencing at the lower end of the peninsula and extending up as far as San Diego. This mission is in a very good state of preservation and is now being used. I was surprised to see such a small amount of land cultivated in this valley as there was water enough running down to the ocean to irrigate at least 2000 acres. This is also quite a stock raising country.

Our next stop was 60 miles south at the old San Fernando mission, where we found about 30 families living. These people get their living by working at the copper mines which are located about two miles from the mission. The mission was built on the hillside, overlooking a small valley of about 400 acres. There is a small stream running through the valley but the ground contains so much alkali and salt that it is not very productive. The walls of the old mission were still standing but the roof had caved in and it was in a very bad state of preservation.

Our next stop was about a day's travel to the southeast at a little village called Santa Caterina. We found here about 100 people most of whom derived their living by working at the Onyx mines. There is very little farming and stockraising done in this section of the country.

About 40 miles farther south we came to the Julius Caesar Copper mines which were shut down and not working. This is practically the end

of the wagon road where we had to abandon our buckboard and secure saddle animals and pack mules to continue our trip. We traveled about 150 miles before reaching the next settlement, which was a small mining town called Punta Proetas, where the Columbian Gold Mining Company are operating a mine and have a ten-stamp California mill. We found in this camp about 100 people, all depending upon the mine for support. The country which we traveled over for the past 200 miles has been practically a desert and we saw no farms or ranches while making the trip.

From this point we traveled southwest about 100 miles, striking the coast at Santa Domingo Landing, where we found only a few deserted houses. From here we traveled in a southeasterly direction about 50 miles across a very sandy desert to a town called Calamahi of about 300 people.

From Calamahi we traveled 120 miles to the southeast, and touched the coast at Point Saint Puebla. The country over which we traveled was a sandy desert for the first 100 miles, after which we struck the coast range of mountains. We found only one water hole on this trip and our animals went 40 hours without drinking. We found no habitation of any kind although we found a deserted village which was built in 1890 during the time of the excitement caused by the Santa Clara Placers.

About 15 miles southeast of the entrance to Scammons Lagoon we crossed a salt deposit which is from one to two miles in width and about 18 miles in length. This salt deposit resembles a large body of ice. It is from one to six feet thick and very clear and transparent. It is a continuation of Scammon Lagoon and the deposit of salt was formed by the tides backing up the water and the intense heat of the sun at this latitude causing evaporation. This deposit is held as a concession by Mexican citizens, but up to this time no attempt has been made to ship or market the product.

Traveling south from the deserted village above mentioned we found no settlement or habitation of any kind until we reached Mullaha, which is the capital of the lower division of the peninsula. This is a town of probably 600 or 700 population and is located on the gulf side. Immediately around this town is some very good farming land which is cut up in small tracts and cultivated by the Mexicans.

From this point on south to the end of the peninsula you find small settlements dotted along the trails but no towns of any note until you reach La Paz. The lower end of the peninsula gets more rain than the middle or central part and stock raising is carried on quite extensively. In making this trip we used nine animals, two of which we used to carry water. This is very necessary as the water holes are very scarce and from 25 to 60 miles apart, and in a great many instances the water contains a great deal of alkali,

soda and sometimes arsenic, which makes it dangerous to use it.

The peninsula as a whole might be classed as a desert as there is very little good land on it; the dry zone reaches from about the 24th parallel to the 30th parallel. Inside of this zone the average rainfall does not amount to more than two inches per year. The country shows very little vegetation and cattle and horses on the range depend on cacti and maguey brush for their living and often have to travel 15 to 20 miles from the water holes in order to get feed.

The eastern or gulf side of the peninsula is very highly mineralized, and has produced a few good mines and might produce more when properly prospected. The lack of water has prevented this very largely but if a prospector, who is familiar with the desert, properly equips himself, he would find little trouble in this country.

Commencing at the north end of the peninsula about 50 miles from the line and 70 or 80 miles east of the coast we found the Trespinas and Jauris Placer district. About 15 years ago there were some 300 Mexicans working these placers for several years and of late six American companies have purchased these grounds and put in considerable machinery.

About 50 miles south of this district are the placer fields known as Camp National, which have also been worked off and on for the last 25 years. About 60 miles east of Ensenada the Alamo Quartz mines are located. These mines are owned by Americans and equipped with very good machinery. They were worked several years at a good profit.

About 90 miles southeast of Ensenada we found the Secora Placer. These mines are owned by an American named Johnson and have been mined for several years at a good profit.

About 40 miles east of San Quentin there is a hydraulic mine, also owned by Americans. At the time we passed through they were being managed by a Mr. Young, who was killed by a renegade American about a week after we were at the mines. Mr. Young informed me that they were working at a profit and were very well satisfied with the results.

A short distance from the settlement of the Santa Catarina, an American Company is working an Onyx quarry. The Onyx is of very fine quality. This company hauls the Onyx to the coast and transports it by water to San Diego, where it is worked up and shipped to different parts of the world.

On the gulf side, just east of the Onyx mine there is a placer field called El Miramar. These placers were held by Mexicans who lived at Guaymas and were not being worked at the time we were in the country.

We entered what was known as the copper belt when we reached the San Fernando Mission. This copper formation reaches south about 40 miles to Santa Maria. Brofy

brothers were working a copper mine a few miles from the mission. They had a large body of ore in sight, but as they were trying to work with a small smelter with coke which was very extensive on account of its being shipped down and then being hauled about 25 miles, I doubt if their operations were very profitable.

On the lower end of this copper belt we found the Julius Caesar mine with a large body of low grade copper in sight. This company has spent about \$40,000.00 in putting in a plant which was a stamp mill and bleaching tanks. Their plant was not adapted to the conditions and for that reason the mine was closed down.

The Santa Maria copper mines, also owned by Americans, undertook hauling their ore to the coast, a distance of sixteen miles, and then shipping it to San Francisco. They found the ore too low grade to stand this enormous expense and closed the mine.

The country around Calamahi is very highly mineralized and the Mexicans are mining many very rich stringers and use arrastras for milling the quartz.

About a day's ride to the south of the gulf coast is where the San Juan quartz mine is located. This mine was very successfully worked for a number of years and we were informed by the Mexicans that it had produced about \$2,000,000.00, but from what information we could get from the mine, this mine is worked out.

About 40 miles east of San Luca Point on the Pacific side is what is known as the Santa Clara Placers. Here we found a large area of the country with gold-bearing gravel, which in most countries would be considered very rich ground. But as the nearest water to these placer fields is 25 miles distant it is impossible to mine this ground at a profit. In 1890 there was a big excitement in this country and over 2,000 people rushed in to this locality but on account of the scarcity of water this district was abandoned. A few Mexicans around here have, for some years, used dry washers in the rich gulches packing their water on mules from San Andreas Springs, a distance of 25 miles.

From this point south to the end of the peninsula, the only mines worth mentioning are those of the French Company at Santa Rosalea. This is a copper gold mine and has been worked off and on for about 40 years producing several millions of dollars. The company has a very large concession and practically owns the country for 20 miles around. I understand that the Rothchilds and President Diaz also own a large amount of this stock. They work about 1,000 men and pay their miners 50 cents per day. Most of this is paid out of the store which is run by the company. They bring the miners from across the gulf and I was told by Mexicans that once the man is brought over he never gets back, the company man-



aging to get him in their debt and never allowing him to leave. This company owns vessels which bring in its coke and all supplies and carry away its copper matte to Europe.

After going a few hundred miles south of the line I found the people very poor and shiftless, living largely on game and wild honey, both of which are very plentiful in this country. Most of them have a few head of cattle and horses and raise a few vegetables around the water holes. There are very few Indians left on the peninsula, the Mexicans having driven them away from the water holes and taken what little land they had. We met a few Yaqui Indians who had been driven across the gulf from the mainland. They were very friendly and gave us honey and deer meat.

There is one more thing I wish to mention and that is the character of the mules and horses raised in the lower part of the peninsula. We started from Santa Maria with nine animals and traveled 1,050 miles without carrying feed of any amount, simply allowing them to pick their living nights. These animals did not get water oftener than at intervals of 12 to 18 hours and lived principally on cacti and magua plant; without losing flesh and were always in good shape for the road. There was not an animal in the train that was shod and after 1,050 miles of travel over rough and rocky trails there was not a sore footed animal in the bunch. They have feet as hard as iron. An American-raised horse or mule would not stand three days of this hard usage.

I would advise any one wishing to travel around the peninsula to make the trip during the winter months as it would be almost impossible to make the trip in hot weather.

## LUCKY WOMAN PROSPECTOR.

Mrs. Siebert, living near the Mossback mine, has made the richest discovery of the year, having found within a half mile of the Mossback a big vein of gold ore, specimens from which are speckled with big grains of free gold. Mrs. Siebert has been prospecting in that section some months and a few days ago discovered the vein and has been at work since its exploitation. Those who have seen the ore say it is the richest they have ever seen from the Gold Road section and believe that it will open out into one of the greatest mines of that rich section. The vein is situated on a rhyolite hill south of the Mossback and the ore appears to be entirely in the same formation. Owing to the character of the hill and its general appearance no one has gone upon it with the view of prospecting until Mrs. Siebert concluded it has just the place for rich ore. That her judgment was rewarded goes without saying and it is probable that she will take her fortune from it.—Mohave Miner.

The Pittsburg-Idaho Mining Company, of Lemhi county, Idaho, joins the dividend payers this month.

## \$100,000 A DAY

**Astounding Sum Saved by the Southern Pacific in the Use of Oil Fuel.—  
Danger of Fires Eliminated.**

By Walter Grant Hopkins.

Oil in the United States is measured in barrels of 42 gallons each.

The price of oil in America varies from 30 cents per barrel in the Oklahoma Field to \$1.50 per barrel in the Pennsylvania Field.

California oil is of an asphaltum base of from 14 to 28 degrees specific gravity and sells for from 50 cents to \$1.25 per barrel depending on gravity and location of wells.

The Southern Pacific, the Santa Fe and the Salt Lake Railroads burn oil as fuel on their locomotives. The present consumption of the Southern Pacific alone is over 42,000 barrels per day.

As a fuel 90 gallons of California oil is equal to one ton of coal.

42,000 barrels equal 1,764,000 gallons.

1,764,000 divided by 90 equals 19,600 tons of coal.

The oil costs the railroads about 65 cents per barrel. Coal was costing about \$7 per ton.

19,600 tons at \$7 equals \$137,200 per day.

42,000 barrels at 65 cents equals \$27,300 per day.

A balance in favor of oil of \$109,900 per day, or over 80 per cent. 365 days at \$109,900 equals \$336,843,500 per annum.

Harriman once stated that the difference in cost to the Southern Pacific between oil and coal would pay the interest of their entire bonded debt and go far towards paying for the rolling stock. The Southern Pacific Railroad never paid a dividend on its Common Stock until it began using oil as fuel.

As the result of a long series of carefully made tests it has been demonstrated that a ton of coal will run a train 26.7 miles and that a ton of oil will run the same train 38.46 miles, leaving a balance in favor of oil of 12.39 miles or practically 50 per cent.

An engine tender will carry eight tons of coal, which, at the rate of 26.7 miles per ton, will run a train 213.6 miles; the same tender will carry 16 tons of oil, which, at the rate of 38.46 miles per ton, will run the same train 615.36 miles, leaving a balance in favor of oil of 401.76 miles or practically 200 per cent.

Oil is much more economically handled than coal. It is pumped or permitted to flow by gravity into the receiving tanks or tenders and fed by automatic burners, regulated by a thermostat; hence the fire is steadier and there is a minimum of expansion and contraction.

The danger of fire from sparks is eliminated, there is no stoking or cleaning of fire boxes and no ashes.

Bulletin No. 394 of the United States Geological Survey says that after a very careful measurement and calculation, it is estimated that 8,600,000,000 barrels of petroleum are

stored in the rocks of California alone.

The same bulletin states that one cubic foot of oil sand should yield approximately one gallon of petroleum or about 5,000 barrels per acre, providing the sands are five feet thick.

The Oil Sands of California are hundreds of feet in thickness.

The price of oil in California has increased for the past five years as follows:

1906	.....23c per barrel
1907	.....27c per barrel
1908	.....60c per barrel
1909	.....63c per barrel
1910	.....68c per barrel

The production of California oil has increased as follows:

Year	Barrels
1887	..... 678,572
1888	..... 690,333
1889	..... 303,229
1890	..... 307,360
1891	..... 323,600
1892	..... 385,049
1893	..... 470,179
1894	..... 783,076
1895	..... 1,245,339
1896	..... 1,257,780
1897	..... 1,911,569
1898	..... 2,249,080
1899	..... 2,677,875
1900	..... 4,329,950
1901	..... 7,710,315
1902	..... 14,356,910
1903	..... 24,340,833
1904	..... 29,736,008
1905	..... 34,276,701
1906	..... 32,624,000
1907	..... 40,311,171
1908	..... 48,306,910
1909	..... 58,000,000
1910	..... 75,000,000

## MEN WHO WIN.

High upon the west side of the Chemehuevis mountain, between the Schoolma'am and Sunrise mines, two German miners have built a mill and are using it with excellent results. The mill was built entirely by hand, the men shipping in the raw material and forging out the iron work. For a fly wheel on the cam shaft they have brought a large wagon wheel into requisition. The mill is operated by hand, one of the men turning the big wheel that operates the stamps. A feeding device was designed by one of the men that is simplicity itself and feeds the mill automatically.

While one of the miners extracts the ore from their mine the other one is pounding out the gold at the rate of an ounce a day. It is reported that the men have a splendid showing of gold ore and are taking the present method of extracting the values from the ores, to be later used in the purchase of up-to-date machinery. Those that have witnessed the operation of the plant are much impressed with the ingenuity of the men who designed it.—Mohave County Miner.

## ALASKAN NEWS

## Copper River and Northwestern Railway Completed. Cliff Mine Turns Out \$200,000 With \$100,000 in Dividends.

On March 31st the last spike is to be driven in the Copper River & Northwestern Railway at Kennecott, Alaska. This will complete a line from the seaport of Cordova, 195.6 miles to the present terminus at Kennecott, where is located the famous Bonanza copper mine. On April 3rd a solid train of high grade copper ore, sacked, running from 60 per cent to 74 per cent, will comprise the first through freight train from Kennecott to Cordova. At Cordova the shipment will be loaded on one of the big freighters of the Alaska Steamship Company for shipment to the Tacoma smelter.

Thus will be inaugurated a steady shipment of this wonderfully high grade copper ore, which will continue for the next few years. One regular steamship will be employed in handling the copper cargoes and to make regular trips between Tacoma and Cordova.

In the meantime, along the line of the new railroad, gold quartz and copper are being daily uncovered, with the result that quartz prospectors are flocking into the country, the Alaska Steamship Company having handled in the last three weeks, over one thousand American prospectors going into the country for exploration. In the past Alaska has been regarded as a placer country, but with the development of her lode mines it is predicted that it will become one of the best permanent "all-the-year-round" mining districts of the West.

Along the coast of Prince William Sound, Southwestern Alaska, oil has been discovered in large quantities and arrangements have been made to develop the industry, and store and ship the product this summer. Steel material for several large tanks has been shipped to Katalla, which is the center of the oil industry, and considerable activity along these lines will be witnessed during the coming season. Several Pennsylvanians have gotten hold of a large area of the oil land and are behind the project of its development.

The rush to Valdez, Alaska, continues. During the last three weeks the population has been largely increased by prospectors from the United States, quite a number going into the country from Utah and Nevada, attracted by the remarkable strikes in gold quartz. The Cliff mine was leased by a local Valdez syndicate last May and in six months, with its primitive stamp mill, the result showed a total output of \$200,000.00, with an even \$100,000 in dividends to the lessees and \$25.00 to the lessor. It is this mine that started the quartz excitement in Valdez and in that neighborhood, as well as along the Copper River and mountains back of Seward and Kenai. Quartz

mills are being set up and the country thoroughly prospected.

The Iditarod and Kuskokwim region in Western Alaska, it is predicted will this year produce one million dollars in placer gold. Some have estimated the output for the year as high as two million, but as the year 1910 showed net results of about one million, a conservative estimate would be about the same figure, although with the added number of miners flocking into the region some slight increase may be shown.

J. A. Ricker, manager of the Los Angeles branch of "Outdoor Life," will make an adventurous trip—prospecting, hunting and in the interest of literature and photography, for his magazine during the summer. He will leave Tacoma and Seattle in a 24-foot launch; proceed to Skagway, from which point he will have his launch transported on a flat car on the White Pass & Yukon Railway to the headwaters of the Yukon, where it will again be launched and he will continue his trip down the mighty Yukon River to St. Michael, where one of the vessels of the Alaska Steamship Company will pick him up and bring him back to Seattle.

Mr. L. A. Levensaller, who for some years past has been mining engineer and geologist for the Alaska syndicate, has resigned, effective April 1st, at which time he will proceed to Alaska and begin his career as an independent mining engineer and geologist with headquarters at Valdez. He has spent seven years in Alaska, continually being in the field studying mineral occurrences. In a recent interview he stated that the outlook for Alaska in mineral and oil development was more promising than at any time in the history of the territory, and he predicts a steady migration to the country with the ultimate result that it will become a permanent "all-the-year-round" mining section of the West.

Some very fine nuggets of gold have been found near Kenai, Alaska, and both placer and quartz operations will mark the season's work in this district.

Squirrel River, Alaska, is being figured as a \$500,000 camp this year, but owing to the remote location it is not expected that the crowd will reach that far, although the country is very rich in free gold.

Upon opening of the season, plans are being made for extensive operations in the big dredges at Nome, Fairbanks and Dawson and operations will be carried on throughout the year on a scale of magnitude heretofore never attempted in Alaska or Yukon territory.

VALDEZ, Alaska, March 15.—Valdez will be the most populous camp in Alaska this summer. The last three steamers arriving in port have brought about 500 people which,

with perhaps a thousand who were attracted here at an earlier period, makes a population at present of 2,500 people. Those arriving bring extravagant tales of thousands headed this way and there seems to be much food for thought in this announcement. It is absolutely certain that many of the late arrivals are here without the necessary funds to enable them to exist for sixty days, or until the snow has left the ground. It is this class that should be cautioned to remain away from the camp until the mine owners can establish camps for development purposes.

## NEXT MINING CONGRESS WILL MEET IN CHICAGO.

DENVER, Colo., March 29.—The directors of the American Mining Congress, the permanent headquarters of which are in Denver, have selected Chicago as the meeting place for the 1911 session, which will be the fourteenth annual meeting of this body. The exact date has not yet been decided upon, but it will probably be some time in October. The official call for the convention will be issued shortly, authorizing the appointment of delegates to the meeting by the president of the United States, the governors of the various states and territories, the mayors of cities, and mining organizations, etc. It is probable that this will be the last annual session of the Mining Congress to which outside delegates will be appointed, as the directors have for some time been working out plans which have in view the abolition of the delegate system and permitting only members of the American Mining Congress to participate in the proceedings of the annual convention.

The Mining Congress is actively agitating the adoption of workmen's compensation laws by the various coal mining states, with the object of providing a fund by a small tax on coal production to furnish indemnity for the victims of mine disasters and a pension for aged mine workers. Recently a committee of the Mining Congress drew up a draft for a law of this character, which is now being submitted to the legislatures of many mining states for their consideration. The Mining Congress is also working for more efficient inspection and regulation of coal and metal mines, with a view to decreasing the loss of life in mine disasters, the standardization of electric practice in mines, the general revision of the mineral land laws, etc.

These and other mining problems will be discussed at the Chicago meeting.

A seventy-five pound nugget was found half a mile west of Columbia. This was found in the grass roots and dug up with a butcher knife.) A \$5000 nugget at Holden's Garden, a \$7000 nugget at Gold Hill, a thirty-five pound nugget in the streets of Sonora, a \$3000 nugget at Holden's Garden, a seventy-two pound nugget at Columbia, a twenty-three pound nugget at Pine Gulch, a sixty-six pound at Columbia, a twenty-eight pound nugget at Sonora, a thirty-three and a half pound nugget at Columbia. This is going some.



## PORCUPINE.

The Porcupine gold district is about 500 miles due north of Cleveland, O., and less than 200 miles south of Hudson Bay. From Cobalt it is 120 miles north by railroad; thence thirty miles west by stage. On the map the district can be located by following a little south of west from Abitibi lake to the Mattagami river, which marks the western boundary of the proven gold area.

The development of the camp has been unique in many ways. Lying as it does in low, marshy country thirty-five miles from the railroad, it has been extremely difficult to get supplies and machinery into the district except during the winter. Then, too, previous gold and silver stampedes from Cobalt had resulted in more or less discomfiting failures, and, indeed, the history of gold mining in Ontario has always been marked in the public mind with short-lived mines that were never heard of after the initial boom. Fortunately, several solid mining men were interested in the prospects and systematic work was begun to sample and explore the properties. At present the district has been proven to contain gold-bearing quartz veins over an unusually wide area, with strong indications that the values continue at depth. Engineers have commented favorably upon the fact that in place of the pockety, spectacular showings characteristic of other Ontario camps, the gold occurs disseminated in fine particles and much more promise of large, consistent ore bodies.

## Topography.

The district lies on the southern edge of the "great clay belt" to which the provincial government is endeavoring to attract farmers. To the south is the rocky, uneven Cobalt country, and north of the clay belt is the barren, muskeg that stretches down to Hudson Bay. Quoting from the report of the Ontario Bureau of Mines: "Much of the surface is low and wet, although it can scarcely be said to be swampy. The lower flat surface is occupied by well-banded clay, overlying which is a layer of vegetable mould from a few inches to a foot or more in thickness, presenting a surface difficult to drain."

It is this impervious clay bottom and the sticky vegetable mould that is so disastrous to summer traffic. The rock outcrops are low and rounded, seldom rising more than fifty feet above the general level. The entire country shows the base leveling to which the glaciers and glacial lakes subjected the land.

The land is divided into townships six miles square. East and west the township is divided into six one-mile "concessions." North and south there are twelve "lots," each one-half mile wide, although but every other line is surveyed out.

## Mining Laws.

Mining claims are one-quarter of a mile square and are forty acres in area. Any one can stake claims who takes out a miner's license and pays the recorder's fees, except that to the south in the forest reserve there are certain other restrictions and regulations to conform with. The assessment work necessary to hold a claim is as follows:

(a) During the three months imme-

diately following the recording, to the extent of thirty days of not less than eight hours per day.

(b) During each of the first and second years following the expiration of such three months, to the extent of sixty days of not less than eight hours per day.

(c) During the third year following the expiration of such three months, to the extent of not less than ninety days of eight hours per day.

Upon the completion of this work the claim may be patented.—Mining Science.

## THE PIONEERS' HOME.

Editor Mining Review:—I have been visiting the Pioneers' Home in Prescott lately, and I want to tell you of it as something that prospectors and miners will be glad to know about and it may be the cause of other states and territories doing justice to the men who started them in business.

Among the California column that

their old age and for their sake. Jim Doran had himself elected to the legislature and he was promptly chosen president. He introduced a bill to establish a Pioneers' Home. It was passed unanimously and then died on the governor's desk because he failed to sign it. But the major was not to be beaten in such manner; he followed the matter up in the legislature, the 25th, and presented a written guarantee from F. M. Murphy, of Prescott, to donate the necessary land and Doran should make the selection. An appropriation of \$25,000 was made unanimously. Mr. Murphy deeded his five acres of land, chosen by Major Doran and from which Prescott and the surrounding country can be seen.

The major took charge of the construction and the beautiful building of brick and concrete, contains living rooms for 50 pioneers, good beds, office, lobby, library, dining room 40 by 20, kitchen and basement, with hot and cold water in every liv-



PIONEERS' HOME, PRESCOTT, ARIZONA.

came to Arizona in 1862 was a young chap (we were all young then) by the name of A. J. Doran. He still survives and his many friends sometimes call him Major and sometimes Jim and he answers to either. A book could be written about him—two books—but this is about the Pioneers' Home.

Because Major Doran had been both pioneer and prospector, he understood. He has a personal knowledge of what the pioneer prospector and miner had to endure when he took his life in his hands and went into the desert or mountains to prepare the way for both capital and labor. He knew, none better, how we stood by each other here—how we divided our gold and grub with the man who had neither and who would have repaid both if the Apaches had not killed him. And he knew, too, that we never presented any claims against a dead man—his family would need all he left so we "forgave our debtors" and forgot the debt.

There was not one of those men who could not have become rich if he had not been generous and so, in

ing room. The hospital ward has fourteen beds and Dr. Warren E. Day, an old Hassayampa settler, has charge but the guests refuse to get sick—never had the habit. It was built for \$22,900. Now think of that, with an appropriation of \$25,000. Where were the grafters? Surely, not in Arizona.

They have two rules—think of a Home with only two rules! No cussing out loud and take a bath twice a week.

C. B. GENUNG.

## GREENE-CANANEA.

Steam power for mining operations has been abandoned by the Greene Cananea Copper Company and replaced by electricity. The main power house at Ronquillo will furnish all power for the mines at this point; for emergency the steam plants will be retained.

April 1 has been named as the date by which all improvements should be completed which should open a new era for the company. Fully \$5,000,000 will have been spent in rejuvenating a plant, which, al-

though installed at enormous cost by the former management, was worthless for competition with the newer and up-to-date plants of other companies.

Officials of the company believe that a 9-cent cost will at least be possible when the heavy expenditures have been completed. Most of construction and improvement work has been charged to the cost of making copper.

Although the annual report of 1910 will not be ready before June, it will probably show a cost per pound of copper produced, including all construction of about 11 cents, and an average price received of not much over 12½ cents.

#### AUSTIN, NEV.

W. H. Fowler, President of the Maricopa Mines Company, says:

"We now expect to have our milling plant ready for operations by the first of June this year.

"The entire plant has been purchased and most of the machinery and building material is en route to Austin. The excavation for the mill structure is all completed and the foundations are now being put in.

"When the material is all assembled we will put a force of twenty carpenters on the building and it will go up in a hurry. At the same time we will have a force of mechanics busy with the installation of the plant.

"The building for the power house will be finished within two weeks, by which time we expect our new 1200 foot steam air compressor; also three large boilers will be here. Soon after these arrive, mining will be carried on at different points on our property with all the speed possible.

#### RENO, NEV.

A syndicate of Reno capitalists has taken over the old Arizona and Wheeler mines at Unionville, Humboldt county, Nev., and will proceed to erect a mill on the property at once. These mines were extensively worked from 1865 to 1880, and have a record production of \$3,600,000. The values were mostly in silver, with some gold. The ores were formerly treated by mills under the Washoe process, or hot amalgamation, which was exceedingly expensive, while the percentage of extraction was low. The high-grade ores were shipped via San Francisco to Swansea, Wales. Recent metallurgical advances under the cyanide process, by which high-grade silver ores are so successfully treated

#### MEXICAN SMELTERS ARE RUNNING FULL TIME BUT FUEL AND ORE GROWING SHORT.

EL PASO.—H. R. Wagner, assistant general manager of the American Smelting and Refining Company is here from his headquarters at Mexico City. Mr. Wagner had a message from the Chihuahua smelter saying that everything was all right in Chihuahua at that time and that the smelter was running full time. The assistant general manager of the big smelting company ad-

mitted that the mining and smelting situation is rapidly becoming serious, because of the inability to get explosives and fuel with which to operate the mines and smelters in different parts of the republic.

"While I have nothing to do with the mining end of the business in Mexico," Mr. Wagner said, "I understand that the Mexican company which has the concession for supplying explosives is unable to deliver them at the mines as rapidly as needed. This can mean but one thing and that is that the smelters will have to close sooner or later because of a shortage in ore supply. Just now the smelters are all running full time.

The Chihuahua smelters I know are short of fuel, as the line has been interrupted between El Paso and Chihuahua, preventing coal being shipped from the state. The line south of Chihuahua is also out of commission, I understand, and that means that no coal can be brought from the south. We have a considerable quantity of coal and fuel on hand at the smelters, but how long that will last it is impossible to tell, as I am not on the ground."

#### MISCELLANEOUS NEWS.

Commercial ore in quantity has been exposed on the Missoula Copper Mining Company's property, according to R. C. Vanderford, who also reports that a large body of milling ore is available for removal. In a report to the stockholders he says the quartz ore assays \$60 a ton. There is a well defined mineral-bearing vein consisting of from five to seven feet of quartz and altered quartz, opened by a drift along the vein for 800 feet from the main crosscut tunnel, he adds. Indications are an ore shoot 500 feet in length lies at greater depth.

Ore in the stope of the Terrible Edith, in the Coeur d'Alene district, is improving daily. The ore body has expanded and at the present time the stope carries a large body of high-grade ore. The work of taking out ore is continuing and the ore for a second shipment is being sacked. Forty-two tons were shipped to the smelter recently.

Some high-grades samples of milling ore from the property of the Samson Mining Company on Eagle Creek have been sent to Wallace. It is announced that a hoist and machinery will be installed soon to sink the winze to a greater depth.

When Paul Michelson moved into the old Miner boarding house above the Webster house at Globe, Arizona, he didn't know that the move was going to net him \$300 before the week was out. In seeking to beautify the yard he dug a hole for a lilac bush, and in so doing he unearthed \$300 worth of silver ore which he immediately cashed in.

Yerington, Nev.—The work in connection with the construction of the

Mason Valley smelter is progressing in such a satisfactory manner that it is believed that the plant will be in operation by September 1 at the latest.

This will mean the beginning of the productive era for both the Mason Valley and the Nevada-Douglas properties. The Nevada Copper Belt railway, which is backed and being constructed under the direction of the management of the Nevada-Douglas Mining Company, is now finished to Smith station, giving it thirty-three miles of completed railway. Another seven or eight miles will carry it up to the mine and graders are now at work on this, the last lap of the railway. It will be completed in about ninety days. The Nevada-Douglas is under contract to deliver the Mason Valley smelter 1000 tons of ore a day, and the property has the ore development to do this without any great exertion.

PITTSBURG, PA.—With the return of good roads there will be an immediate return of activity in a number of fields and the search for new producing territory will be renewed with as much or greater energy than last year.

LIMA, O.—With practically nothing doing in the old Buckeye fields, operators are turning their attention to possible territory to the southward of the present limits and it is quite probable that the coming summer will see considerable experimental work all the way south to Cincinnati. Oil is now being found in paying quantities in Hardin county and in Champaign county a fine gasser was drilled last fall. Some leases have been taken in Clarke and Greene counties, near Springfield and Xenia. To the southeast, active work along the border counties of the old gas fields may develop something in the way of oil production.

In Findlay, a mass meeting was called for the purpose of making plans for a deep test well to be drilled in the old Hancock county fields. Such a test would be expensive, but the promoters of this plan figured that a joint test could be drilled at a small individual expense.

#### BULLION IN SUNKEN SHIP.

LONDON, March 29.—Although it is more than a century since the Lutine, a British frigate, which had on board bullion to the value of \$5,500,000, was lost off the Dutch coast, another attempt is made to find the treasure ship. She carried ten tons weight of gold and silver, which was being sent by English merchants to "support their credit abroad."

The Lutine left Yarmouth Roads October 9, 1799, and went to the bottom of the sea the same night, only one man being saved of all her crew, and he died before reaching England. Efforts have been made time and again to save the treasure from the hull, which is stated to lie under thirty feet of sand off the island of Vlieland. The National Salvage association is undertaking the quest,



and a special salvage steamer is to be employed.

The Lutine's bell, which was recovered, is being used at Lloyd's whenever an overdue steamer arrives.

## MAKE A GOLD STRIKE.

In the Jicarillas, N. M., C. C. Hedges and J. G. Welscher have made a strike on the Doctor Claim. It shows very well in free gold, carrying some copper. The Littell Metallic and Reduction Company is hauling logs to make a foundation for a new ore crusher which it will install at the Wisconsin Mining and Milling Company's mill.

## PIONEER WORK.

The whole of the pioneer work in gold areas should be directed in following the ore—stick to the values and develop for further examination and observation. Permanent development work and the blocking out of a mine cannot be properly begun until there is something exposed to do it upon. The prospect under working exploration will show conditions that will indicate to the engineer how to lay out future development and what kind of managerial policy to recommend. It is impossible to make a two day infant walk—a prospect is not a mine—do not kill a possible mine by conducting and managing an encouraging prospect like a proposition of blocked out reserves. A windlass is needed before a steam hoist, and picks and powder are required before a stamp battery. It is important to have a shaft on the ore shoot before a completely stocked warehouse is placed on the claim.

## GREENE CANANEA.

Reports from Cananea state that on February 27 the new reverberatory furnace at the smelter was placed in commission. Allowing a week's time from the date of firing up for the extractions of matte, would indicate that the furnace should be producing copper by this time. By the addition of this furnace, which is of 250 to 300 tons capacity, the smelter equipment is increased to a total of eight blast furnaces, two reverberatories and twelve McDougall roasters. The reverberatories, which are fired by fuel oil, are attached to boilers and are operated by the hot waste gases. These boilers, with others, drive engines, which in turn generate electrical energy transmitted to the various mines and reduction plants.

## SNOWSTORM APEX.

Advices from Mullan, Idaho, say that a seven-foot body of high grade ore has been cut on the Snowstorm-Apex property near there, the strike being made in the tunnel that is being driven to cut the main shoot. Three thousand dollars has been expended in development work, which consists of 300 feet of tunnels and drifts. The tunnel is in 130 feet and the estimated distance to the main ore shoot is 160 feet, leaving but 30 feet to be cut. A double shift will be put on the property as soon as possible

and a crosscut tunnel is to be started soon. The company has received a liberal offer from an eastern syndicate for the property and it is likely a sale will follow.

The Blue Bell quartz property, near Glencoe, Calaveras county, is attracting considerable attention. A six-foot vein of milling ore was recently opened, and it is planned to erect a mill during the summer. Eastern people are interested. W. D. Stewart is superintendent.

## TERLINGUA DISTRICT.

Since 1889 the total production of quicksilver in the Terlingua district, Brewster county, Tex., has been 41,540 flasks, valued at \$1,893,602.

The quicksilver ores in the district are in the upper and lower Cretaceous. The region is characterized by many intrusions of igneous material, chiefly trachytes and andesites, which find their culminating points in Maverick mountain, Saw Mill mountain, Elephant Head, etc. The exact relation of the igneous flows to the deposition of the ores has not been fully worked out, but it is thought that there is a necessary and vital relation between them.

The ores are chiefly cinnabar, but some favored localities, confined almost entirely to the limestones, have yielded much native metal and, in addition, the rare oxychlorides, terlinguaite, montroydite and egestonite.

## MOHAVE COUNTY.

KINGMAN, ARIZ.—The center of attraction and interest in Mohave county just now is the mine and mill of the Frisco Mines & Power Company at Union Pass. For two years the New York and New Jersey men constituting the company have been quietly but vigorously developing what is now believed to be one of the biggest deposits of free milling gold ore in the country. An 80-ton mill and cyanide plant have just been completed and though scarcely out of the experimental and adjustment stage, the results of milling to date are such as to assure the ultimate success of both mine and mill.

Coeur d'Alene-Jarbridge Mining Company, headed by A. H. Fox of Wallace, Idaho, has secured control of 17 claims in the Jarbridge, (Nev.), district. The company plans to install a five stamp mill and a cyanide plant.

Bunker Hill & Sullivan Mining & Concentrating Company paid dividend No. 172, of \$81,750 last month, making a total of \$12,538,350 to date.

## OIL NOTES.

D. L. Griffin, an oil expert from San Francisco, has undertaken to examine oil prospects in the Gila Valley, Ariz., and along the Colorado River.

Frank Fether is now the general superintendent of the Palmer Oil Company, and has supervision over all its properties.

The Chicago Oil Association is pre-

paring to get oil at 1500 feet north of Barstow.

The Canadian Sunset Oil Company has brought in a good well on the Lady Washington property on the Maricopa Flat. It broke from control at about 1650 feet and started flowing at a thousand barrel pace.

The Canadian Crude Oil Company has a 20-acre lease in section 31, 32-24. S. B. Learn is the superintendent.

Frank Swank, who is superintendent of the John D. Spreckels, Jr., Co., is opening up section 32, 32-24.

The Alliance Oil Company, a new comer, has started in to develop its lease on Sec. 20, 32-25.

The Adeline Consolidated Company is running six strings of tools on its lease on the NE ¼ of section 3, 11-24.

The Tarantula Oil Company, composed of Bakersfield people, is operating in the Lost Hills. If there is anything at all in name it ought to be in the Devil's Den.

San Jose.—Work has been resumed on the Suburban oil well in Los Gatos, about twelve miles from here. Six inch casings are being placed and the well is to be drilled at least 600 or 800 feet deeper. This is the minimum depth and if necessary it will be drilled deeper. Oil has already been found and it is possible that at present the well is a paying proposition, but the stockholders are taking no chances and are determined to have a good well at any cost. Carl J. and Walter P. Reeves are in charge of the drilling and it is chiefly upon their recommendations that the work will be pushed. The I. P. A. is the next one to be improved.

## WE NEED THE PROSPECTOR.

On the hills and mountains of San Diego county are many veins of metalliferous ores.

We have seen samples of ore which were filled with free gold, and which must have run up into the thousands of dollars per ton. It came from the territory north and west of the San Diego river.

There are many such veins in our hills, but what we need are the experienced prospectors first to locate and then to develop up to that point, where it will be possible and profitable for capital to take over the "prospect" and make a mine out of it.

Every inducement should be given the prospector to pursue his vocation.

We are in sympathy with the resolutions adopted by the American Mining congress, asking congress to pass laws doing away with the restrictive laws and emergency rules laid down by the Forestry Reserve people, which hamper the prospector in the pursuit of his necessary and useful calling which has made California what it is.—[San Diego Union.

Pinole is made of wheat or corn. The Mexicans and Indians of Mexico make it for sale as well as use. It is made by parching the grain, then grinding in their metattas.

## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

John Becker, for seven years superintendent of the Mountaineer mine at Nevada City, Cal., is on his way to South Africa, where he will be with the Crown Mines Company, Ltd. He is succeeded by F. J. J. Sloat.

The McArthur-Forrest engineering firm, of Glasgow, Scotland, has opened an office in Porcupine.

German capitalists are interested in the Porcupine district and have sent M. Francke, a German mining engineer to examine some properties that have been submitted.

John N. Judson, who has been in Peru, South America, for nearly a year, has returned to New York.

Chas. F. Herrick, of Lorain, Ohio, is general manager of the White Quartz Mining Company also the Coin Bird Mining Company near Idaho City, Idaho.

T. Lane Carter, of Chicago, is inspecting mining properties in Jalisco and Tepic, Mexico.

W. F. Harris is general manager of the Socorro mines, Mogollón, N. M.

Kenneth C. Kerr, industrial agent of the Alaska Steamship Company and who has heretofore lived in Salt Lake City, has removed to Seattle.

Thos. A. O'Donnell, field manager for the Doheny-Canfield oil properties in California, has recently made a trip to the Lost Hills.

E. L. Doheny, Dr. Norman Bridge and C. A. Canfield, have returned to Los Angeles from an inspection of their Mexican oil properties.

Fred James, who has been with

the Burma Oil Company, in India, for six years, has returned to the United States.

Mr. Frank H. Probert leaves for Ray, Arizona, Tuesday next on a visit to the Ray Central Company, of which Messrs. Weed & Probert are consulting engineers. He will continue on to Guanajuato, Mexico, to investigate the properties of the Proprietary Mines Company of America for whom they are acting in the same capacity.

The friends of Col. Ira A. Segur, president and manager of the Sunset Monarch Oil & Refining Company, believe he is the right man for next mayor of San Francisco.

Ernest A. Haggott, mining engineer, has returned to Los Angeles from an examination of some Arizona properties.

The Tom Reed mine, in Mohave County, Arizona, has paid its eighth monthly dividend and has raised the rate from 3 per cent to 4 per cent. An investment that returns 4 per cent a month!

Ezra W. Thayer, owner of the Monte Christo, near Constellation, Arizona, reports a great silver strike on his property.

James F. Flynn, formerly of Parral Mexico, is now in Toronto, Ontario.

Major A. J. Doran, custodian of the Pioneers' Home, in Prescott, Arizona, one of the early arrivals on the Hassgampa, soldier, prospector and contractor, paid the Mining Review an appreciated visit a few days ago. In 1862 he camped where the Nadeau Hotel stands, and always

goes back to his original camping spot to stay, whenever he is in town. When he was in the Panamints he was well acquainted with Nadeau, who was the boss freighter for the Cerro Gordo mine. He insists, however, that the old corral has been moved, that the feeding facilities are different and the drinking fountain is not the same.

O. P. Brown, president of the Hercules Mining & Milling Company, of Mohave County, Arizona, has given up his residence in Seattle and will make his home in Los Angeles hereafter. He has opened an office for the Hercules in the Central Building.

A. A. Goldsberry, of Sacramento, and his partner, Robert Waugh, have opened up an old gold channel near Georgetown, one of the old mining camps of El Dorado county, California. It was at Georgetown that Phil Armour ran a butcher shop in the early days.

W. J. Freeman, from the Boston office of the Alvarado Mining and Milling Company, has been in Parral, Mexico, auditing the accounts. The Alvarado plant is only rated at 250 tons a day but the superintendent put through 350 tons in one day's run last week, and feels proud of it.

E. E. Henderson, who brought in the big Palmer gusher in Cat Canyon, Cal., is drilling two deep wells on the south slope of Sulphur Mountain in Wheeler Canyon, Ventura County, where he took over an old lease with several shallow wells some time since, and is making a deeper test than any before in this region.

E. H. Brandt, M. E., of London, England, is examining mining properties in Algiers, Africa.

James A. Gillett, former Governor of California, made a recent trip to Dos Cabezas, Arizona, in company with T. N. McCarthy, the general manager of the Mascot Copper Co.

## GUESTS AT SIERRA MADRE CLUB LUNCHEON.

Governor of Utah and Ex-Governor of Minnesota Welcomed at Club—Informal Dinner in Honor of Elbert Hubbard—Recent Visitors.

Directors of the Sierra Madre Club entertained last Wednesday noon with a luncheon tendered to the Hon. Wm. Spry and Hon. Sam'l. Van Sant. Col. Timothy Spellacy, vice-president of the club, presided and a short, but hearty address of welcome by Frank G. Tyrrell was responded to by the governors.

The luncheon which was of informal nature was not elaborate but nicely appointed. A partial list of those present follows:

Gov. Wm. Spry of Utah; ex-Governor Van Sant of Minnesota; Capt. Joseph E. Caine, Secretary Salt Lake Commercial club; Warden Arthur Pratt of Utah State Prison; Dr. Pfoutz, Utah Board of Correction; Hooper Dunbar, Salt Lake; Mr. Van Sant, Jr., Timothy Spellacy, Frank G. Tyrrell, Capt. C. H. Thompson Geo. L. Knight; T. A. Johnson; Frank A. Lundregon, Bakersfield; F. E. Klip-Keith; Lloyd C. Haynes; Geo. Mack;

Dr. F. J. H. Merrill; Irving E. Slater; Sidney Norman.

## Thursday Evening.

A few personal friends of Elbert Hubbard, members of the club, gave an informal dinner in his honor last Thursday evening. Soft lights and a table most attractively arranged lent enchantment to the occasion.

## Visitors.

Signatures appearing on the club register during the past week include those of:

Elbert Hubbard, East Aurora, N.Y.; W. P. Bradshaw, Bisbee, Ariz.; H. P. Magill, Chicago; John K. Skelley, McKeesport, Pa.; F. J. Smith, Maricopa, Cal.; Alex. Heyman, Bakersfield; W. H. Lyon, Santa Ana, Cal.; A. B. Hayward, Boston, Mass.; J. B. Jones, El Paso, Tex.; W. N. Thompson, Chicago, Ill.; F. G. Ingle, San Diego; Raymond Best, Riverside; J. H. Doyle, Bakersfield; J. D. Stein, Bakersfield; D. Miles, Butte,

Mont.; A. J. Delvin, Wallace, Idaho; Alex. Imhof, Mexico; J. G. Harris, Pomona; B. L. Putman, Vancouver, B. C.; C. F. Enigan, Dalton, Ohio; A. B. Stephens, San Francisco; G. E. Strong, Fort Worth, Texas; J. R. Baird, Redlands; R. D. Foote, Mississippi; C. H. Hindred, Prescott, Ariz. H. E. Shaver, New York; H. C. Randall, Salt Lake City; P. A. Busch, Vidal, Cal.; Clarence Penrod, Globe, Arizona; John Hall, Oreston, Iowa; R. J. Hanna, Franklin, Pa.; G. W. Eaton, Franklin, Pa.; A. C. Elsin, San Francisco; W. A. Talbott, Glendale; James Z. Daniels, Riverside; J. W. Paxton, Washington; C. Kessler, Erie, Penn.; James Noonan, Erie, Pennsylvania.

## BAKERSFIELD.

Kern county refineries, which have been closed down or running at only part capacity for months past on account of a dearth of orders for asphalt, report the receipt of orders within the last week or two which are fast depleting the accumulated stocks. Prospects now are for a very good season's business and the stills are being put to work in anticipation of large sales throughout the summer.

## PLACER DIGGINGS IN ARIZONA.

While Arizona is not especially known as a gold producer, copper being king there, it is probable that the output of gold will grow considerably in the years to come. Arizona is fast leaving behind the period of lawlessness and folly with which it so long has been associated. The hold-up man is giving way to the earnest, honest miner, who realizes that far more money can be made from the gold mines of Arizona than from the pockets of an unsuspecting public. With a growing confidence in the stability of Arizona, more and more attention will be given to the mining of gold. Of the present output of gold from the territory, the majority comes from vein mining, either from mines that produce gold only, or as a by-product from copper mines.

### Lack of Water Retards Placer Mining.

The amount of gold now produced from placers is small. And yet there are tracts of high-grade placer ground from which the gold would have been won long ago if it had been economically possible to solve the water question. Along the Hassayampa river, about forty-five miles northeast of Phoenix, a little gold has been taken from the placers, for years past, by men working with dry placer machines. At one time there was near the river a camp of 200 men who were at work with small hand-made contrivances, getting the gold from rich spots here and there. History does not say whether any fortunes were won in this way, but the fact that so much material was handled is evidence that money was made. These men were not working for their health, nor were they men of means, and had the placers not paid, they could not have worked so extensively. Their methods were crude, and it is doubtful if they ever recovered more than 35 to 40 per cent of the gold. Pannings made of their tailings show that this material treated with water will pay handsomely.

There is nothing more elusive or tantalizing than gold. In Alaska the precious metal is found in quantities that would make millionaires of many people were the climate that of a southern state; in Arizona there are placers that can produce millions if the water is obtained to work them. The experience in the past with dry placer machines has not been encouraging. Possibly in the future dry machines can be used successfully, but whenever there is a chance for water efforts should be made to treat the material in the wet way.

### The Gold of the Hassayampa Placers.

In walking over the low mountains along the Hassayampa river, the engineer is impressed with the amount of quartz of every description scattered over the ground. A few miles north of the river, between Wickenburg and Morristown, he finds micaceous schists dipping to the south, overlaid by porphyries; further north are gneisses and granites. The lime, which in places cements the material, comes from limestone of Paleozoic age. The mineralizing agents are the

intrusive rocks, such as granites and porphyries.

### Cost of Working.

In those parts of Arizona where water can be obtained in quantities sufficient to justify the use of an excavator, with a washer, the maximum cost of handling placer material should not be more than 10 cents; with dirt running 40 cents, this will leave a net profit of 30 cents per cubic yard. Excavators of this type are now built large enough to handle 1000 cubic yards per day. In Arizona it will be possible to work every day in the year and double shifts, so far as the climate is concerned.

Since the Santa Fe railroad runs within 300 yards of some of these deposits, freights will be reasonable.

Ample labor, either Mexican or American, is available. Being nearer the oil wells than the coal fields, distillate can be delivered at a low cost, so that pumping of water, lighting, etc., will be reasonable.

Were there an abundant supply of water, this placer ground would, no doubt, have been worked long ago. Could ample water be put into these "washes," the earth could be profitably handled with mules and scrapers. But the scarcity of water is the serious problem of the country. The only solution is by conserving the rainfall, as is done in the Transvaal, where all the gold is produced from water stored in dams during the rainy season. This water is used over and over again. While the rainfall in the Hassayampa region of Arizona is only



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one-third that of Johannesburg, there are some advantages over here which are greater than in the Transvaal. In the first place, the country is more precipitous in Arizona, and therefore, less water soaks into the soil and more will rush into a reservoir. Then there is not as long a period without rain in Arizona. In the Transvaal the water falls in a well defined rainy season, whereas in Arizona the rain is more evenly distributed through the year, and the rain seems to be more sweeping, so that far more would run into the reservoir than if it fell gently. But the evaporation is greater than in the Transvaal. In midsummer there are few hotter places in the world than Arizona, and the amount of water evaporated from such surfaces as the reservoir made

by Roosevelt dam is enormous. Still, from the rains that fall it will be possible in normal years to fill any sized dam that has been carefully placed, after a survey of the watershed.

On account of the scarcity of water it will be seen that straight sluicing in Arizona, save for limited periods every year, is out of the question. The water must be conserved and used over and over again. Before going to the expense of putting in dams, the amount of ground to be worked must be determined and proved. The construction of a dam above these "washes" is well worth considering, especially if the site is such that a wall can be built at a moderate cost to hold a large supply of water.

All these washes in Arizona are not favorably situated as regards water. On many of them there are no

suitable sites for dams, and although the placer might run high in gold, it would be too expensive to get water to the ground. Something might be done with the latest devices for treating this material by dry methods.

The material is not cemented together, but screens readily. The question is how to treat at a profit the screened material. There are machines that try to get the gold out in the dry way, but I believe the problem can be more satisfactorily solved in the wet way, wherever it is possible to procure water. In Alaska the drawbacks from working all the year round in placer mines are snow and ice. In Arizona the only thing that will prevent a continuous production of gold from the placers is the scarcity of water.—Engineering and Mining Journal.

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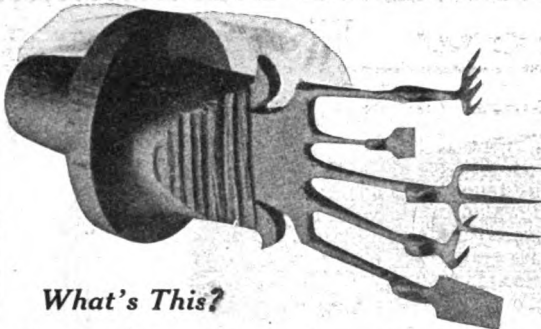
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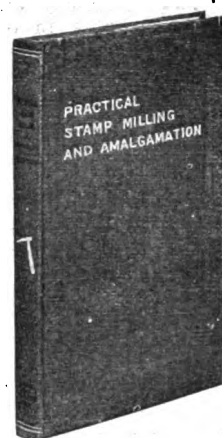
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**PYRAMID OIL.**

A large territory will be proven up by the bringing in of the National Petroleum well on section 34-12-23. The National Petroleum is operating 80 acres one mile south of the 1600-acre tract of the Pyramid Oil Company on the Midway-Maricopa Flat. A depth of 1,765 feet has been attained by the National Petroleum with a rotary drill and good progress is being made. An average of about 35 feet per day has been made since the well was started. If the present rate of progress is maintained the well will be completed within a week or ten days. It is expected that a depth of only a little over 1,900 feet will have to be drilled as the formation tallies exactly with that found in the wells on section 32, a mile and half to the east with the exception that the National Petroleum has found the same formation all the way down at a shallower depth by 100 feet than was found on Section 32.

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The F. Mayer Boot & Shoe Co., of Milwaukee, manufacture the well-known Mayer Martha Washington Comfort Shoe, which, due to their superior merit, enjoy a big sale. Unscrupulous and short-sighted dealers, eager for bigger profits, have permitted themselves to be led into the practice of selling shoes similar in appearance, but inferior in quality, representing them to be Martha Washington Comfort Shoes.

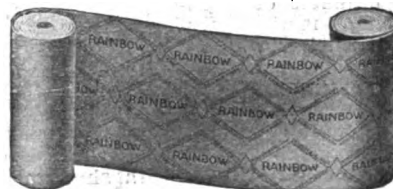
The Mayer company has been compelled, for their own protection, to inaugurate an extensive campaign to put a stop to the unlawful use of the name and picture of Martha Washington and will punish the guilty offenders. Other reputable manufacturers have had the same experience.

The practice of substitution obtains so generally that it is well to exercise a little caution in buying supplies. See that you get what you are after, and do not hesitate to turn down a merchant who tries to mislead you. This company makes one of the finest lines of quality shoes in America, and their reliability is well established. They make shoes for all purposes and for every member of the family.

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The new refinery at the Consolidated mill is without doubt the nearest approach to perfection that has ever been constructed in connection with a milling proposition, and is one of the most interesting adjuncts of this great bullion-producing institution. In effect, it is a small smelter which turns out the bullion at about .900 fine, and handles the entire product of the mill, doing away with the shipment of concentrates or low grade bullion.

The achievement is the latest innovation of J. W. Hutchinson, superintendent of the mill, who has been responsible for many of the advanced methods that have added to the success of the milling operations of the Consolidated company.

The precipitates from the filter presses are moulded into small briquettes in the refinery, then dried in a baking apparatus, after which the briquettes are consigned to two small blast furnaces, where they are converted into a molten state and drawn off into moulds as an exceedingly high grade pig lead. Aside from the lead that is used as a base in the smelting, the only flux is silica, and the old tin cans in which the cyanide is received at the mill. The slag carries only a small amount of values.

After the metal is first cast into bars, with its mixture of lead, it is refined in cupelling furnaces and finally comes out as gold bullion, .900 fine.

The milling and refining plant is now so complete that, in packing house parlance, everything is saved but the squeal.

Among the other recent additions to the buildings at the mill is the change room for employees, which is provided with a swimming pool as the most modern of its conveniences. It is steam heated and makes exceptionally comfortable quarters for which it is intended.—Goldfield Tribune.

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Seven hundred and ninety-nine is the number of a new catalogue of the Orenstein-Arthur Koppel Company, 30 Church Street, New York, which has just reached our hands and is replete with information regarding the Koppel shoes and dies. Although not of a bulky nature, it contains numerous testimonials from mining companies who are using the Koppel product, and several full pages are devoted to halftones of both shoe and die showing the even wear after the same had been in use for a 100 days.

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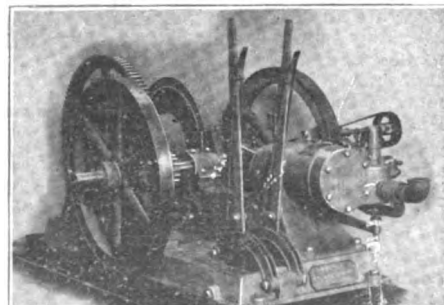


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### STEAMBOAT MOUNTAIN.

VANCOUVER, B. C.,—Between 400 and 500 men from Nevada, California and other mining centres are today gathered in Vancouver waiting for the trails to open into the Steamboat country. The southern interior of British Columbia between the Similkameen and Fraser valleys will be the scene of one of the biggest mining excitements British Columbia has ever witnessed, during the coming summer.

Steamboat is in the mouth of every miner from here to the Mexican border. Thousands of them are coming. One man who has been through several stampedes told me that from 10,000 to 20,000 prospectors and miners will invade the Steamboat district this season.

Every day new tales of rich discoveries come in. Five miners who have been in the camp all winter working on a couple of properties came in this week. Their stories are all to the effect that there is a big permanent camp of almost unparalleled richness and enormous extent in that territory. Prospectors with whom I have talked tell me the formation extends from the summit—seven miles above Chilliwack lake—to the Boundary. About midway in it are the Steamboat Mountain discoveries, those on Red Mountain and others. There is a splendid prospecting country all the way along.

SPOKANE, Wash.,—Strikes and importment development work on the Jack Waite, Hypotheek, Missoula Copper, Northern Light, Coeur d'Alene

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Nellie, Reindeer, Terrible, Edith, Hunter and Alice mines and a score of other properties in the Coeur d'Alenes, suggest there will be more than the usual expansion and some substantial profits during the coming season. In addition, it is announced that operations will be resumed on the Tamarack and Chesapeake property, also that the Great Northern, Snowstorm, March, Pandora, Panhandle, Nabob, Cedar Creek, Hector and Rosander properties will be more active than ever before.

Patrick Burke, president of the Jack Waite Mining Company, reports that the Jack Waite mine near Murray is shipping the haul of three four-horse teams, adding that this amount will be doubled as soon as the roads are in better condition. He adds that the property is free from debt and has \$15,000 in the treasury. The old reserves of shipping ore are said to be extensive and the main tunnel traverses 190 feet of galena, most of which is of commercial grade. The lower tunnel is under the west end of a large surface showing of galena. This has been opened for a distance of 600 feet to the east, Mr. Burke reports, adding: "We now have every right to expect to find a continuous ore shoot for that distance ahead of us on the main tunnel level."

James F. McCarthy, president and general manager of the Hecla Mining Company, who was in Spokane a few days ago on the way to Wallace, Idaho, from New York, confirms the report of the strike on the 1,200-foot level of that property. He said among other things: "Production of the mine during January was the greatest in its history in point of tonnage and metal output, though by no means the largest from a monetary point of view, on account of the prices for silver and lead being much below the average of several years ago. Rumors that a sale of the property was being negotiated are utterly without foundation; as also is the report that one or more of the larger shareholders had disposed of holdings. Neither is there any warrant for the statement that the capitalization has been increased."

Dominick Proulx, better known as "French Pete," principal owner of the Coeur d'Alene property in the Ten Mile district of Idaho, reports that high grade ore has been followed 80 feet at a depth of 400 feet and that there is fully \$1,000,000 worth of ore in sight. He says the average values in gold run from \$18 to \$20, though samples, ranging from \$300 to \$1,000 have been found. Native gold is present in liberal quantities. Mr. Proulx says the valuation might gain doubt but for the showing of similar values on the South Fork mine in the same district, where 10 additional stamps are being installed. The Coeur d'Alene will have a mile of similar equipment. Development work also is progressing on the Local Option, Victor, Gilt Edge, Buckhorn, Franklin, Comet, Anaconda and other properties at depths ranging from 30 to 150 feet.

William C. ("Swiftwater Bill") Gates of Spokane, who made fortunes

in Alaska and California, has returned from South America to organize a local syndicate to work 2,228 acres of placer ground in Peru. The property, he says, is in a wilderness, 600 miles back from the Pacific Coast, the stream traversing it being called the Torredamba, meaning "the River of the Roaring Bull." Mr. Gates has acquired the property and in proof he offers a document signed by officials of the Peruvian government and attested by the American consul at Lima. He believes the ground will average 80 cents a yard and that the bedrock is literally lined with gold, though in his estimate he has cut the foregoing figures down to 20 cents. He has a pint of fine gold and nuggets, the latter ranging from a pinhead to a kernel of corn in size.

Patrick Clark of Spokane, said on returning home from Silverton, B. C., where he went to inspect the Standard mine, in which he owns a large interest and control of which is under option to him, that the main drift on the No. 5 tunnel advanced more than 50 feet and is in shipping ore all the

way, with a splendid showing in the face. Cross-cutting has proved the ore shoot to be 60 feet wide. The No. 6 tunnel, which is 240 feet below the No. 5, also contains a good showing of ore, although it is yet quite a distance from a point vertically under the beginning of the ore shoot in the level above. The contract for the construction of a 200-ton concentrator, a 6,000-foot tramway connecting it with the No. 6 tunnel of the mine, a flume line and a compressor plant, will be awarded soon. Charles Hussey, manager for John A. Finch and George Aylard, who are the principal owners of the property, accompanied Mr. Clark on the trip, remained at the mine to look after certain contracts.

#### NATIONAL.

The National Mines Co., of National, Nevada, announces plans for a larger mill for the treatment of large broken bodies as well as the ore reserves. The mill will have the capacity of three or four times that of the one now in operation.

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**DREDGING IN COLOMBIA.**

Recent investigations of the early tombs in the region of Cayapas in Ecuador show a constant association of gold and platinum in the ornaments and treasures of the aboriginal inhabitants, and there seems, so far as we can learn, evidence that platinum is associated with gold throughout the region we are considering. When it is considered that until recently, at any rate, platinum was generally treated as an impurity in the gold dust sold by the negroes to the store-keepers and trading vessels, and that even now the rate paid is, say, 32 pesos for platinum and 35 pesos for gold, it will be further understood that a full appreciation of the extent to which the progress of time has altered the economic bearing of the general situation has yet to be made. It is clear, however, that the stage of apathy is beginning to pass away; but at the same time it deserves to be remembered that, so far as our observations go, the regularity of the occurrence of the precious metals gives ground to expect that there is on the Pacific coast from Esmeralda to

Buenaventura a dredging field of quite exceptional size as well as promise.—Mining Journal, (London).

**TIN IN GERMAN SOUTH-WEST AFRICA.**

The exploration of the recently discovered tin ore deposits, near Ameib, in the district of Omaruru, appears to have given very encouraging results. On twelve blocks, of 1,200 m. by 600 m. each, prospecting shafts have been sunk, the deepest of which has now reached about 150 feet. The tin contents of the ore are stated to vary between 2 and about 13 per cent., and though, owing to transport difficulties and other reasons of an economic nature, working costs of mining and smelting will no doubt be very high, they are expected to leave a handsome profit. The erection of extensive mining and smelting plants and the construction of a large water reservoir, have been decided upon, and in the meanwhile the development of the twelve blocks is to be energetically proceeded with. Many claims in the neighborhood have been taken up, and Ameib promises to become in the near future the centre of a very active tin mining industry.

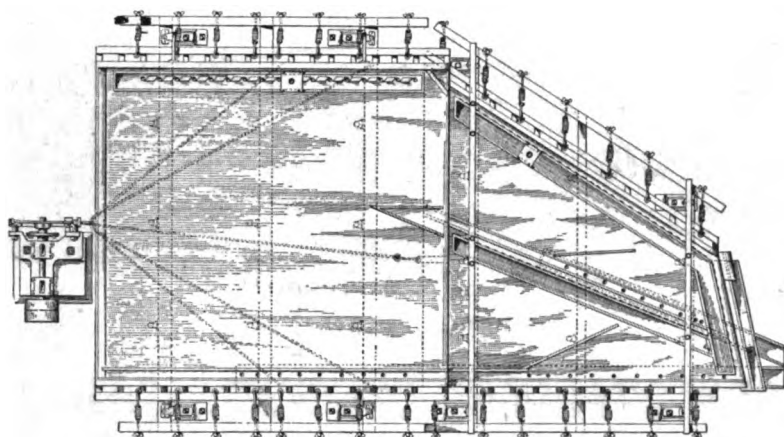
**KAUFMAN AND WAGNER VISIT MINING PROPERTIES.**

TORREON, MEXICO.—George C. Kauffman, general manager of the mining department of the Guggenheims in Mexico, and H. E. Wagner, who, on April 1 will succeed William C. Potter as general manager of all the Guggenheim interests in Mexico, came in from Velardena this week and after spending a day left for Santa Barbara. Mr. Wagner will, after the first of next month, make his headquarters in Mexico City.

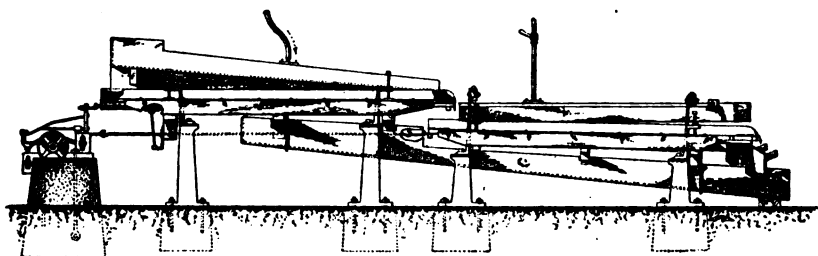
Sealed proposals will be received at the office of the general purchasing officer, Isthmian Canal Commission, in Washington, D. C., for lubricating oils and greases to cover the annual estimate for period ending June 30, 1912. Proposals must be in hand not later than 10:30 a. m., April 5, at which time they will be opened in public. Blanks, No. 624, may be secured from F. C. Boggs, Washington, D. C.

The gross output of the Trail smelter in January, amounted to about \$349,000. About 58 per cent of the output was gold.





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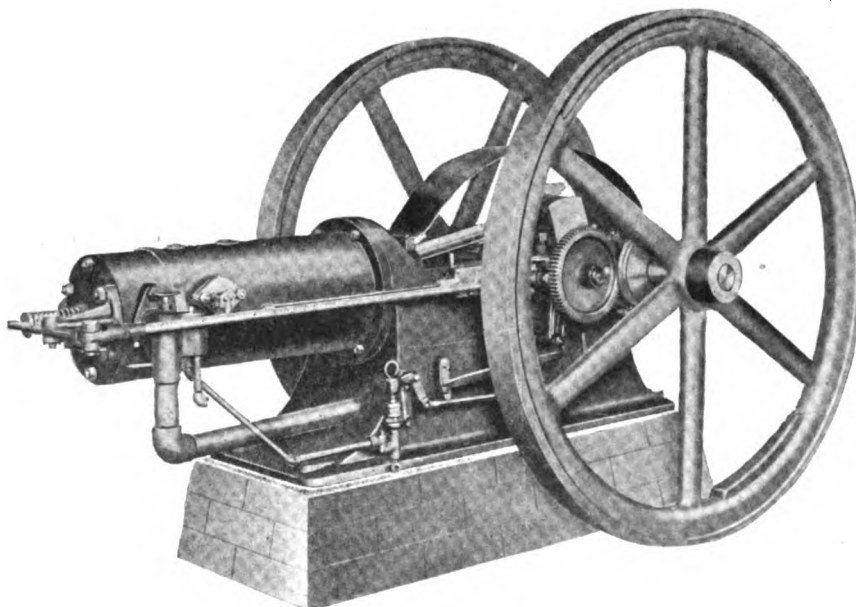
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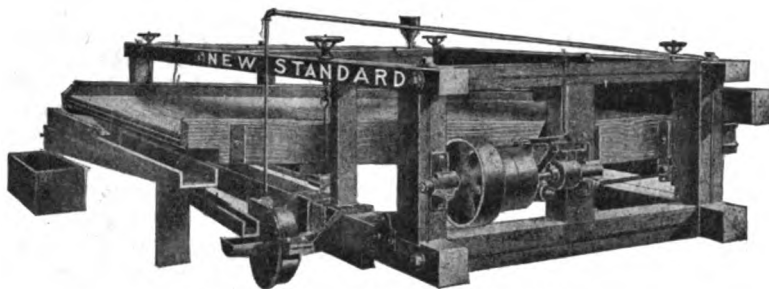
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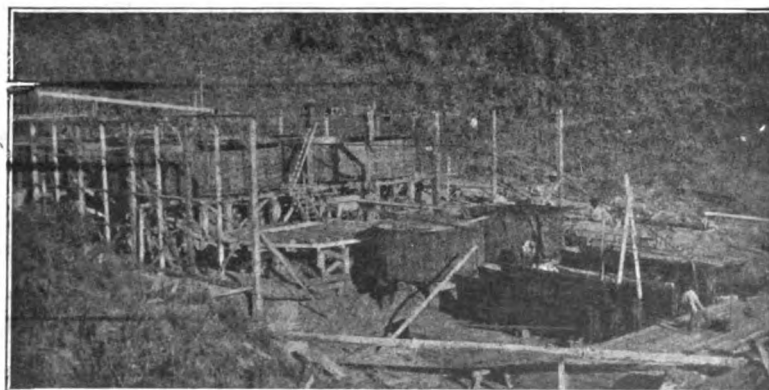
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## CONTENTS

### San Juan Oil Field of Utah



### An Indian War Ended by Miner

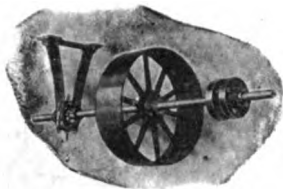


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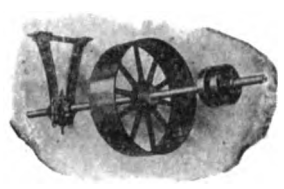


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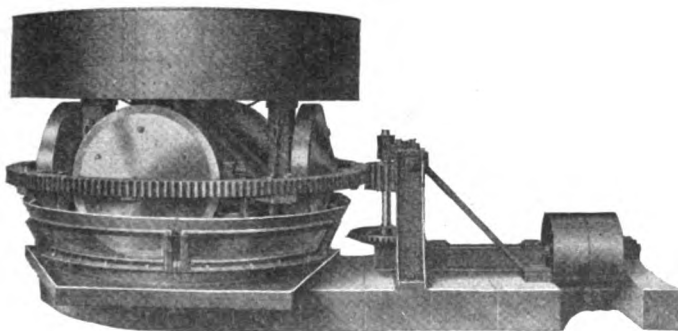
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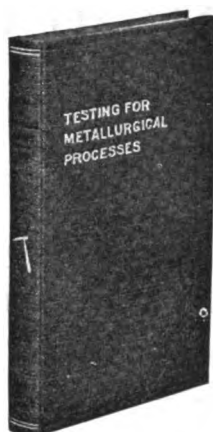
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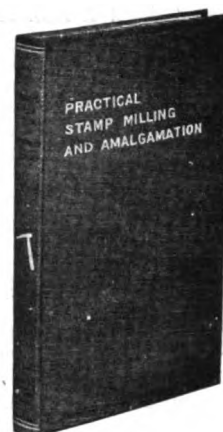
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formerly the Stud Farm of Col. James B. Haggin, and lately purchased by the

#### Sacramento Valley Colonization Company

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Headquarters: Ochsner Building, Sacramento, Cal.; and we intend to make it equal to, if not of greater value to the State of California, than any of our well-known California Colonies. Being in the heart of the fertile Sacramento Valley and adjoining Sacramento City, is considered a valuable asset to said city.

It has advantages never known to any other Colony in the United States—and you will see the truth of this statement, when we show that it has two of the greatest Overland railroads running through it from Sacramento, viz., The Western Pacific Railroad and The Southern Pacific Railroad. It also has The Northern Electric Railway from Sacramento to Marysville, Oroville, Chico and soon to be extended to Red Bluff.

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The Sierra and Sacramento Railroad lines now n course of construction, will pass directly through the Rancho. When the contemplated extensions of other electric lines are completed, there will be no portion of the entire 44,000 acres of the Rancho del Paso more than hree miles from a steam or electric road. It is safe to say that there is not another ranch of its size so near to a large city having so many different transportation systems, making every quarter so easy of access to the Sacramento and San Francisco markets.

After considering the availability of the land of this Rancho del Paso, its closeness to market and to transportation lines, considering that not one acre of it will be farther than three miles from a railroad or an electric road, considering that the Sacramento River—the largest in the state—flows through the heart of the city of Sacramento and connects with tide water at San Francisco, considering the sure and ample water supply, the rich, fertile soil, the conclusion is plain, there is not a section of land anywhere in the West that can compare with the Rancho del Paso for value at the price we have placed on it.

There will be, in a very few years, no good land obtainable at such figures as we are now selling the Rancho del Paso tract. The history of the entire country all goes to prove that land is the best and safest investment, as well as the surest way of achieving independence. A small farm in the Rancho del Paso will not only make your living for you, but will increase in value all the time. While we are selling many ten-acre tracts, we offer special inducements to the purchasers of 100 acres or more.

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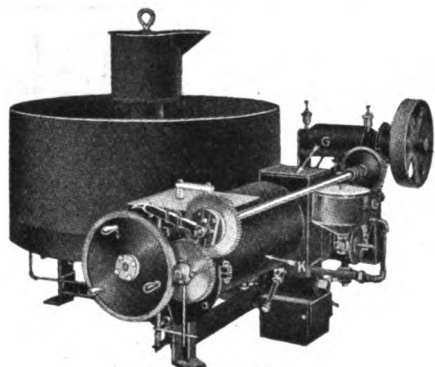
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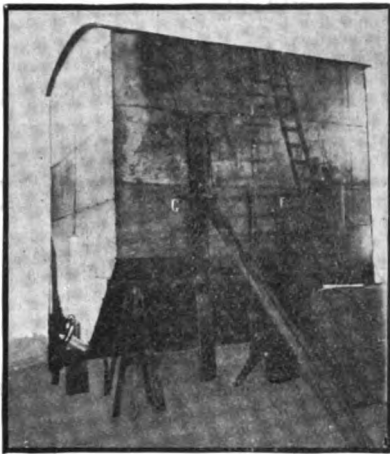
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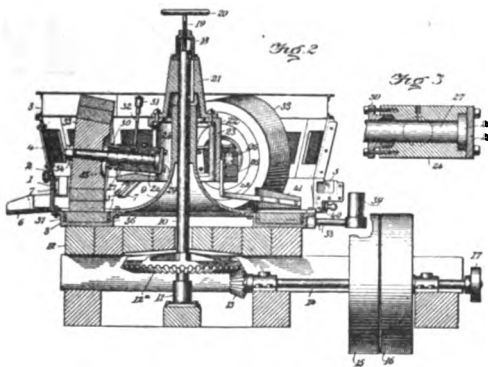
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Vol. 30, No. 7.

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Los Angeles, Cal., May 6, 1911.

## EDITORIAL

### FOREST FIRES

Every few days, this spring, the  
news dispatches will tell of fires in  
the Adirondacks or Catskills, perhaps  
in the pine woods of Wisconsin or Min-  
nesota or in the timberlands elsewhere.  
It will be at one place this week and  
at another next week.

Then there will be a lull of a few  
days till the fires can be kindled and  
set going in Oregon, Washington, Cal-  
ifornia, Montana—the usual summer  
forest conflagrations that sweep over  
vast areas and do incalculable damage.

All of the foregoing will be set forth  
from week to week and, when the win-  
ter sets in again, there will be another  
attempt to foot up our national losses  
from forest fires alone.

Now, in addition to all the forego-

ing, there will be consumed ripening  
fields of grain, stack-yards full of hay,  
houses and barns and fences and even  
villages and towns, all the way from  
the Atlantic to the Pacific and from  
Canada to the Rio Grande—all destroyed  
by fires that might easily be avoid-  
ed.

A few days ago, Lake Mohonk, N. Y.,  
was surrounded by a forest fire that  
was started by a spark from a passing  
locomotive. Right there is the pri-  
mary cause of millions upon millions  
of loss, annually, to the people.

Every village, every home or farm  
or field of grain or forest that has a  
railroad at hand, lies within a danger  
zone—created entirely by the railroads.  
The annual loss in life and property,  
from this one cause, is simply appal-  
ling.

If the railroad companies had to  
make good this frightful damage which  
they cause, they would change their  
dangerous coal burning locomotives to  
the safe and sane oil burners just as  
rapidly as mechanics, working day and  
night, could make the alterations.

Laying aside, for the moment, any  
question of remedial legislation, sur-  
ely there are men engaged in railroad  
traffic and who are personally respon-  
sible for the financial returns, who can  
understand that the crops which are  
burned will produce no revenue for the  
railroads. On the other hand, just the  
opposite is true. The preservation of  
the timber and crops is of the utmost  
importance to the roads and are of  
vital value to them. The crops that go  
to market, pay freight and the proceeds  
thereof pay for groceries, clothing, sew-  
ing machines, farming implements and  
the many, many things which the farm-  
er must buy, and all these products  
help to provide an income for the  
transportation companies. It is easy,  
then, to see that not only the farmer,  
the merchant and the manufacturer  
are all benefited by the crops that are  
marketed, but the men who are respon-  
sible for the management of the rail-  
roads are thereby enabled to make the  
needed betterments and still main-  
tain the desired dividends.

It seems to us that each state rail-  
way commission would render a good  
service to all hands if they would gath-  
er within their own states, a reckon-  
ing of the total losses caused by rail-  
road fires and then submit these fig-  
ures to the responsible heads of the  
roads, for their consideration—with a  
suggestion that oil burners would be  
a perpetual guaranty against such

losses in the future and, probably,  
would save a good round figure on the  
fuel bills.

\* \* \*

### MORE POWER TO YOUR ARM, MR. AUBURY

Elsewhere we print a statement  
from State Mineralogist L. E. Au-  
bury, giving a resume of his efforts  
to secure from the secretary of the  
treasury orders on the various cus-  
todians in California to show him the  
government plans and specifications  
for public buildings erected in this  
state. Mr. Aubury claims that our  
Pacific coast building materials have  
been discriminated against by the su-  
pervising architect, in favor of east-  
ern products. It is easy enough to  
settle the controversy and show Mr.  
Aubury to be in the wrong if his  
charges are baseless. On the other  
hand there is no other possible  
course the Secretary of the Treasury  
could pursue that would so tend to  
convince the people that "there is  
something rotten in Denmark" as his  
persistent refusal to grant Mr. Au-  
bury's proper and reasonable request.

In the first place, our understand-  
ing is that such plans and specifica-  
tions belong to the public and are  
subject to public examination. Just  
why the Treasury Department should  
pursue its present policy is difficult  
to make out unless it has motives  
that are not to its credit.

There has been a spirit aroused  
among the people demanding pub-  
licity in the affairs of corporations,  
and this same spirit will brook no re-  
fusal from public officials to open the  
books and show the records.

Mr. Aubury seems to be a pretty  
busy man, and we can only wish  
"more power to his arm."

\* \* \*

### THE SMALL MINE.

The big mines are not only keeping  
a system of accurate accounting, cover-  
ing every department and even sub-  
head in the mine, so that not only the  
cost of any particular work or opera-  
tion is known but the cost this month  
is compared with the cost last month  
or the same month a year ago. Not  
only does this keep the mine up to a  
high state of efficiency but it keeps  
the brains of all the responsible heads  
continually on the alert to devise some-  
thing that will lower the cost of pro-  
duction. Naturally all this has devel-  
oped and perfected numerous devices  
and methods that have made it not

only possible but highly profitable to mine a low grade ore that had to be passed up a few years since.

But there is another man and a very important one, indeed, who must not be forgotten. Every device or method that enables a man to work a small mine at a profit, is of the utmost value; in very many instances, the small mine develops into a big one and anything that helps to do the necessary exploration, is a direct benefit to the mining industry. Then, too, anything that helps the man with a small mine that will never be other than small, not only aids him to operate it at a profit, but it takes the mine off the market as a prospect and adds it to the list of paying properties. The more paying properties there are in any given district, the better for that district.

The man with money wants a winner. He is not looking for any other opportunity and every mine that is once placed in the profit paying class, is a good solid reason why money should seek the same kind of an investment.

Inventors, engineers, metallurgists and chemists will make no mistake in giving thought to the needs of the man with a small mine, the man who must operate in a modest way or not at all. There are hundreds, yes, thousands of them and there is a good market for anything that will really and truly aid them.

When the tenderfoot remarked to the old desert prospector that it seemed pretty dry where he was working, the reply was: "It is so; why, there are bullfrogs around here three and four years old that have never learned to swim."

#### DEVELOPMENT OF MEXICAN OIL FIELDS.

(Extract from report by Consul Clarence A. Miller, Tampico.)

The production of the oil fields between Tampico and Tuxpam is 100,000 to 110,000 barrels daily, of which about 40,000 barrels are being lost. The problem of storage is so serious that companies operating in this section are at present devoting their energies to its solution rather than to further exploration of the region. The big wells that have recently been brought in have attracted the attention of the leading oil men of the United States and Europe. Practically every oil company of any standing in the United States which has not already invested here has had representatives covering this territory during the last three months endeavoring to secure desirable leases near the proven fields.

For all the various fields, except Furbero and Portrero del Llano, Tampico is the point at which supplies are brought into the country, and from which the marketing and distribution of the oil are directed. The two fields excepted are supplied from Tuxpam, and the production of the Furbero field will be distributed from there, but the production of the Portrero field is now being distributed from

Tampico. The development of the oil industry therefore centers very largely around Tampico.

(Consul Miller's complete report on the development of the oil industry of the Gulf Coast section of Mexico during the first quarter of 1911 gives the air-line distances from Tampico to the various producing fields, with the daily output, new wells, etc. This report is filed for public reference in the Bureau of Manufactures.)

#### MAP OF THE VENTURA-NEWHALL OIL FIELD

A map on a very large scale of the Ventura-Newhall oil field, in Los Angeles and Ventura counties, has been issued by the California State Mining Bureau, under the direction of State Mineralogist Aubury. The size is 8½x3 feet. Upon this ample surface room has been found to clearly set forth the exact position of each producing, drilling or abandoned well included in the several townships of the district. There are also delineated all railway lines, all wagon roads, etc., and every detail is marked out in lettering clear and distinct. The publication has been needed. Some months ago State Mineralogist Aubury sent field assistants to the Ventura-Newhall field and a complete study was made of the entire region, in which valuable assistance was secured from producers and others who had data. To make the map system of the district more complete it has been arranged to publish maps of each and every township in the territory separately. These may be obtained from the State Mining Bureau. The price of the large map of the entire district is \$1.30 and the postage is 20 cents additional. The district can now be studied intelligently through the aid of the maps. The result will be favorable without doubt.

#### THE NAVY TO USE OIL

That the oil fields of California will eventually be the source of supply for the greater part of the fuel used on Uncle Sam's warships is indicated in a letter from the Navy Department to Senator John D. Works in reply to a query from the California Senator as to why coal and not oil is used as fuel on government ships.

The following reply from the Navy Department shows that the government is giving the subject of substituting oil for coal very close attention. Apparently the only obstacle in the way is the difficulty of establishing oil depots, and this difficulty is more imaginary than real:

"Recently there has been a development of a mechanical system of spraying the oil, in which the oil is atomized under pressure without the use of steam or air. This system has proved so satisfactory that the only arguments that remain against the adoption of oil to the exclusion of coal are, first, its availability in the seaports of the world and, second, its cost as compared with coal.

"As regards the first, we recognize that for a supply of fuel in time of

war we must depend mainly upon our own fuel depots, or fuel-carrying vessels, whether the fuel be coal or oil. And it is quite as easy to provide our advanced bases and remote stations with stores of oil as of coal. We have now in hand the equipping of several oiling stations at ports on our east coast.

"The cost of the oil, although less on our west coast than that of coal, is in most of our ports greater. However, the advantages of the use of oil from an engineering and military point of view should offset its increased cost.

"All of our recent torpedo boat destroyers, of which there are twenty-nine in commission, building or authorized, burn oil to the exclusion of coal. The battleships Delaware, North Dakota, Florida, Utah, Wyoming, Arkansas, Texas and New York, of which the first two are in commission, and the others in process of construction, are provided with oil to be burned as auxiliary to coal.

"The designs of the two battleships authorized by the last Congress show oil alone as the fuel. It now seems probable that our future battleships will be oil burners, provided we are able to secure oil depots at a sufficient number of ports. It is intended that the equipping of these oil stations will go hand in hand with the building of our oil-burning vessels.

"In the meantime any extensive conversion of the older vessels for oil burning is, of course, impracticable, except in the cases of vessels restricted to coast defense and whose base is near an oil producing district. Of these the Cheyenne is our only important representative."—Oil Record.

#### "GOOD FAITH" OIL WELLS

G. W. Helm, chief of the field division of the United States general land office, is engaged in making an investigation in the oil districts on behalf of the government. This investigation is the result of the passage by congress of the law relieving in effect California oil operators operating in good faith from the rule as laid down in the famous Yard decision.

This decision held that all claims were invalid if the land had been assigned before discovery of oil had been made. This would have made invalid oil lands worth millions of dollars. The recent act of congress protects all oil operators operating in good faith. It is understood that Mr. Helm and his field agents are making an investigation to determine what the "good faith" clause in the act shall provide.

#### AN IDAHO POTATO

WALLACE, Ida.—A \$227 gold nugget was picked up last week by Hauck brothers, placer miners on Trail gulch, about eight miles from this city. The nugget weighed 143.16 ounces and its appearance is a fairly good representation of a potato. The same washings last week yielded two nuggets valued at \$12 and at \$97.

## THE UNITED VERDE MINE.

By George W. Maynard.

Doctor Douglas' interesting and instructive article in the Journal of February 20, 1909, on the early history of the Copper Queen, suggests that a statement about the beginnings of another great mine in Arizona may prove of interest.

In September, 1879, I went to Arizona to examine a number of mines and prospects which Gen. Jno. C. Fremont, at that time governor of Arizona, had brought to the attention of New York capitalists. The Southern Pacific railroad then had no connection with eastern roads at the south, so that to reach Arizona one had to travel via San Francisco through California to Yuma and then east to Tucson which, for many months, was the terminus.

My destination was Prescott, at that time capitol of the territory, the nearest railway point to which was Maricopa, about 150 miles away. The stage was a canvas-covered hack of the variety known as a "jerky." We pulled out at 8 o'clock at night. The one other passenger was a Wells-Fargo who produced a rifle after crossing the Gila, the reason being that the stage had been held up there a few nights before. The town of Phoenix, now the capital, consisted of about half a dozen adobe houses and the "Palace Hotel" a combination of canvas and planks. In comparison with other western mining towns Prescott was really attractive with its spacious plaza, court and a general air of neatness.

For about two months my time was taken up in visiting neighboring mining districts and in the examination of more or less developed properties and prospects.

General Fremont accompanied me in nearly all of my trips, which were made with exceptional comfort due to the kindness of General Wilcox, then in command of Fort Whipple, who loaned us a roomy army ambulance, a span of big mules and a driver. The daily intercourse with General Fremont enlivened by his accounts of his early explorations will always be treasured as the most delightful experience of my early western work.

The work in the field was followed on our frequent returns to Prescott during the long evenings by the brilliant conversation and Washington reminiscences of Mrs. Jesse Benton Fremont, the daughter of Senator Benton. Taken altogether that two months in Arizona was equivalent to a liberal education.

## Makes Examination.

On the completion of the work for my New York clients and as I was about leaving Prescott, I was asked by one of the Prescott merchants, (the Prescott merchant was the late C. P. Head. Later Hugo Richards of the Bank of Arizona, Prescott, took over the half interest on the strength of Maynard's judgment.—C. B. Genung), if I would go into the Black Hills about 30 miles north of Prescott and look at a copper prospect

(Continued on Page 20)

## PIONEERING IN ARIZONA

Prospecting, Farming and Dodging Indians. Strenuous Life in Wild Territory.

[Written for the Mining Review by Mr. C. B. Genung, Forepaugh, Arizona.]

After I had everything on the ground that I had moved from Cullumber's ranch, at Walnut Grove, and my cabin covered, I cut logs and poles and built a good strong palisade, corral and stable with room for six animals and a small stable added on one side for my wife's cow, which we had led across the desert from the old Dr. Smith Ranch in San Geronimo Pass, now known as the Highland Home. This cow had supplied us with an abundance of rich milk for more than a year, and continued to do so for two years more.

As soon as I had a place of safety for my stock I started one four-horse team to plowing for potatoes. The only plow I could secure was an old broken 16-inch steel, but we patched it up and made it do some good work.

I had a partner in the ranch by the name of Elijah Smith, a "State of Maine" man, who was a genuine pioneer with Yankee ingenuity developed to the limit. He could make anything from a broom to a threshing machine, and, in a pinch, he could get four or five gallons of whiskey out of a sack of corn. Smith had occasion to go to Wickenburg shortly after we were settled on the ranch, and noticed an old broken side-hill plow at Henry Wickenburg's place which Henry told him to take along if he could make any use of it. He brought the old pieces home and from them made a good 8-inch plow. That gave us one two-horse plow and one four-horse plow with which we made our first crop in Peeples' Valley. The crop consisted of corn, beans and potatoes. We sold our corn to Bowers Bros., of the Agua Fria ranch, at 10c a pound, and they received the corn at the crib unshelled, allowing 21 pounds in the hundred for cobs. We sold our potatoes, about 150,000 pounds, at 12½ cents a pound by the wagon load. The potatoes were hauled to every government post and town in the territory. Including the hay we cut and sold, our crops brought more than \$15,000 the first year, not counting what we gave the prospectors, which was not a little. We never charged prospectors and they were welcome to anything that grew on the ranch, so they were encouraged to carry off all they could pack.

We had a good deal of trouble with the Apaches. Every man on the ranch went armed all the time. When plowing or harrowing, a rifle was swung over the back or hung across the plow handles. I had three large, savage dogs which were a great help. Every Indian was afraid of a big dog and ours frequently held them at bay in the night.

On one occasion the Indians tried to get into our corral, but the dogs attacked them so fiercely they turned aside into a shallow wash about 150

yards from the stable. They followed up the wash a short distance to where a man was camped right on the bank for the night. He was asleep under a walnut tree and had his horse tied to another not more than forty feet away. The Indians crawled up and took the horse and got away with it, notwithstanding he had a dog that stayed with the horse and watched it constantly. On this particular day the man, Sailor Jack, had traveled fast since early morning and the dog was worn out. It was a good thing for the master that the dog was so tired he never woke up, for the tracks showed plainly the next morning that one Indian had crawled up to the top of the bank on a level with the sleeping man and had crouched there on his knees and elbows, presumably with a rifle pointing at Jack and not more than eight or ten feet away. Had the dog awakened he would have attacked the Indians, and this would have aroused his owner, who would have been killed in his blankets.

Once I was out after venison, that being the only kind of fresh meat we had. About three miles from the ranch and up on the side of a brush covered mountain, I shot a fine buck. I broke a front leg and was trailing him with my dog, a good slow-tracker, when he showed signs of Indians, bristling up and acting as he always did when he struck their scent. I paid no attention till I ran onto a big fresh trail of Tonto Apaches—a war party and a big one. I did not like the idea exactly of following any farther on the trail of the deer, for the country was badly cut up with canyons and very brushy, furnishing plenty of cover for the Indians and making it easy for them to ambush me. Still I needed the deer and I knew he would not go far, so I concluded to follow it up and did so. I jumped him up right under a high bluff which overlooked the surrounding country, and when I cocked my Henry rifle to shoot, the mainspring broke and there I was with nothing but a Colt's forty-four, cap and ball six-shooter. I knew in reason that the Indians had seen me, for I was on one of their main traveled trails through the country, and this particular spot was a great lookout for them. They could see for many miles along the road leading from the Colorado river to Prescott and Wickenburg or Phoenix.

I tried hitting the hammer with a rock, but found I could not explode a cartridge that way. I had climbed up on a large boulder and was considering what to do next, when I saw a man leading a pack-horse, coming up on a trail that crossed the mountain about a mile from where I was. I knew the Indians would sure take him in before he got across the mountain, so I made my way down to meet him.



When I explained the situation and told him the fix I was in, he suggested that I should take his rifle and flank the trail with my dog and he would follow along slowly. This was Sailor Jack, and he had a good dog also which he could send ahead on the trail. In that way we crossed the mountain safely, but I saw lots of Indian signs while scouting along in the brush. That evening my partner, Elijah Smith, made a new mainspring for my gun and the next day we went out together and brought in three good fat deer.

Our nearest post office was Kirkland, some eight or ten miles away, through the hills and brush, and once a week either Smith or I made that trip, keeping off the roads to avoid any ambush. It was not a pleasant life to lead, but the mines kept us in the country as well as hundreds of other prospectors.

The next fall it seemed best for my wife to go home for a while to her parents at San Geronimo Pass, so I bought a government ambulance at a sale at Fort Whipple and took her to her people. Up to the time I started away with her I had not realized anything for my crops as they had not yet ripened. Having no money to travel with I went to Henry Wickenburg and asked him to loan me \$200, at the same time telling him what I wanted with the money. Henry listened to my story and, after a moment's study, said in his broken English, "Vere the — you can go mit two hundret tollars?" and then turned away and walked into the house, leaving me sitting on a pile of lumber outside the door. In a very few minutes he returned to where I sat and handed me a slip of paper upon which he had written an order on Superintendent Sexton, of the Vulture Mine, for \$1,165. This was a balance due Henry for hay which he had sold the Vulture Company. The order was accepted and paid in gold bullion at the rate of \$16 an ounce. The hay had been raised on Henry's ranch at Wickenburg. He was a pioneer prospector who had opened the Vulture mine and was now ranching.

When Henry Wickenburg saw my team with which I was going to haul the ambulance across the desert he asked me if the rig was not too heavy for two animals. I admitted it was pretty heavy, but told him I had to leave the other horses on the ranch to do the work. Henry walked off toward his ranch and in a short time came back leading a good pair of mules with harness and lead-bars, and said: "You get tru better mit four." He knew all about it, for he had driven over the road several times, a distance of about 350 miles, and much of the way in heavy sand. These were the ways of the pioneer prospector.

I made good time and left my wife at her home. Sheep were very cheap, only worth \$1 a head, so I bought a thousand; also a pair of mules and wagon, part cash and part credit. I also loaded my ambulance with ten stands of bees and, with a four-mule team loaded with groceries, a thousand sheep and an ambulance full of bees, made the trip to Peeples' Val-

ley, leaving the sheep at the Colorado River where I sold them for \$3 a head to Peeples and Roberts, who were in the butcher business.

Late in January, 1871, I received a letter from Dr. Smith, my wife's father, telling me there was a new baby boy waiting for me and all well. I started at once to see the newcomer, taking all the short cuts and just touching the high places. Arriving at the ranch late, I found my wife in bed, but the doctor and his wife showed me into the room where the mother and child were. The little fellow was asleep, and I asked "if he did not have his eyes open yet?" There were about ten of the grown-up Smiths there, and I thought they would never let up on me about the "eyes open yet." I had never seen a young baby before and was perfectly honest in my question.

When we thought the boy was old enough to stand the trip, we took the little tenderfoot and hit the road for Arizona, arriving at Wickenburg April 1, 1871. There I met my partner, Smith, who knew I was on the road. He had several men with him. The day before a party had started to go from Peeples' Valley to Wickenburg and on Antelope hill Indians attacked them, killing a man named Wykoff and seriously wounding John Burger, who eventually recovered but was finally killed by accident in a quartz mill only a few years ago.

There had been a very large band of Tonto Apaches in the country and the day before they made the attack at Antelope hill and killed Wykoff and wounded Burger, they had taken in a wagon train near Camp Date Creek. The wagon was loaded with quartermaster's supplies. The Indians took the mules and all the supplies they could handle and then crossed over the Weaver range near where they jumped the Peeples' Valley party.

The Indians had a way of lying back on the trail that they had run stock over and try to waylay any party that might follow in pursuit. That was what they were doing, lying back on their trail to ambush the soldiers who might be sent after them when the Peeples' Valley party crossed their trail on their way to Wickenburg. Nor had they left the mountains three days later, when I passed over the same ground with my party. My wife was the first to see them dodging through the brush getting to a good place to waylay us. I stopped my team as soon as I saw the Indians and, although I had a strong party, I had never seen but one of them under fire, and so he was the only one whose staying qualities I could be dead sure of, and that was my partner. So I told him to get up on a high granite boulder which was near by and to keep the other men with him, while I would see what I could do with the reds. The Indians would not stand for my work, but made off up a brushy canyon.

The Indians had expected the soldiers from Camp Date Creek to follow them, and that accounted for their hanging back on their trail so

long, but the soldiers were too smart to be caught in any such trap as that.

I found Burger at Antelope Creek, in a prospector's cabin. He was shot through the left thigh, but the bone was not injured; he also had three gunshot wounds in his right side, one rib being shot entirely off. The doctor from Camp Date Creek had been there to see him, looked at his wounds, took hold of the rib and tried to pull it out, and then went off and left him. When outside the cabin he told a prospector named Norwood that Burger could not live, mounted his horse and, with his escort of twenty soldiers, rode away. When I reached the cabin I made Burger as comfortable as I could, left Norwood to take care of him, and promised to have him brought to my ranch as soon as he thought he could stand the trip. It was ten miles over a very rough mountain and only wagon tracks for a road.

In a few days after I reached home the dogs held up some one about a hundred yards from the house, one night after I had gone to bed. I heard a white man talking to the dogs and called them in. It turned out to be Norwood, who had come from Burger with a note asking me to send him \$65 to pay the doctor. Five soldiers had brought the bill from the army post at Date Creek and Norwood had come up the mountain in the night and was to return before day, as the soldiers were waiting. I wrote a letter to the doctor, who was what was known as a contract doctor. It was not a very pious billet-doux, and in it I promised to see him and settle with him "right" at the first opportunity. I put the letter in a sealed envelope and directed it to the doctor. I told Norwood to tell Burger I had put a check in the letter.

A few days after sending the letter I filled my ambulance with loose hay and went after Burger. I brought him home and cared for him until he was well enough to go to work again. But he was always a cripple for the want of proper care at first. I knew that they would find out at Camp Date Creek that Burger had been moved to my house, and I used to hope the doctor would ride over some day and present his bill in person. No such luck. The next I heard of him he had left the post and gone to San Bernardino.

#### INDIANA DEVELOPING.

Steadily the development work in the Indiana at Pioneer is being pushed. Some dozen men are employed and good progress is being made. There is no apparent reason why this property cannot be put into a producing condition. In fact those having the greatest interest are spending their money to prove their faith.—Rhyolite Herald.

#### CHANGE OF DIET

Trout, blue grouse and the first sign of bear have made their appearance, and the hunters are adding welcome supplies to the miners' larders. Deer also is getting plentiful, so there is no scarcity of fresh meat in the mountains.—Hope (B. C.) News.

ONCE A MINER ALWAYS A MINER

Harry LeClair came in from his ranch, which is located thirty miles south of Yucca, on the road to Signal. Mr. LeClair was called here on account of the illness of his wife. He has been ranching, or rather dry farming, in that locality for the past couple of years. In sinking a well a few days ago he encountered at bed-rock some very fine specimens of placer gold, some of the nuggets being as large as a wax bean and about the same shape. Mr. LeClair says he was more than surprised to find as much gold in one small place as he did in one day, about \$35 worth. He has traveled all over the mining country of the United States, British Columbia and Mexico, and is a practical miner and thorough prospector. He says this is the best thing he has run up against in all his mining career. It is probable that when he returns to the ranch that he will drift at the bottom of the well and learn the extent of the new placer field.—Needle's Eye.

\$1000 PRIZE

A hammer and drill contest, carrying prizes amounting to \$1,000, will be held at Hancock, Michigan, during the week of July 17, according to a telegram received yesterday by General Manager John C. Greenway, of the Calumet and Arizona Mining company.

The telegram requests Bisbee to send a team to Hancock to participate in the event, which will carry, in addition to the big prizes, the honor of the national championship.

Bisbee and the Warren district must be represented at the national contest, say local miners, and Bisbee miners should begin right now arranging for a team to cop the \$1,000 and the championship. Bisbee, being one of the largest mining camps in the west, cannot afford to let the opportunity pass, they say, for over and beyond the purses and honor that would accrue to the winner of the contest, the victory would be a feather in the cap of the city.

"Past events of a local character have demonstrated the fact that there is championship material in the district," said a man yesterday, "and the miners should hold a meeting right away and lay plans to send a team to Michigan."

Anyone wanting to enter the contest can leave his name at the office of the Bisbee Daily Review. If there are any in the district who believe they can turn the trick in record time they are the ones who should represent Bisbee at the contest.

The contest will be national in scope and every big mining camp in the west will be represented by teams. Win or lose, it would be an honor to take part in the match and miners of the district should get busy and select a winning team.—Bisbee Daily Review.

A mine has started grinding the tailings on the old Georgia Slide, near Georgetown, Eldorado County, Calif.

DENIZENS OF WALKER LAKE

Monster Ichthyosaurus Seen Swimming a Hundred Yards From Shore.—

A Tale of a Fish.

One day an old Nevada prospector came into the office of the Mining Review and we called his attention to the following, taken from the Tonopah Daily Bonanza, of April 20th:

W. G. Lovie and Pete Bagoy, who spent several days in the Cottonwood country last week, declare that they saw the famous serpent of Walker Lake. They were looking over mining property in that section and meandered down toward the mouth of Cottonwood creek, which empties into the lake. Looking out upon the lake both parties saw the serpent-like fish racing through the water at terrific gait. Mr. Lovie at first thought what he saw was a flock of swans flying single file close to the water, but on closer inspection proved this to be a mistake. Whatever the thing is, it is about fifty feet long, with a large head and a body about as big around as that of an average man. It was swimming about 100 yards from the shore and Lovie wanted to go closer to the lake and get a better view, but Pete said: "Not on your life; may not that thing jump 200 yards and catch us both?"

Mr. Lovie is a mining man of note, not given to exaggeration nor prevarication, and there is not a doubt that he saw the famous sea serpent of Walker lake.

There are others who, in years gone by, have seen this thing, and the Indians of the reservation know that it has lived in the lake for many years past. You cannot get one of them to go bathing in the lake for fear of being caught by this monster.

It might be a good idea for the Smithsonian Institute, or some other scientific body to put a launch on the lake and try to capture this ichthyosaurus, or whatever it may be. It certainly would be a curiosity in any museum."

After reading the foregoing carefully he smiled and said he had made a trip to Walker Lake when he was a boy and had had a little excitement, too. We urged him to sit down and write it all out, and here it is:

"When I was a boy, living on my father's ranch over in Nevada, my younger brother and I often went fishing in the Carson River but, once a year, father and my uncle would take a team and make a trip to Walker Lake to lay in a supply of salmon for the winter.

"On this particular trip we two boys were allowed to go along. The wagon body was taken off, the boat placed on the running gears, our blankets, fishing tackle and grub were stowed within, and we started for the lake, with the four of us riding on the thwarts of the boat.

"It was a good day's drive but, by making an early start, we reached the shore of the lake about four o'clock in the afternoon. This gave us ample time to make camp and get up a

good supply of wood. I have learned since what an important thing it is to go into camp an hour or two before sundown, so you can see to select a good location, without being hurried, and then have all the time you need to get up plenty of fire-wood for the night. No wild animal will intrude as long as the fire is burning and, in addition, you will often need the warmth before morning.

"We found an old dug-out, made from a cottonwood tree, lying on the beach. It had been made from a log about eighteen feet long and was perfectly round on the bottom. Father looked it over carefully and decided it was too cranky for any one to use with safety.

"Our wagon was backed down into the water, the boat floated off and moored to the beach. My father and uncle, before we left home, had made a mast with gaff and boom, and now they proceeded to tack on a spare blanket for a sail.

"After supper, we boys sat around the camp-fire, feeling proud and quite grown up, listening to the men telling stories until about nine o'clock, when they showed us how to turn in by rolling ourselves up in our blankets with our feet to the fire.

"When breakfast was over in the morning, father and uncle took the boat and started off up the lake, telling us to stay in camp, as the water was too rough to take us along. This was something we had not bargained for and I think we would gladly have scuttled their old boat if we could have done so. Right here I want to say to any man who takes boys along on a fishing trip, that he will find it a good deal safer to take them in the boat than to leave them behind.

"We sat on the beach, watching their boat go off down the lake and grumbling away as nobody can but disappointed boys. Finally, we concluded we might as well go in swimming, so we took off our clothes, rolled the old dug-out into the water and would have had a fairly satisfactory time, only we were unable to forget that we had come to go fishing and not swimming.

At last we made up our minds to fish from the dug-out, keeping close to shore all the time, of course. We hunted up the paddles that belonged to the boat, put on a few clothes, took our horsehair fish lines and started out. These lines are made from the hair of a horse's tail and I will tell you how. The hairs were drawn through a goose quill and firmly bound, with other horse hairs, every two or three inches. You can readily see that the line could be made any length as long as the material held out. Ours was about a hundred feet long.

"We were on our knees on the bottom of the boat with my brother paddling. We kept along the shore carefully for a little while, but when we

found we could get no fish in the shallow water we began gradually to work out farther and farther, and at the end of about two hours I looked toward camp and saw that we must be fully three miles off shore and I noticed too, that the waves were getting pretty high.

"I told my brother to turn the boat around, and we would work our way back to camp, but I cautioned him to be very careful not to let the boat capsize us. He had turned the boat about half way round when my hook caught on something and nearly pulled me overboard. I called out to my brother to back up, and I began tugging away on my line to get it loose. Suddenly, whatever I was fastened to, began to do some tugging on its own account and, before I realized what had really happened, we were being towed down the lake.

"I sung out that it was a fish and a big one, and fairly begged my brother to be careful not to let the boat turn over. In the meantime, I was pulling away on the line with all my might and, by good luck, the fish had turned in a half circle and we were heading toward camp.

"My line was strong enough to have held a horse, but I was not. My hands were sore and my arms began to ache so from the strain of the constant tugging, that I made the line fast to a cleat on the side of the boat, and it was lucky for us, in a way, that I did. When I had the line made fast, I took a paddle to help my brother manage the boat, and we were making pretty fair headway till the fish turned suddenly and came straight toward us.

"I tried to pull in on the line but had only secured a few feet when he shot under the boat, pulling like a racehorse. I knew I would have to let go and I sung out to my brother that we were sure to be upset. Sure enough, as the line left my fingers it went out with a jerk and over we went.

"We soon righted the dug-out and then I knew what the tin pall was for that I had noticed, tied in one end of the old craft. By bailing with this, we soon had most of the water out and were again heading for shore. When we were about a half mile from camp, the fish again ran under the boat and again dumped us overboard. We turned it right side up once more, bailed it out and again tried to make shore with our prize.

"Glancing down the lake, I saw father's boat tacking toward us, not more than a mile away, his old blanket drawing like a real sail. I knew we were in for it now, but I hoped we might be able to reach shore ahead of him. We were only a few rods from the beach when that fish turned us over for the third time. We were in too much of a hurry to stop and bail the dug-out for father's boat was getting closer and bigger every minute. One of us pushed and the other towed until we ran it into shoal water where our feet could touch bottom. In a few moments we had both the boat and the fish on the beach but not a moment too soon, for father had us by the shoulders before we could turn around to see where he

was. And such a dressing down as he gave us!

"We remained at the lake three days longer, but we boys did no more fishing. The largest salmon that either my father or uncle caught, weighed fifteen pounds while ours weighed forty-two pounds! My brother and I, in the bitterness of our disappointment, agreed that if our fish had not been so big we would not have had such a scolding, and they would have taken us along when they went out. We told father this, some years later, and he just laughed till the tears ran down his face."

#### ALUMINUM

Perhaps no other metal has been used in so great a variety of ways during so comparatively brief a history as has aluminum. It is a question whether the automobile industry would have made such remarkable progress during the last decade without the accompanying development of the metallic aluminum industry, for very many of the castings used in the manufacture of motor cars are made from this light, rigid metal. The use of aluminum in the recently born art of aviation is also a great popular interest, and here again the same qualities of lightness and rigidity recommend it.

Aluminum is the most abundant of all the metals. It is an essential constituent of all important rocks except sandstones and limestones. It is found chiefly in the silicates such as the feldspars, micas, clays, etc., and as the hydroxide in the mineral bauxite, from which it is now produced on a commercial scale. Its oxide makes up between 15 and 16 per cent of the earth's crust. In spite of this great abundance the metal itself was, up to 1880, a chemical curiosity, and one of the early reports of the United States geological survey quotes it at \$1.25 a Troy ounce—\$15 a pound. The reason for its rarity and high price was the lack of a commercial method of extracting it easily and cheaply from its chemical combination with oxygen, for which it has a remarkable affinity. With the introduction of electrolytic processes the metal has now taken a high place among the commercial metals, and from a production of 83 pounds in 1883 its consumption amounted in 1909 to the enormous total of 34,210,000 pounds, valued at approximately 23 cents a pound for ingot metal.

#### Many Uses of Aluminum

The use of metallic aluminum, particularly in bimetallic tubing, which is employed in paper making and in chemical and other lines of manufacture, is making a steady growth, and promises a large and substantial volume of business in the near future. The manufacture of aluminum cooking utensils is also on a sound footing. These utensils have won their way into favor by sheer force of merit, despite their rather high price.

Aluminum is extensively used in the iron and steel industry for removing oxygen from iron and other substances and in welding. Metallic aluminum has also the power of com-

bining chemically with the gases imprisoned during the cooling of metals, thus preventing porosity. Its use in castings, where it is alloyed with copper, zinc or nickel, is also growing. It is one of the most malleable of all metals. It takes and retains a very high polish, and is therefore employed in the manufacture of articles of everyday use almost without limit. Some of these newer uses are for wall "paper," ceiling panels, stamped or hammered trays, etc., as a substitute for lithographic stones and zinc plates, and in the panels of car and carriage bodies. As a powder it is used in the manufacture of non-tarnishing metallic paints and varnishes. Aluminum paint is valuable in protecting iron and in rendering woodwork partly fireproof.

#### Great Possible Future

But, although aluminum is now within reach of the general public's purse, really only the first stage has been accomplished in wresting the metal from its various rock combinations. Aluminum is commercially recoverable only from bauxite, a comparatively scarce mineral. The next step in order to place it in the forefront of the common industrial metals and increase its usefulness a hundredfold is to obtain it cheaply from ordinary clay. In an advance chapter from "Mineral Resources of the United States" for 1909 W. C. Phalen of the United States geological survey mentions a group of recent patents for the production of elementary silicon from clay, with the formation of pure alumina as a by-product. The production of the metal from clay, says Mr. Phalen, is a goal which has long been sought by many experimenters.

The present prices of metallic aluminum are among the lowest yet recorded, and it is Mr. Phalen's belief that these figures will result in stimulating the consumption of the metal.

Mr. Phalen also presents figures showing that the 1909 production of bauxite, the present source of all metallic aluminum, was 129,101 long tons, valued at \$679,447, a growth of 32 per cent in quantity and of more than 40 per cent in value as compared with 1907, the latest previous normal year of business. Arkansas led in the production of bauxite, showing almost a phenomenal growth as compared with the preceding years. Other states which produced bauxite are Alabama, Georgia and Tennessee. Exploration was carried on in the new Georgia bauxite field in Wilkinson county.

The report, which contains a list of publications on bauxite and aluminum, may be obtained free of charge by addressing the director, United States geological survey, Washington; D. C.—Salt Lake Tribune.

**SAN PEDRO.**—The day of the coal-burning steamer on the Pacific coast is fast drawing to a close, in the opinion of Captain John K. Bulger, United States inspector of steamboat boilers for this district. He predicts that within a short time all the large steamers which now burn coal will have been changed to oil burners.

## ROSSLAND, B. C.

Excitement is running high at Kenora, Ont., over the result of the development work in the Ophir mine. At one hundred feet depth the vein is twelve feet wide with an enormously rich streak, three feet wide.

Visible gold is found in all parts of the vein and the streak is producing specimens showing nuggets, leaves and wires of solid gold in quartz which gives a value of \$500 and upwards per ton.

Some of the specimens are the richest in visible gold ever seen in that or any other district.

The opinion of conservative mining capitalists who have seen the mine and its present rich showing is that it will be the richest gold mine of the continent.

F. L. Churchill, of Rossland, has just returned to the city from a fifteen days' trip in the Kalameen mountains, where platinum and diamonds have recently been discovered. On a prospect, owned by F. L. Churchill and J. R. Cranston, the government assayer, has found the ore to run 3½ oz. of platinum and some diamonds of great value. There has been a big boom in this country and great coal fields have been discovered at Colemount, sixteen miles from the platinum claims. A large mountain of what is supposed to be gypsum ore was also found, and on this Mr. Churchill holds options.—Miner.

## A SNOWSLIDE

**BOUNTIFUL.** Utah.—This week the miners employed all winter up at the Burro Mining company's property have been tussling with their second snowslide, which came rushing down a few days ago, plunging tunnel and buildings into darkness, the cabins at present being covered with a great blanket of snow 14 feet thick. Portal of tunnel, doors, windows and everything was buried, only the tall smokestacks on the boarding house being visible to show where the avalanche-proof buildings now lay completely hid. As good luck would have it nobody was hurt.

When Manager Pierre Peugeot was seen he was unconcerned, snowslides up there, 10,000 feet above the sea, being common in winter. "They'll be able to dig out in three or four days," he calmly said.

"We are working but a small force at the mine, but will increase this about May 15, when we figure on being able to easily reach the mine with supplies, and to haul out the ore.

"We are still sinking on the winze from the main tunnel. It is down 35 feet, all in ore. This is good grade ore, which we are stacking up for future shipment."—Mining Record.

## OLD HAT

Placer mining has been carried on somewhat for many years on the San Francisco river, which runs through the town of Clifton. Several years ago there was a flood on this stream, and the waters came boiling down the narrow canyon and mighty near

took the town. But after a few days the waters subsided to normal. A young man named Kellner rode up the stream a few days after the flood, and as his pony fox-trotted up stream something attracted the young man's eyes so strongly that he brought the pony to a standstill on his haunches, and then he got off and picked up a nugget of gold weighing \$11. He used his white slough hat for a "pan," and in a depression in bedrock he took out that afternoon a little more than \$40. He afterward went there with rocker and a few crude appliances and in a space not more than 40x40 feet he took out \$900. This claim was properly called "The Old Hat."—Bisbee (Ariz.) Daily Review.

## DRY WASHER WILSON.

Thos. Wilson, a gold placer expert of Manhattan, Nevada, where he is operating large hydraulic works, spent the past week in Clifton looking to placing a large hydraulic plant in this district. What his opinion in the matter is could not be ascertained, but it is being demonstrated daily by two companies that gold abounds in paying quantities all along the Frisco. Clifton was first worked as a gold camp, but the discovery of rich copper deposits stopped search for the yellow metal, but now the fever has broke out again and many people are prospecting for "a poor man's mine." In this connection Mr. Wilson received the cognomen of "Dry Washer Wilson," having taken out \$50,000 in Nevada in six weeks with ordinary cocopah belows dry washers.—Clifton, Ariz., Copper Era.

## FRIEND OF ARIZONA.

Congressman J. H. Davidson, of Wisconsin, one of the republican insurgents, is visiting in Kingman, having interests in the Desert Power and Water company. Mr. Davidson has always been a supporter of Arizona statehood measures and it is his opinion that statehood will come to the territory before the close of the present extraordinary session of congress. Arizona's constitution is Arizona's own affair and cannot well be used as a pretext for obstructing the confirmation of the act and authorizing the territory to set up its own government. Mr. Davidson assured the editor that he would do all in his power, to pass any measure that might be introduced giving the territory statehood. He will remain here several days, and then depart to Washington, where he expects to remain late in June.—Mohave County Miner.

## NOGALES NEWS

Mr. J. J. Smith of the San Javier Copper company has taken an option from the Grand Union Mining company on one of its fine properties, near Fuerte, in the state of Sinaloa, not far from Alamos. Mr. George W. Avery has commenced work actively on behalf of Mr. Smith.

The Penn-Sonora Mining company, owning the Durazno mines, in the

Planchas de Plata region, about twenty-five miles southwest of Nogales, is sinking a good working shaft to get below and underneath the antigua workings. It consists of one compartment and a manway. It is now down about 100 feet.

From Chinapas, in Chihuahua, just across the line from the Alamos district, there comes a well authenticated report that Father John C. Hoban has given an option to W. E. Whitcomb, of Detroit, Michigan, on a valuable mine, on which Mr. Whitcomb has paid \$20,000 and commenced development. The purchase price for the property is stated at \$2,500,000 Mexican.

The shaft on the property of the Calumet & Sonora Mining company, near the Alamo rancho, about ten miles southeast of Llano station, has reached a depth of 120 feet. A station was cut at 100 feet and a level run to cut the ledge. A week ago this crosscut was in six feet of high grade copper ore, with the pay rock still in the face of the drift. Superintendent Tom Lake says he never saw finer looking ore, and he believes that the work will develop at least twenty feet of such rock.

Near Promontorio, in the Alamos district, Mr. T. P. Birnegar and associates are pushing development on the Plato Fino mine, and they have down 100 feet a good working shaft, on a six foot ledge that runs high in gold and silver.

This week there has been brought into town from the camp of the Greenwell-Arizona Mining company a shipment of high grade ores which will go forward to the smelter early next week. Mr. Gasche, the superintendent for the company, has been attending to the details.—The Oasis.

## RIO PLATA MINING COMPANY REPORT FOR MARCH, 1911

Net return on shipments,	
U. S. currency.....	\$51,784.30
Cyanide plant treated 2,341 tons of tailings, containing 81,764 ozs. of silver, gross.	
Total silver recovered, ozs.	70,009
Value of silver recovered,	
U. S. currency.....	\$35,004.50
Profit on store, U. S. currency .....	218.82
	<hr/>
	\$35,223.32
Operating expenses, U. S. currency .....	10,836.60
	<hr/>
Operating profit ....	\$24,386.72
Expended on mine development,	\$833.79.

The Yuba Consolidated Goldfields Company, of Yuba County, California, now has thirteen dredges at work and the latest, which is by far the largest, is known as No. 13.

The mines in Leadville, Colorado, not only have the zinc carbonates on the dumps, but they are opening new ground and making new finds.

The Keekeek district, in Canada, is showing some good gold discoveries. The field is 100 miles north of Halleybury, in the Province of Quebec.



## STATE MINERALOGIST HAVING A LIVELY TIME

-Alleged Discriminations Lead to Conflict by Correspondence in Behalf of Producers of California Structural Materials.

The efforts of State Mineralogist Aubury to get high officials of the Treasury Department of the United States to co-operate with him in showing the discriminations practiced by the supervising architect of the department against the producers of California's structural materials have met with an unexpected, but not less decidedly, a positive rebuff. Letters have passed in considerable number between the state mineralogist of California and the Treasury Department. Recently the officials in Washington have declined to permit Aubury to inspect the plans and specifications for public buildings in California, in the construction of which, so Aubury alleges, discriminations have taken place.

As the plans and specifications contain evidence made by the supervising architect, concerning what he has directed shall be done, at least in some instances, and, moreover, as the plans and specifications are public documents and Aubury is a state official, the denials that have been made of his right to view the official papers have finally led to a somewhat caustic letter from Aubury to the supervising architect, J. K. Taylor, which is, in part, as follows:

"Replying to your recent letter, will say that the same suggests that you would prefer to have me submit such facts as are in my possession. Permit me to say that the method I may adopt to have the facts brought before the public may not be your plan, and that your suggestion concerning what you prefer has no relation or relevancy in this connection. I have asked for what is the right of every citizen, so far as I am concerned—the right to see the plans which, as you intimate, you prefer I should not see. What occasion there is for you to conceal them from me, or why you should see fit to put obstacles in my path, when I respectfully ask to see them, may be better answered by you than by me. Your action is certainly suggestive of anything rather than a desire that I shall make good in my assertions. The plans and specifications set forth just what we complain of—that they are so drawn that we do not have fair play. I would suppose that you would be particularly anxious to have the plans and specifications inspected by me. Any obstacle placed in the way simply convinces the unbiased spectator that there is something that the supervising architect of the Treasury Department and his superiors in office desire to conceal. If you do not desire to conceal anything, why do you prevent me from inspecting the records that are official?

"Believe me that the State of California is in earnest in this matter, and will not be satisfied until I am allowed to pursue my investigation in my own way, and not in accordance with the suggestions that may emanate from the person or persons whose acts are under question, and have

been under question for a long time.

"I understand that, as a citizen, I have a right to see the plans and specifications, to make copies of them, to make them as public as I may desire, to compare them for the purpose of determining how near intention and performance, in the matter of discriminating against California, have come on a number of highly interesting occasions. I would ask that you either give me the authority to see all the papers or else deny me the power. Anything else is subterfuge and is unworthy of a high official in the service of the United States Government, and this is especially true when it is considered that the great State of California has its rights in this matter and that you are deliberately placing yourself in defiance of these state rights for some purpose which, I know, may be wrongly defined by thousands of your fellow citizens under the present status of affairs."

This letter was signed by Aubury as state mineralogist.

To producers of structural materials in this state who inquire how the proposed investigation into the alleged discriminations against California stands, Aubury is ready to show a file of letters recently received by him from Washington. In these, in the order of their dates, the following extracts are found:

From C. D. Hilles, Assistant Secretary of the Treasury, dated March 27: "Referring again to your contention that the supervising architect has habitually discriminated against California producers of structural material and to your request for authority to examine the records in Federal buildings in California, and particularly the plans and specifications, I beg leave to say that I would prefer to have you submit such facts as are in your possession, and that the further investigation will be made by the department. Plans and specifications of public buildings are on file in the department in Washington, and the investigating committee, if it is deemed necessary to appoint such a committee, can readily secure such necessary data."

From J. K. Taylor, April 10: "This office is in receipt of your letter requesting permission for a representative of your department to make inspection of certain plans and specifications in the office of Superintendent J. W. Roberts of your city. Until you shall have produced some basis for your accusations more tangible than mere accusations this office feels justified in doubting your good faith in this matter and deems it inadvisable to comply with your request."

As this answer came from the man who is accused of discriminating against California, State Mineralogist Aubury was not surprised; he has continued the correspondence and another letter has been received. This last mentioned one came from

R. O. Bailey, Assistant Secretary of the Treasury Department. It is as follows: "When you are ready to submit your report to the department please address it to me and it will receive the proper attention."

The State Mineralogist is still gathering material for his report. Denied by the Treasury Department of access to the evidence made through the plans formulated by the supervising architect, a mass of data has been gathered. Possibly the denials of his right to see public documents in behalf of the State of California in this matter may be heard of in official circles in Washington before Aubury finally sends on his report, which will include particulars concerning the method that has been adopted in Washington to deprive him of facts that he desires, to make his report as complete as possible.

## PLACERVILLE'S RICH GRAVEL MINE

The gravel strike made in the Hope mine, at Placerville, last week, is gathering importance with further exploration. The gravel is said to be running \$50 to the car, and if the strike proves as extensive as indicated, it will mean one of the most important discoveries in the history of the Placerville district. Search for this deposit has extended over many years, but drills and tunnels alike failed to locate it. Last Friday the first traces were found, since which several cars of the rich gravel have been extracted. The Hope Mining company is arranging to push developments on the new channel. Three other properties are located on the same channel, and eager preparations for its intersection are going on. The strike has caused considerable excitement in Placerville and has given a decided impetus to the boom now pervading this section.

The United Gold Mining and Milling company, holding 120 acres on the mother lode, near Tuolumne, has more thoroughly centralized its operations and is pushing developments with renewed vigor. Twenty stamps are in operation and twenty more are on the ground ready for installation as soon as developments warrant. The properties include the Tarantula, Western Extension, Lone Star, Tarantula Hawk and Omega millsite. British capitalists are largely interested.—Los Angeles Times.

The new brick stack at the Copper Queen smelter will be one of the greatest in the country, 300 feet high, and thirty-five feet in diameter, and with walls three feet thick. The base is of solid reinforced concrete, eleven feet thick and sixty feet in diameter. While the flue is round, the outside of the stack is octagonal. The first forty feet will be of red pressed brick and above that the outside will be of tile. Construction will be finished in July.

A Carson City, Nev., company, of which F. B. Whitelaw is superintendent, is arranging to do some extensive prospecting for coal.

## PREJUDICE AND GEOLOGY.

By Gordon Surr, in The Mining World.

Although certain substances are commonly associated with certain rocks, and although certain general principles are of wide application, each mineral district, nevertheless, is at least to some extent, a law unto itself. Consequently, unproved fields should by no means be condemned solely because they bear little or no outward resemblance to other productive regions. Many a district has been turned down which later yielded handsome returns, and many an important discovery has been made by the novice who, having an open mind, prospected regardless of formation and tested everything, whether or no it looked like ore to him. An individual, familiar only with the Mother Lode of California, would have probably thought little of the possibilities of, say Goldfield, Nev., before development, and rich regions have received scant attention because the formations did not appear "right" compared to those of the proved localities known to the visitors.

On the other hand, much time and money have been thrown away, both of which could have been saved by some geological knowledge or advice, showing that here, as in most things, there is a happy medium, for a blind adherence to an idea may do just as much harm as a dense ignorance of all theories and facts. With increasing knowledge, theories are apt to be modified or discarded, and those who tenaciously cling to ideas may, and often do, find great difficulty in harmonizing them with fact. Nor need one theory always necessarily exclude another. Some springs, for example, are doubtless due to surface waters, while others probably are now seeing the light of day for the first time, being of deep-seated origin. Similarly, all the known important accumulations of petroleum appear to have been derived from organic matter, but an inorganic origin best explains many of the occurrences of hydrocarbons in igneous rocks, meteorites and volcanic gases. Prejudice in favor of certain special conditions would have prevented many discoveries of petroleum, a fact well brought out by C. W. Washburne in his paper on "Gas and Oil Prospects near Vale, Oregon, and Payette, Idaho," published in Bulletin 431, of the U. S. Geological Survey. Referring to this region Mr. Washburne says:

"This field bears no geologic resemblance to any other oil or gas field in the United States, with the possible exception of the prospective gas field at Salt Lake. This statement should in no way detract from the possible value of the field; in fact, the repeated attempts to compare the strata and phenomena here with those of the California fields are both unnecessary and unjustifiable. The comparison shows disregard for the history of oil developments, for the erratic fluid has repeatedly been found in places where no previous experience warranted a prediction of its occurrence. No oil

(Continued on Page 21).

## MINING MATTERS

### Late News from Districts Producing Precious Metals.

The biennial report of the Colorado State Bureau of Mines will prove a valuable source of reliable information. The report takes up in detail the progress in metallurgy and mining that has added to the profits to be won in the production of ore. Magnetic and electrostatic separation, together with more efficient table concentration, has put value into mixed sulphide ores that a few years ago were worthless. At Leadville the discovery of zinc carbonates last year added 33 1-3 per cent to the zinc production of the district. Gilpin and Clear Creek counties have entered upon a new era of prosperity following the completion of the Newhouse drainage and transportation tunnel, and the provision of modern concentrating plants. At Cripple Creek the water level is sinking at the rate of three inches daily, and with the cutting of other water courses by the Roosevelt tunnel this will be increased to six inches daily and 754 feet added to the workable depth of the mines in eighteen months. The important advance made in the application of the cyanide process is shown by the fact that the Golden Cycle plant at Colorado City treated nearly 50 per cent of the Cripple Creek output in the year 1910. The New Portland and the Stratton's Independence Mills in Cripple Creek district are handling low grade ore at a cost of \$1.50 a ton or under, and the Ajax will soon have a new mill in which the Clancy cyanide and cyanamide process will be tried out on a commercial scale. At Boulder a mill will be built that promises to do for Boulder county what similar mills have done for Cripple Creek. In the San Juan the modern mills at some of the larger mines have demonstrated what can be earned in the treatment of low grade ore, and the zinc production of the San Juan will grow with the application of the same methods that have succeeded elsewhere in the state. Tungsten production has already become a great industry and arrangements are in progress for the construction of a ferro-tungsten plant that will save the freight charges on concentrates now shipped to eastern plants. Vanadium production has been retarded by metallurgical difficulties, but the material is available for an important and profitable industry. Dredging in the Summit county placers has been exceptionally remunerative, and the State Commissioner of Mines, T. J. Dalzell, looks for dredging development in Colorado comparable to that in California. The limits and trend of the Boulder oil field have been determined, the production increased, and a gas supply developed that promises manufacturing industries. And all over the state the extension of the distributing lines of the power companies has reduced the costs and

increased the profits of mining.

#### Camp Bird and the Revenue

Negotiations looking to the acquisition by the Camp Bird, Limited, of the Revenue-Virginus group in Ouray county, are in progress. Although the Camp Bird has recently opened rich ore in new group, it has been drawing heavily on its reserves for a year or more. This mill is a thoroughly modern plant of large capacity and represents a large investment. The Revenue mill is antiquated and in poor repair. It is reported also that the ground on which it is built is slipping, with considerable damage to the building. But the extent of the ore reserves has been increased in the past year. What amounts to a new mine of great productive capacity has been opened in the Montana vein. The Revenue workings on this vein extend into San Miguel county and a large and continuous production could be maintained were satisfactory treatment available. This treatment could be provided at the Camp Bird mill. The Camp Bird needs the ore, and the Revenue needs the mill.

#### Will Cyanide Tailings Dump

John Q. MacDonald, vice-president of the United States Reduction and Refining company, reports that the new tailings mill at Florence is ready to begin operations. It will have a daily capacity of 500 tons, and is expected to make a profit out of tailing that averages only \$1.05 a ton. The estimated amount of tailing in the dump is 600,000 tons. As the ore was roasted when first treated, re-grinding will be all that is necessary preliminary to leaching with cyanide solution. Tube mills will be used.

#### Cripple Creek Activity

Arrangements are in progress for resuming work on the Roosevelt drainage tunnel and driving it ahead toward the Elkton and Battle Mountain mines. Work on the Fuller crosscut from the tunnel continues. The flow from the portal at present is 6,250 gallons a minute....The main Cresson shaft is being sunk from 1,200 feet to the water level as rapidly as the water recedes. In the new ground ore has been opened in larger bodies than in any of the upper levels and its value is well maintained....Lessees of the Wild Horse mine and mill have stopped shipping to the valley plants, and are handling with good profits at the Wild Horse mill forty tons daily of \$5 ore.... The Portland company has just paid its second quarterly dividend of the present year. The amount was \$60,000, making a total to date of \$8,799,020. The new mill at the Portland mine is now handling more than 10,000 tons a month, and the average of this ore for March was \$3.64 a ton. Before the new mill was built ore of this grade was thrown on the dump.

## NEWS NUGGETS

## Concentrates Gathered From Various Properties.

The ore of higher grades and the coarse concentrates from the new mill are sent to the Portland mill at Colorado City. A rich strike at a depth of 1,450 feet on the Blue Bird on Bull Hill is reported. A narrow streak of almost sylvanite has been opened in a vein of five to eight feet in width, averaging nearly \$40, aside from the high grade streak....The Elkton Consolidated Gold M. & M. Co. has just paid its bi-monthly dividend of 1½ cents a share, amounting to \$37,500 and making a total to date of \$2,794,460. The water in the Elkton is going down two feet a week.

## Heavy Shipments From Gilpin

March ore shipments from Gilpin county were heavier than for any previous month in the last three years. The Gilpin tramway carried 650 cars to the local mills, where 168 cars of ore and concentrates were sent from Black Hawk to the smelters. The increased production is due principally to better mills and improved methods of treatment, and especially to the new Frontenac and Aduddell concentrating plant. There are profits and dividends now in ore that a short time ago had no commercial value.

## Tungsten in Summit County

Tungsten ore of high grade, it is reported, has been discovered on Farncomb hill, in the Breckenridge district of Summit county. The discovery was made by C. S. Laughlin on the old Key West property, a part of the large Wapiti holdings of which Judge Charles Cavender of Leadville is the chief owner....The three dredging companies operating on the river bed auriferous deposits of Summit county are making regular shipments of placer gold....There is an excellent opportunity for a modern cyanide plant to handle Summit county ore, and when built it is certain of the same success that has followed the development of cyanide treatment for Cripple Creek ore.

## Cyanide Plant for Boulder

Good progress is reported in the local financing of the company that will build a modern concentration and cyanide plant at Boulder. The company has secured a site of 37½ acres at the mouth of Boulder canyon from the Denver, Boulder & Western Railroad, and is rapidly placing the first allotment of its preferred stock among Boulder people. It has the active support and backing of the Boulder County Metal Mining Association, the members of which have guaranteed a supply of ore, and the plans have been formulated after a thorough investigation of the plants handling Cripple Creek ore. Tests of Boulder ore made at these plants have proved that it can be treated economically and profitably by the cyanide process, and the construction of the mill may be expected to have the same effect in reducing freight and treatment costs that has followed in the Cripple Creek district.

Mining men are again turning their attention to the west fork of the Kettle River, B. C.

The Republic mines of Washington now claim a monthly shipment of 8,000 tons of ore, worth \$150,000.

The Trenton Iron Company has two engineers making a survey for the Saline Valley Company's tramway, near Swansea, Cal.

A private conveyance was driven up to the Tonopah Banking Corporation's doors the other day and two men, typical prospectors, delivered to the officials gold bullion to the amount of \$13,000, which was taken from a lease on the Big Four.

The Mining News of Wonder, Nevada: At the Nevada Wonder it now begins to look as though the beginning of the commencement is about ready to start.

The first shipment from the Miami, at Globe, Arizona, consisted of three cars of concentrates.

The consolidation has finally been completed between the Calumet and Arizona Mining Company, and the Superior and Pittsburg.

As a result of a visit of a party of directors and big stockholders in the Arizona Copper Company, operating at Clifton, Arizona, from Edinborough, Scotland, it is believed that the near future will bring important changes in the reduction plant of that company, which is now old and pretty well worn and lacking in many of the more modern methods of copper reduction which go to lower the cost of production.

The ninth annual report of the Tonopah Mining Company shows net returns of \$2,011,422. The yearly surplus was \$461,422 and the report shows gross surplus of \$5,373,841.

The Amalgamated Copper Company has now consolidated all its Butte properties into the Anaconda Copper Mining Company.

Operators in the Cobalt, Ontario, district, are realizing that even with trenching, there is always a possibility of overlooking or missing small veins. The Nipissing company, which owns the most ground, is going to clean off a portion of the surface down to bedrock by hydraulicking and, if this pays as it probably will, the entire property will be prospected in the same manner and other Cobalt companies will, no doubt, do the same.

The annual report of the Nipissing Mines Company shows that the cost of producing silver, for the last year, was 14.72 cents an ounce.

The March cleanup of the Bunker Hill, in Amador County, California, amounted to \$30,000, the recovery being entirely from low grade ore.

Some years ago a fortune was taken out of the Half Moon, on Gold Hill, Cripple Creek, Colorado. Recently, ore running \$50 a ton in gold, has been found in one of the old stopes.

The Evil Root group of claims in the Funeral range, on the east side of Death Valley, is now under negotiation to a Philadelphia syndicate.

The announcement comes from Douglas, Arizona, that the Calumet and Arizona Mining Company will build a new smelter alongside its old

plant, which will be operated till the new one is completed.

One of the most important hydraulic methods ever employed in mining in the Walnut Grove district, near Prescott, Ariz., has been inaugurated at the J. G. Cox placer locations. The method pursued at present is to pump from a well in the Hassayampa river and play onto the gravel banks with a direct current that has sufficient force to melt the soil rapidly. No storage is resorted to and the work is of an experimental character to ascertain values. The operations are attracting much attention and the results obtained are the forerunners of others engaging in the industry on hydraulic or dredging principles.

The Mother Lode mine, near Greenwood, B. C., has enough ore blocked out to ship a thousand tons a day for the next six years.

Sawyer and Weaver, owners of the Weaver, near Masonic, Cal., claim they have made the richest strike ever made in that field since the discovery of the Jump Up Jo.

Work will be resumed on the Golden Prince group at Pioche, Nev.

The 1200-foot level of the United Globe is pushing east and is now past the old Hoosier shaft, in block 38, where its face is in concentrating ore of a good grade. The United Globe is now sending 150 tons daily to the concentrator and 25 tons daily to the Old Dominion smelter, besides 60 tons of silicious ore that is sent daily to the Copper Queen smelter at Douglas, Ariz.

Senator Clark came to Los Angeles last week from Jerome, Ariz., where he has such heavy copper interests.

H. M. Bowen has taken an option on the Jamison mine, at Layne Springs and will soon have a force of men at work. It is understood that Mr. Bowen in sampling the mine found some very rich ore in the old workings that had been overlooked. The ore ran well in gold, besides carrying nineteen per cent copper and sixty ounces silver to the ton. The ore also carried lead values. No one would believe the ore was so good by looking at it, there being only small black specks of mineral showing in the white, talcy quartz.

Last week C. P. Topliff, a Los Angeles mining engineer, purchased a group of mines, near the south end of the Chemehuevis mountain, making an initial payment of \$5000. The mines had just been located by Bennet & Company, prospectors. Otto Kubin and associates, of Chicago, formerly owned the mines and had done some work on them. Mr. Bennet and his partner found a new place on the properties and when Mr. Topliff saw the ore he at once concluded that it was just what he was looking for. A force of men has already been put to work on the mines and a deep shaft is already in contemplation.

O. D. M. Gaddis this week visited the Mossback mines, in company of T. Walter Beam, a Denver mining engineer. Mr. Beam made an examination of the property for a New York concern, with the view of taking over and working the mines. For many years Mr. Beam was field engineer of the United States Steel Corporation, and looked after new mining investments for his clients—Mohave Co. Miner.

## THE EARLY BIRD

**MOKELEUMNE HILL, Cal.**—The Early Bird is running full-handed and the ten-stamp mill is pounding away on good ore.

The Three B gravel claim has struck good paying gravel. There is no telling just at present what extent the gravel bed is, but from all indications there is at least three years' work ahead of them for the fortunate owners.

Some of the stockholders of the Hamby mines were in town during the week and they are jubilant over the mine. The work of sinking is now in progress. The Hamby is a mother lode proposition.

There will also be considerable work done in the Chili gulch district. —Mining Record.

## SEARCHLIGHT NEV.

Robert Dunbar, of the Black Hawk, Eldorado Canyon, passed through here yesterday en route to his home at Jersey Shore, Pa. Mr. Dunbar expects to return in July. While in the East, Mr. Dunbar will make arrangements for the purchase of a pumping plant and a cyanide plant. The recent mill run was very satisfactory, the ore plating good values. The tonnage run was in the neighborhood of 100 tons. The mine is looking exceedingly well, the values being better than ever.

Judge H. H. Roes and son paid a visit to Searchlight the fore part of the week. The gentlemen are stockholders in the Pittsburg-Searchlight Mining Company, operating about two miles east of town, and while here made a thorough investigation of the mine and expressed themselves as highly pleased with the showings made and the work being done. They were also very favorably impressed with the appearance of the district in general.

It is reported that a strike has been made on the Skidoo property in Eldorado Canyon. This property is owned by Messrs. Riley, Truax and Martin, and attracted considerable attention some time ago on account of its phenomenal surface showings. The value of the late find is not known, but it is great enough to cause the owners to take their holdings off the market. The tunnel is in about 80 feet.—Bulletin.

J. Y. Ownbey and G. F. Hinton, representing F. N. Campbell, of Denver, have taken an option on the Criderman-Tower placer claims near Libby, Mont., and will prospect the ground with a machine drill, preliminary to the installation of a dredge.

# PETROLEUM NEWS

## Recent Happenings Among Oil Men. Notes from the Wells.

In Los Angeles county the first field is Newhall, one of the oldest pools in the state. New work is constantly going on in this field, and the production holds up remarkably well. From Newhall down the San Fernando valley there is another break of thirty miles, where the Los Angeles city and Sherman (Salt Lake) fields are encountered. It is believed that these fields have reached the limit of their productiveness, although the decline amounts to almost nothing.

Promise of future increase is noted in the Whittier district, and through the Puente hills into Fullerton. Then in Orange county various pools are encountered. These fields have not been fully developed as yet, but they are productive and among the most stable in the entire state.

While practically every portion of the state where there are any oil indications has been prospected, the old proven fields have not been exhausted by any means, and most of them are capable of a much bigger production than at present. This will come with an extension of the market for oil.

## HONOLULU CONSOLIDATED

The Honolulu Consolidated Oil Company has brought in another good well in the Buena Vista Hills which promises to be of as large proportions as any of their other wells. This time the strike is on section 12-32-24. The hole is finished up with a four-inch casing and a two-inch tubing was placed inside so as to more easily control the flow. The well was kept under perfect control during the entire process of bringing in, but the gas pressure was so very strong that it forced the oil up between the four-inch casing and the two-inch tubing at the rate of a thousand barrels per day.

The oil is from 25 to 26 degrees in gravity. There is every indication that this will be one of the best wells in the entire Midway field when it is permitted to do its full capacity.

About a mile to the east of the Honolulu company's new well, the Pyramid Oil company has a hole down to a depth of 2050 feet and the ten-inch casing has been landed at this point. The Pyramid company states that at the present rate of progress this well will be finished in from thirty to forty days. The company expects to carry the eight-inch casing into the oil sand—in any event not less than a six-inch casing. The gas pressure in the Pyramid company's well at its present depth is so strong that it throws the water and mud several feet up out of the top of the casing several times a day. This pressure is getting stronger with each additional foot in depth. With a gas flow like this the Pyra-

mid company anticipates that it will have a good flowing well.

## CONS. MIDWAY GUSHER

Well No. 1 on fractional section 30 of the Consolidated Midway property, known as the "gusher," after sanding up last week to the extent of about 1500 feet in the casing, broke loose again yesterday morning shortly after 9 o'clock.

The first production seemed to be on the basis of 20,000 to 25,000 barrels a day. Towards the late afternoon this increased and the oil was thrown into two sump holes through 2½ and 3-inch pipes, one on each side of the derrick. The production at a late hour yesterday seemed to be increasing steadily, and without any signs of rocks or sand coming through with the oil.

It seems to be the opinion of experienced oil men that this well will now continue uninterruptedly, although there is a possibility of it sanding again for some short time. The gas pressure yesterday was so great that the roar of the column of oil could be heard for some miles distant, and in consequence a large crowd of people, numbering several hundred, came from Maricopa and adjacent points to view the sight.

The oil from this well is contracted for to the extent of 2,200,000 barrels by the Standard Oil Company, they having installed a 6-inch pipe line direct from the well.—Los Angeles Herald.

The use of liquid fuel in Russia is spreading. The Technical Committee of the state railway has decided to generalize its use and the railways have contracted for half their supplies for 1911-1912.

The Osage Pool seems to be nearing its complete exhaustion. The daily production has dropped below 22,000 barrels.

Mr. O. B. Wrinrich, who was formerly manager for the Credit Petrolier, in Roumania, has been appointed manager of the Orion, with offices at Bucharest.

Very satisfactory results are being obtained at the Steptoe smelting plant in McGill, where two of the five reverberatory furnaces are now being fired exclusively with oil. Within a short time the power plant, the roasters, and at least one engine, will also be consuming the liquid fuel in place of coal.

France is already producing more aluminum than she can consume and a syndicate has been organized to find markets for the surplus. The day is not far distant when the price of aluminum will have a material bearing on the price of copper.



## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

J. F. Callbreath, Jr., of Denver, Colo., Secretary of the American Mining Congress, has been in Los Angeles for a week. He is on his way to Portland to attend the meeting of the North West Mining Congress, which meets in that city May 16th, 17th and 18th.

E. B. Kirby examined mining property at Signal, Arizona, last week.

Herman Reischke, the mining operator of Reveille, Nevada, reports much mining activity in his section. Considerable shipping ore is on the dumps and as soon as the roads are passable shipments will be made to the smelters.

Sumner S. Smith, who was in Tonopah at the time of the Belmont disaster, in charge of the United States rescue car, has been appointed Mine Inspector of Alaska by President Taft.

W. F. Chaney has left Los Angeles to resume work on his tungsten mine near Vontigger, California. He has about twenty tons of ore on the dump.

W. E. Mouck is now the superintendent of the Croesus mines and mill at Halley, Idaho, and is planning an active campaign.

E. S. Bailey, who took over the Shumate placers, near Vicksburg, Arizona, has gone east, taking with him samples of the gold bearing dirt.

At the annual meeting of the Tom Reed Gold Mine, held in Kingman, Arizona, last week, the following officers were re-elected: President and treasurer, Chas. Grimes; secretary, W. C. Lawrence; directors, John Sprague, D. A. Lewis, William C. Mason, N. P. Thorndyke and Charles Mushrush; attorney, T. G. Norris. All the above except Norris are residents of Los Angeles and Pasadena.

P. K. Kelsey, of Lewiston, Idaho, has taken charge of the Murdock drift gravel mine on Nigger Flat, four miles from Placerville, Cal.

Wm. C. Porter, who is general manager of the El Paso smelter, says there will be no shut down because of the trouble across the border. The smelter will secure its ores elsewhere.

George M. Taylor, who was formerly assistant manager of the mill of the Portland Gold Mining Company, at Cripple Creek, Colorado, has been appointed general manager.

Andrew Snedden, foreman at the Shannon mines, near Clifton, Arizona, took Mrs. Snedden and young son with him on a visit back to the old home in Illinois.

Ike Stevens is working on a prospect nine miles above Metcalf, Arizona.

J. H. Miller, president of the Miller Mining Company, Crescent, Nevada, has returned from an eastern trip. The company is erecting a forty-ton mill.

Harry Moore, a capitalist of Sidney, O., has been in Arizona looking over mining properties near Goddard, in which he is interested.

The Pioneer quartz mine at Dutch

Flat, in Nevada county, is being re-timbered and will be worked by Harry B. Morse, who has the property under bond.

George Aitken is working a force of men on his mine at Music Mountain, Mojave County, Ariz.

Mark R. Lamb, of New York, is going to Santiago, Chile, South America, on work for an American mining machinery concern.

J. Parke Channing, vice-president of the Miami Copper Company, at Globe, Arizona, has returned to New York.

Mr. Brian Leighton, of London, England, has been at Porcupine.

J. C. Adams and B. F. Dunshee are the two assistant general managers on the Anaconda Copper Company, at Butte, Mont.

Forest Rutherford is assistant superintendent of the Copper Queen smelter at Douglas, Arizona, and, it is reported, received a gunshot wound during the fight at Agua Prieta.

E. J. Sieben, of the Atlas Engineering Company, Portland, Ore., was sent to make an examination of the Montana-Frisco mine, near Philipsburg, Mont., by the stockholders.

The manager of the Ben Ezra, at Nob Hill, Nevada, Wm. Mackenzie, has started for a summer trip along the Pacific coast.

Jay P. Graves is general manager of the Granby Consolidated Mining, Smelting and Power Company, at Phoenix, B. C.

J. N. Andrigon, manager of the Three Nations Gold Mining Company, at Porcupine, Ontario, has begun active development of the property.

James Quinn, superintendent of the Ely Consolidated, says the property is steadily improving.

L. D. Gordon and associates have taken over the operation of the old Cerro Gordo near Keeler, Cal., and are handling it for its zinc ores. In former years it was a great silver-lead property and made fortunes for everybody connected with it.

S. V. Bodfish and Judge Owen, of Colorado Springs, have been negotiating for the American Flag, at Park City, Utah, for themselves and New York associates.

John Molder, of the New York-Arizona mines, west of Morenci, Arizona, has been entertaining B. S. Miller and Mr. Neal, of Columbus, Ga.

Andrew B. Canavall, mining engineer, of the Amargosa mines in Mexico, 12 miles from Fort Hancock, has passed over into Arizona to await the close of the revolution before resuming operations.

H. W. Fletcher is associated with Dee Clark in a lease on the original strike in the Jarbridge district. He has gone to Denver to buy a mill. While the lease only runs two years, it gives them the right to mill all the ore they get out in that period, however long it may take.

O. L. Geer, who is president of the

Arizona Gold Mines Company, at Congress Junction, Arizona, has gone east on business for the company.

Bert Hitt has been getting out a trial run of six tons of ore from his lease on part of the Savahai ground, in the Whipple mountains, Parker district, for the Automatic Gold Separator Co. of Los Angeles.—Wickenburg Miner.

H. H. Freeman has resigned his position as master mechanic at the Clara Consolidated, at Swansea, Arizona, and gone to Douglas. He has been succeeded by E. E. Northrop.

J. A. Burgess, formerly chief engineer of the Tonopah Mining Company, has been appointed superintendent of the Wonder Mining Co., at Wonder, Nevada.

W. J. Weatherby, the mining engineer of Alma, N. M., has made a mine examination at Parsons, N. M., for eastern capitalists.

J. M. Snow, of Wade & Snow, Salt Lake City, has surveyed the claims of the Onaha Mining Company at Sacramento Pass, in the Blackhorse district, near Ely, Nev. He reports a very encouraging outlook.

Robert McCart, Jr., is Assistant Manager of the Inde Gold Mining Company at Inde, Durango, Mexico.

J. L. Rollins, of Denver, has been looking over his mining property at Pinos Altos, N. M.

Thos. J. Grant is superintendent of the Nevada-Arizona Mines company, at Hackberry, Arizona.

J. M. Rice, of Randsburg, has been looking over mining properties near Barstow, California.

Harry G. Wolf is the general manager of the Japan Mines and Tunnel company, at Telluride, Colorado. He recently returned from installing the milling plant for the Stanley Mining company, at Idaho Springs, which is owned by the stockholders of the Japan.

## SIERRA MADRE CLUB VISITORS

F. W. Wellbacker, Baltimore, Md.; A. Cummings, So. Pasadena; F. H. Godfrey, Vancouver, B. C.; C. F. Moore, Salt Lake City; Earl Harding, New York; J. M. Porter, Pittsburgh; J. B. Potter, Goldfield; G. T. Santley, Whittier; R. W. Argue, Lima, Ohio; L. B. Westcott, S. F.; Hon. O. N. Hilton, Denver, Colo.; O. H. Guether, Colorado Springs, Colo.; E. B. Straub, Denver, Colo.; J. O. Elms, Wallace, Idaho; J. O. Lewis, Palo Alto; R. De Voty, Goldfield, Nev.; W. B. Alexander, Tonopah; W. H. Clark, Salt Lake City; E. M. Hand, Rochester, Mont.; Theo. Stevens, Goldfield, Nev.; F. C. Van Deinez, S. F.; H. A. Dunn, Globe, Ariz.; J. R. Baird, Redlands; T. B. Perrin, Twin Falls, Idaho; P. S. A. Bickel, Twin Falls, Idaho; W. S. Guilford, Twin Falls, Idaho; J. A. Pollard, Twin Falls, Idaho; W. J. Parker, Moztatland, Mex.; J. E. Rice, Rochester, N. Y.; F. R. Best, Boston, Mass.; C. A. Hawden, Boston, Mass.; J. R. McDaniel, Denver, Colo.; Geo. O. Shroter, Denver, Colo.; W. Bruce Helin, N. Y.; F. A. Strehlke, Ely, Nev.; E. M. Rogers, N. Y.; A. B. Rogers, Denver; F. Parker, Santa Monica; Leo. M. Rappaport, Indianapolis.

## GOLDFIELD CONSOLIDATED

GOLDFIELD, Nev., April 21, 1911.

Mr. Geo. Wingfield, President of the Goldfield Consolidated Mines Company, Goldfield, Nevada.

Dear Sir—During the month of March, 1911, the total production of your company was 25,714 tons, containing \$1,119,951.75, or an average of \$43.55 per ton, of which the whole was milled with an average extraction of \$41.38 per ton, or 95.45 per cent. The total net profit to your company was \$846,283.13, or \$32.91 per ton.

**Development Work**—3960 feet of development work were performed during the month of March.

**Operating Costs**—The total cost of mining, development, transportation, milling, office and general expense was \$8.55 per ton, distributed as follows:

Mining—	
Development .....	\$1.22
Stoping .....	2.21 \$3.43
Transportation .....	.10
Milling .....	2.44
Marketing .....	1.22
General expense .....	.56
Bullion tax .....	.63
Construction .....	.17

Total cost of operation..... \$8.55

**Combination Mine**—In this mine we have opened up an ore body in the footwall of an old stope on the second level that has produced 565 tons of ore worth about \$189,500, or \$300 per ton. It is impossible to estimate the extent of this ore body, but the indications are that it will extend to the surface, at least 50 feet above the present back. The stope is now 20 feet long and 15 feet wide, and is being extended in length.

**Mohawk Mine**—In this mine the 354 sill has been considerably extended and has produced 1320 tons of ore, worth \$66,000, or \$50 per ton. And nearly 100 feet further into the footwall another ore body was cut and seems to be from 8 to 10 feet wide. One hundred feet of drifting has been done on this shoot, and has

produced 430 tons of ore worth \$38 per ton. This is probably a branch from the big ore body cut in the 354 sill.

**Clermont**—In this mine the downward extension of the 300 ore body on the 600 level (near Laguna) was cut by an intermediate 40 feet vertically under the 600-foot level. Not enough work has been done to estimate either tonnage or value of this ore body.

In the 750 north drift six feet of \$15 ore has been cut. The face of the drift is still in ore. The indications, however, are that it is not a very long shoot.

Nothing of any importance has been found in the Red Top, Grizzly Bear or Laguna.

The mines as a whole are looking well. The mill at the present time is crushing about 900 tons a day, and we have experienced no difficulty whatever in supplying that amount of ore. The Red Top and Combination mines are being operated on the day shift only, and with the exception of the Clermont, the mines are closed down every Sunday.

During the month of March we

purchased from the Jumbo Extension company for \$195,000 their half interest in the Vinegerone claim.

The net profit for the month of April will be about \$750,000.

Yours very truly,

(Signed) J. F. THORN,  
General Superintendent.

## DRY PLACERING.

Rofino Mendoza and his father J. A. Mendoza have been doing some dry placering on the north side of the range in which the King of Arizona is located and about two miles to the King camp. They have been meeting with very good results and the last two weeks they have taken out by the dry process some \$200 in nuggets. Some time ago they found one nugget that weighed \$48.

Mr. Mendoza reports that L. B. Moody has leased the group of claims belonging to Max Cohn adjoining the King of Arizona and is breaking and sacking ore preparatory to shipping it to the smelter at El Paso. The ore in these claims is rich enough to justify its shipping.—Yuma Sun.



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## THE UNITED VERDE MINE

(Continued from Page 9)

which he owned there. As the statement about the property appealed quite strongly to General Fremont, we made an early start one morning the General's son Frank accompanying us. We reached the foot of the mountain in the evening and camped that night. The following morning we took to the saddle and soon we had a view of the Verde Valley made brilliant by the rising sun, an experience which can never be blotted from one's memory.

As all of my note books and copies of reports bearing upon my Arizona work at that time are buried in a store house I have to rely upon my memory for the following details of the examination. The outcrop and definition of the vein on the narrow plateau on the summit of the ridge was most impressive from a miner's standpoint. The outcrop projected well above the surrounding surface, and was made up of malachite, azurite, chrysocolla and cuprite, a veritable flower garden, for a width of 15 ft. There had been but little surface stripping. For a short distance down the hillside the outcrop was readily traced but was finally lost sight of under a heavy growth of chaparral. The strike of the vein was apparently across a gulch but could not be definitely traced without tools for cutting down the undergrowth and breaking up the surface. About 100 ft. vertically below the outcrop an adit about 50 ft. in length had been

driven 5 or 6 ft. into the vein at right angles to the strike. My impression is that it had not passed through the vein. In this crosscut there was considerable chalcopryite and some chalcocite.

The outcrops and also the ore in the adit were sampled, in the latter case the copper sulphides being separately assayed. The assays showed no precious metals in the oxidized ores, but did give 10 oz. silver (with no gold) in the sulphides.

On my return to Prescott I informed the owner that he undoubtedly had the making of a good mine but that as it was a smelting proposition nothing could be done at present, for the reason that there was no fuel in the country and ore could not be shipped when the nearest railway was 180 miles distant. As the Atlantic & Pacific road, now the Santa Fe, was beginning to be talked about I advised him to hold on. To this he responded "I am hard up and if you can let me have \$10,000 within the next 60 (?) days I will deed you a half interest in the mine."

On the strength of this proposition I sent a statement of my investigation to a party in New York, who with others was to pay me in about 90 days a considerable sum of money for some steel patents, asking for an advance of \$10,000 on account for the purpose of securing the half interest in the mine.

The telegraphic answer to my letter read; "Take my advice and have nothing to do with mines."

That mine is the "United Verde."—Engineering and Mining Journal.

The Douglas Daily Despatch says:

In thirty days, or by the time summer travel begins, the entire S. P. route to Los Angeles will be made dustless.

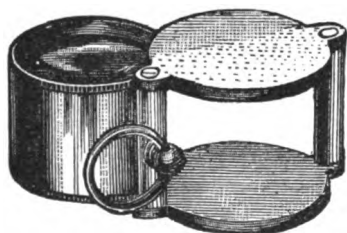
Seventy big cars loaded with heavy California crude oil are now being "sprinkled" on the western end of the Tucson division, and seventy cars just as big are being deposited on the western end of the Los Angeles division.

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## REDUCED FARES EAST

During May, June, July, August and September, 1911, round trip tickets will be sold to many Eastern points at greatly reduced fares. These tickets will be on sale only on certain days in the months named, and will be limited to fifteen days on the going trip and until October 31st, 1911, for return.

Stopovers allowed on the return, at any point west of Chicago and Mississippi River points.

Some rates via direct routes both ways:

Denver, Colorado Springs, Pueblo.....	\$55.00
Omaha, Kansas City, Dallas, Houston....	60.00
St. Louis, Memphis, New Orleans.....	70.00
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PREJUDICE AND GEOLOGY

(Continued from Page 15).  
would have been found in the Trenton limestone of Ohio if the prospectors had insisted on drilling only in sands and shales like those of Pennsylvania; no oil would have been found in the fissured syncline of shale at Florence, Col., if the sands and anticlines of the eastern states had been considered essential; the mounds in Texas and Louisiana, which have cores of salt, would never have developed into oil fields if the phenomena of northern fields had been considered necessary. In parts of Europe the presence of menillite shales is thought desirable; in California the presence of diatomaceous earth is important; in Mexico some of the best fields have been developed near volcanic necks and dikes. Large faults and complex structures have been commonly tabooed as fatal to oil fields, yet there are good oil fields in Roumania, Galicia, and California, where the rocks are not only overturned and faulted, but the faults seem to have promoted the migration of the oil, and in some places even to have sealed permeable strata by bringing them into juxtaposition with impermeable rocks, thereby creating instead of destroying an oil reservoir. Although much valuable knowledge can be obtained in any oil field, the greatest care must be used in applying this knowledge to another field, for its improper application will be more injurious than beneficial."

This last remark is also true of mining districts in general. Neither ores nor petroleum, however, can occur in quantity without both sources of the materials and suitable conditions for their deposition or accumulation, an axiom of universal application. Hence to drill for oil in a formation wholly made up of compact igneous rocks would be a foolish undertaking. To search for chrome iron ore or serpentine asbestos in granites or to look for veins bearing tin or tungsten in serpentines would probably likewise be a waste of energy, though all that can be definitely said is that these substances have not as yet been found in commercial amount associated with such rocks. Gold, on the other hand, occurs in all kinds of rocks, which is not surprising, seeing that it is widely distributed and that the quantity of gold, in even a rich ore, would be styled a trace, were it some common metal. Nevertheless, some conditions are more favorable than others, and long ago was it written, "surely there is a vein for the silver, and a place for gold where they find it."

The elements were formerly thought to number four, earth, air, fire and water, and later it became the fashion to make light of the efforts of the alchemists to convert base metals into gold, yet in view of the breaking down of radium into helium, the alchemist of old, in building his hopes, may have "built better than he knew." Galileo's ideas of the movements of the earth were received with scorn, and many still cling to the notion that the interior of our world is actually liquid but, of course, fail to explain how it is that the globe is

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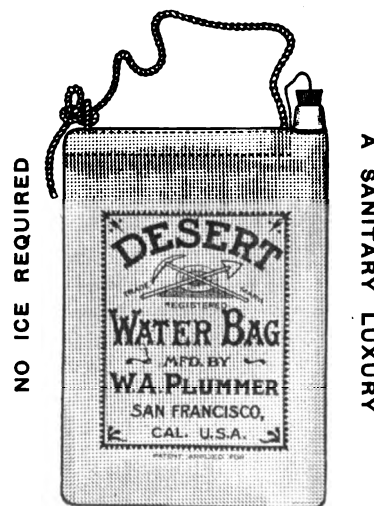
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more rigid than steel, which is the case. The writer once attended an entertaining lecture in which the endeavor was made to prove that the earth is flat, the lecturer terming those of his belief "planeists," in distinction to the majority who hold that the world is a globe and who were, therefore, styled "globites." The writer confesses that he is still a "globite," and merely mentions this planeist or "flatte" as an extreme instance of the large class who close their eyes to facts and so love darkness rather than light.

Numerous examples could be cited of a tendency toward change in the views of geologists, and theories pertaining to geology, as well as to other branches of science, should be held only until better ideas are presented. Nor is there any occasion to term an individual a crank merely because he advocates a new view, although many persons, once considered peculiar, have been of such great and lasting benefit to the world that to be styled a crank may in truth be a compliment.

In short, "when the judgment's weak, the prejudice is strong," and while the true scientist fully realizes what a little he knows, it by no means follows that one, "able to render a reason for the faith that is within him," should hide his light under a bushel. Those who lack the courage of their convictions seldom accomplish much, and in this connection it will be re-

called that the Laodiceans were severely censured because they were "lukewarm, and neither cold nor hot."

A decided stand is usually better than none at all, but "let him that thinketh he standeth take heed lest he fall."

#### MOHAVE CO., ARIZ.

This week W. M. Harrison made a deal whereby his mines in Secret Pass were taken over by representatives of the Olds Automobile Company. F. B. Close and F. S. Wilhelm are the engineers that reported on the property. These men will have charge of the preliminary work on the mines and have employed fifteen men to go out to the mines tomorrow morning. The mines are said to be large veins of gold bearing ore, and are well situated for economic mining. Mr. Harrison has done quite a large amount of work on the properties and has exposed rich milling ore.

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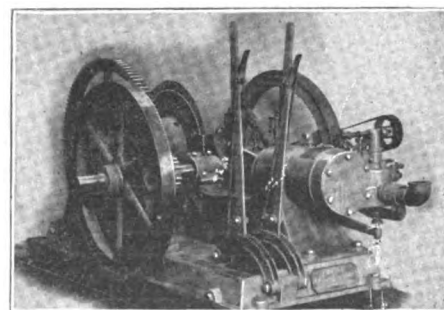


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#### MINING MYSTERY

Something is doing in the local mining world, but mystery envelops it in a veil too thick for the eye to penetrate, says the Reno Gazette.

One thing is certain; somebody has made a strike somewhere and a selected few of his friends are in on it, but the general public has not yet been invited to participate.

The standing of the men in the proposition is such that only one reason can be ascribed for their secrecy. They are determined to prove up the strike before letting a rush get started, and if it does not show to be big, probably the world will never hear about it.

Gurney Gordon is certainly one of the chosen few. In fact, it is whispered that he is the owner of the discovery claim. He makes mysterious trips to the east, saying at times that he is going to Jessup, and at others to Battle Mountain.

Jack Salisbury lit out suddenly for the east the other night and Eddie Smith was missing for a time. "Prince" Dromiac wanted to go with him, but Eddie gave him the slip. It is known that H. C. Cutler has been running back and forward and each time he brings a couple of sample sacks of ore.

Ole Elliott is another man that is hitting the eastern trail, as well as one or two friends of his who look like eastern investors, judging from their brand new laced boots and sombreros.

But no matter where and when the members of the party go, they usually come back together and they get on the train in Churchill county.

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Machine drills are being installed in the Loretta mine, near Bishop, Cal.



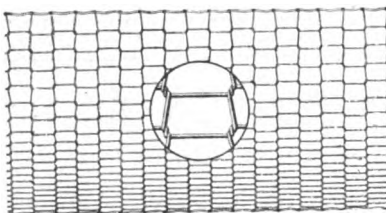
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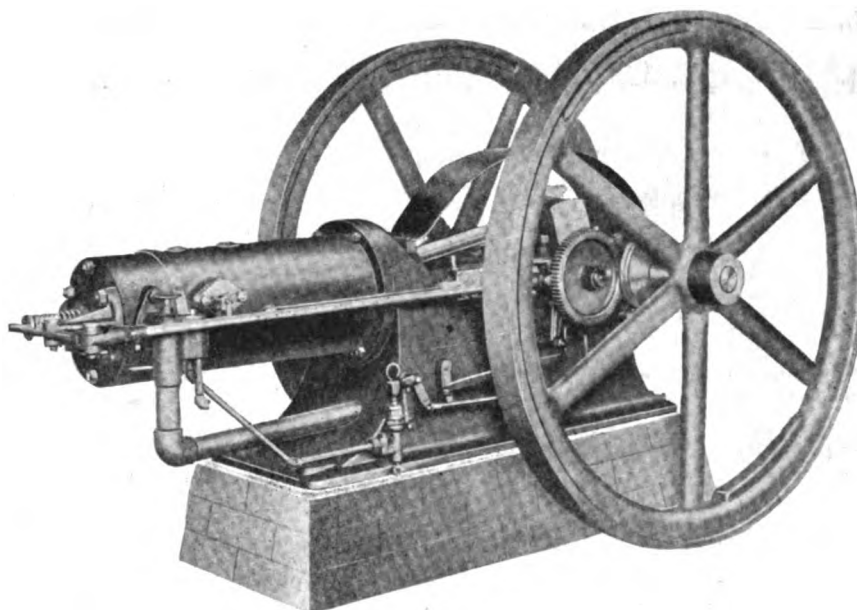
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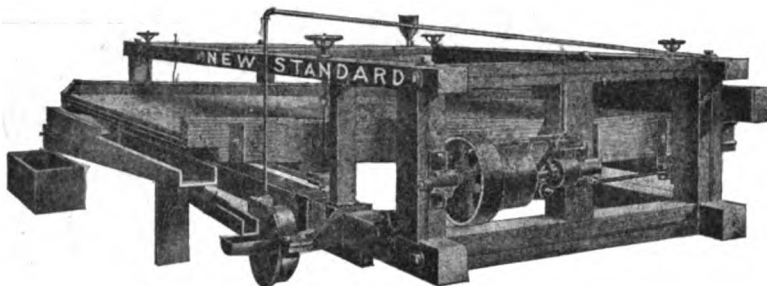


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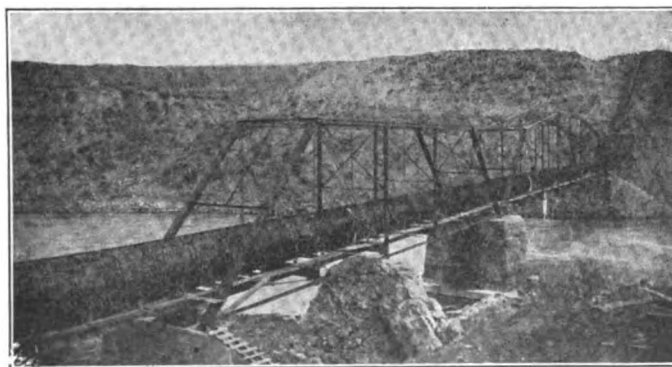
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## CONTENTS

### Indians and Indigo



Editorial

### Alaskan Coal

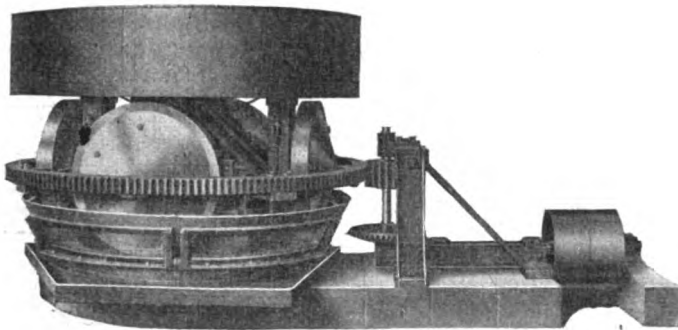


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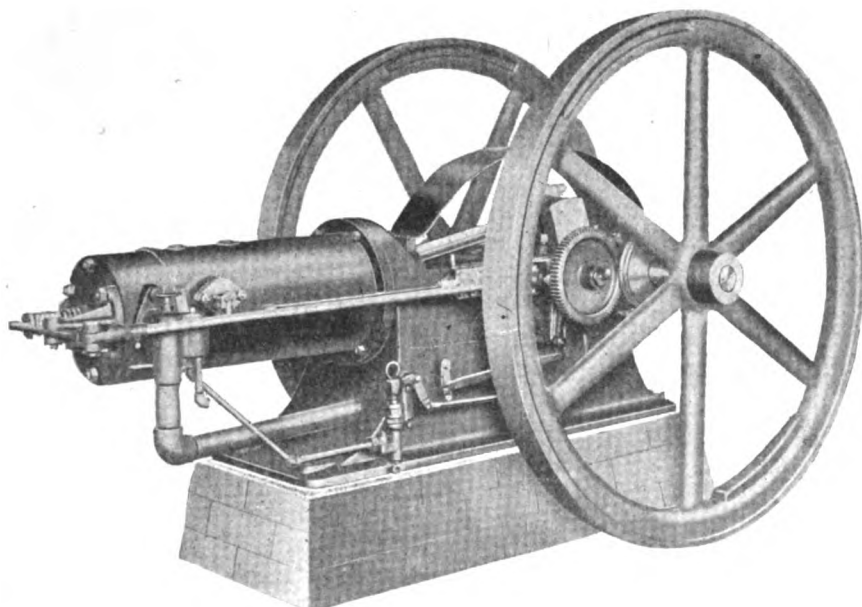
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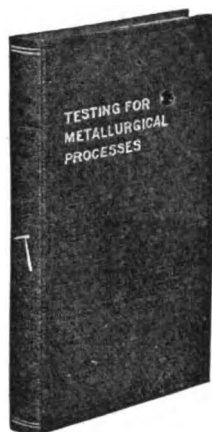
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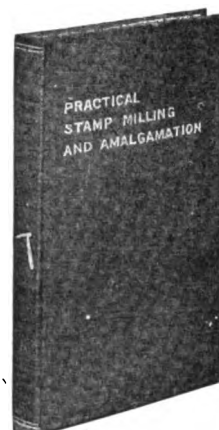
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SANTA BARBARA, CAL., Dec. 24, 1910

*To our Eastern and European Correspondents:*

In addition to our lands at Miramar, Riverside, Redlands, Lompoc, and at Ensenada and Magdalena Bay, Lower California, we have secured

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Headquarters: Ochsner Building, Sacramento, Cal.; and we intend to make it equal to, if not of greater value to the State of California, than any of our well-known California Colonies. Being in the heart of the fertile Sacramento Valley and adjoining Sacramento City, is considered a valuable asset to said city.

It has advantages never known to any other Colony in the United States—and you will see the truth of this statement, when we show that it has two of the greatest Overland railroads running through it from Sacramento, viz., The Western Pacific Railroad and The Southern Pacific Railroad. It also has The Northern Electric Railway from Sacramento to Marysville, Oroville, Chico and soon to be extended to Red Bluff.

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Far superior is the modern method, for most of the pumping is done by electricity furnished by two great electric power lines which cross the Rancho, viz.: The Bay Counties Power Co. and the Great Western Power Company. The charge for power from either of these companies is very low.

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The Sierra and Sacramento Railroad lines now n course of construction, will pass directly through the Rancho. When the contemplated extensions of other electric lines are completed, there will be no portion of the entire 44,000 acres of the Rancho del Paso more than hree miles from a steam or electric road. It is safe to say that there is not another ranch of its size so near to a large city having so many different transportation systems, making every quarter so easy of access to the Sacramento and San Francisco markets.

After considering the availability of the land of this Rancho del Paso, its closeness to market and to transportation lines, considering that not one acre of it will be farther than three miles from a railroad or an electric road, considering that the Sacramento River—the largest in the state—flows through the heart of the city of Sacramento and connects with tide water at San Francisco, considering the sure and ample water supply, the rich, fertile soil, the conclusion is plain, there is not a section of land anywhere in the West that can compare with the Rancho del Paso for value at the price we have placed on it.

There will be, in a very few years, no good land obtainable at such figures as we are now selling the Rancho del Paso tract. The history of the entire country all goes to prove that land is the best and safest investment, as well as the surest way of achieving independence. A small farm in the Rancho del Paso will not only make your living for you, but will increase in value all the time. While we are selling many ten-acre tracts, we offer special inducements to the purchasers of 100 acres or more.

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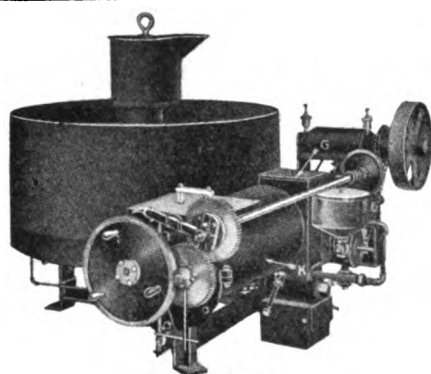
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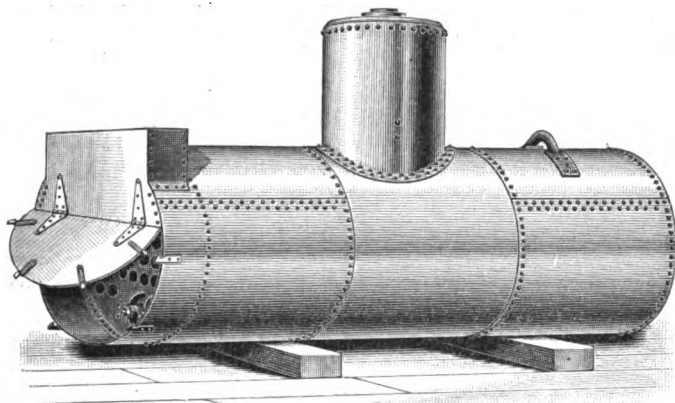
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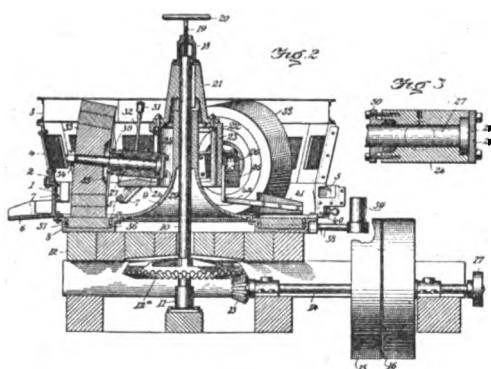
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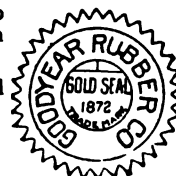
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Los Angeles, Cal., May 13, 1911.

## EDITORIAL

### ALASKAN COAL.

#### Boston Tea Party Re-enacted in 1911.

SEATTLE, May 4.—Private cable  
advices received from Cordova, Alas-  
ka, say that a mob has boarded an  
Alaska Steamship Company's vessel  
just arrived there with a cargo of  
Canadian coal and began dumping it  
overboard. The action of the mob is  
said to be the result of agitation  
against the importation of foreign  
fuel into Alaska.

It is asserted that the steamship  
company appealed to President Taft  
to send troops to suppress the riot-  
ing.

Business men of Cordova and ad-  
joining towns started a flood of mes-  
sages to President Taft urging im-  
mediate action on the coal cases and  
protesting against forcing the people  
of Alaska to pay high prices for

foreign coal while the native coal lay  
untouched. \* \* \*

CORDOVA, Alaska.—The excite-  
ment caused by the government's fail-  
ure to hurry action in Alaska coal  
lands cases reached a climax here  
yesterday, when 300 business men  
and citizens formed a mob and,  
armed with shovels, marched to the  
ocean dock of the Alaska Steamship  
Company, where they proceeded to  
throw several hundred tons of British  
Columbia coal into the bay.

Incensed at the thought of no re-  
ply to the many appeals cabled to  
President Taft to urge early action  
looking to the opening of the Alaska  
coal fields, the citizens of Cordova  
decided to follow the example set by  
the "Boston Tea Party" and thus ex-  
press the serious crisis that has been  
reached in the Alaska coal situation.

Among those who participated in  
the "coal party" were A. J. Adams,  
president of the chamber of com-  
merce, ex-Mayor W. H. Chase and  
Councilman James Flynn and Charles  
Ross. \* \* \*

WASHINGTON— Secretary of the  
Interior Fisher has answered by mail  
the cablegrams which were sent to  
President Taft by the citizens of  
Kalkalla and Cordova, Alaska, asking  
for relief from the coal situation in  
that territory. Failure to receive re-  
plies from President Taft yesterday  
was responsible for the citizens of  
Cordova engaging in the "Cordova  
coal party."

The dispatches of which there  
were about eighty, were turned over  
to the interior department by Pres-  
ident Taft. In his reply to their mes-  
sages Secretary Fisher said he was  
now studying the situation in the  
territory thoroughly and would rend-  
er such relief as he could as soon as  
possible. \* \* \*

You will note in the despatch from  
Seattle that the steamship company  
appealed to President Taft to send  
troops to suppress the rioting.

In the despatch from Washington  
one will notice that President Taft  
turned over about eighty unanswered  
telegrams of the Interior Department  
for attention and that the Secretary  
of the Interior has answered these  
telegrams by mail, telling the Amer-  
ican citizens in Cordova that he was  
now studying the situation in the  
territory thoroughly and would rend-  
er such relief as he could as soon as  
possible.

All of which reminds us very much  
of the situation at Cape Nome some

ten or twelve years ago. The public  
has not forgotten how the U. S.  
Judge, the United States Attorney,  
the Marshal and the Nome Postmas-  
ter, leagued together to use their offi-  
cial positions to take from the right-  
ful owners all the very richest mines  
in that field and place them in the  
hands of a "receiver," one McKenzie.  
It ought to be recalled that the auth-  
orities at Washington established a  
nearby fort with a garrison of troops  
all at the command of the judge or  
marshall.

What protests were sent to Wash-  
ington and how the American citi-  
zens appealed for justice and protec-  
tion from robbery perpetrated by of-  
ficials appointed by the same influ-  
ences to which they appealed for pro-  
tection.

And what a satisfactory time they  
had and what a stack of promises to  
look into the matter thoroughly and  
give any deserved relief as soon as  
possible.

When do you think the relief came?  
Any old miner would guess right the  
first time. After the mines had been  
cleaned out. And what became of  
the gold taken out by "Receiver" Mc-  
Kenzie? There was never any re-  
port made but it surely would be in-  
teresting to know who recommended  
the outfit for appointment and push-  
ed them so successfully through all  
the devious red-tape channels in  
Washington until they had their com-  
missions. We remember that the  
Nome postmaster used to go from  
Washington direct to New York.

Of course, had it not been for the  
United States soldiers placed so con-  
veniently, the gang would have re-  
ceived a trial by miners' court and  
would still be in Alaska.

For months the Mining Review  
has pleaded that the Alaskan  
people be given access to their  
own coal. We have realized all  
the time that it was on the public  
domain which is administered from  
Washington, but we also know that  
the people of the eastern cities could  
hardly expect to use the Alaskan coal  
in the winter any more than they  
can use Alaskan ice in the summer.  
Then it would seem to follow, in good  
reason, that the people who live in  
Alaska, and who need the coal so  
badly for fuel, would get prompt at-  
tention and some arrangement would  
be made under which they would  
have the use of the fuel. And that is  
the earnest desire of all the people  
in the United States—that their

friends and brothers in Alaska should have all the coal they need and have it now. The present generation should not shiver and freeze through the long Alaska winters so as to hold the coal for the use of generations yet unborn.

Now, why have they been denied the use of the coal at hand? Is the answer to be found in the list of owners and directors of the coal companies that supply that market with fuel?

One would think that the people at Cordova might have had the courtesy of a telegraph reply. Another thing that strikes us is the statement that the matter will now be studied. What has been done with all the publicity the Alaskan coal situation has received? Is it really necessary to throw a cargo of coal overboard before the President and his Secretary of the Interior could consider that the matter had been brought officially to their attention?

And after the Secretary has given the entire matter careful study, what is there to indicate that he will really know anything about it? We do not mean that there is any lack of intelligence or honest purpose, but our experience leads us to feel that there will be a lack of adequate comprehension.

The failure to take this matter up long ago is only an indication that its importance is not understood or that there has been a desire to dodge the responsibility of a decision. The cabinet has had the situation under discussion and that augurs no good thing for the miners, because the cabinet, combined, knows no more about the real difficulty than the President or his Secretary of the Interior.

The farmer or merchant in Pennsylvania can move west from state to state until he reaches Kansas or Nebraska, and while he will find some changes, there will be no material differences in crops or methods and he will be at home, in a few weeks, at any point he may select. This convinces him that he can go on still further and be at home; that there is nothing to learn that he can not learn in a few weeks. It is this lack of understanding that is at the bottom of the whole trouble. A man may have raised cattle in the Bad Lands of the Dakotas and still not be equipped to raise grain or fruit on the Pacific coast; he may have raised corn, hogs and wheat in the Mississippi valley, but that experience will not enable him to produce them here. And merchandising is just as different because the other conditions are so unlike.

We have mining, both metal and oil, and a man may be a high class expert in either and totally ignorant of the other. In metal mining, a man may be entirely competent at hydraulicking, or dredging or quartz mining and know nothing of the other two. A man may be the owner and operator of a splendid grain ranch and know nothing of stock. A man may handle a range with ten thousand head of cattle and know how and

when to market, to take charge of the roundup, rope, tie and brand—but it is vastly different from either mining or grain ranching. And another man—thousands of him—is raising fruit and he knows a whole lot about fumigating and packing but he would hardly pretend that he knew enough to conduct a stock range, or operate a dredge or even seed and harvest a few thousand acres of wheat or barley.

The beauty of it all is though, he knows that he does not know and then he begins to learn and learn fast. Why, the best miner in the entire west would not think of telling an Alaskan miner how or what to do. He has learned, long ago, that the man on the ground who has to produce results, knows what to do far better than the man who has not had that very experience.

We know of any number of mining men who could give the President or his Secretary of the Interior, the very information they need but, unfortunately, one or two members of the cabinet went along the Alaskan coast last summer and have thereby qualified as experts.

We have noticed that when a public building is to be erected, an architect draws the plans; when it is a battleship, then a naval constructor prepares the designs; armament is looked after and tested by the bureau of ordnance and gunnery; marine surveying and charting, by the hydrographic office; the public printing is in charge of a printer. But when they want to know anything about mining they consult a lawyer! Why not a horse doctor?

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#### "BEAUTIFUL FIGHTING"

Elsewhere in this issue announcement is made of the arrival in Los Angeles of J. A. Moffett, president of the Standard Oil Company, of California, and a vice-president of the Standard Oil Company of New Jersey with its headquarters at No. 26 Broadway, New York City.

There is also mention made of the arrival of another gentleman, Mr. J. Kruisheer, representative of the Rothschilds, of England.

The significance of these visits arises from the fact that the Rothschilds are credited with owning a controlling interest in the Shell Oil Company, the Royal Dutch and the Asiatic. These companies have been competing with the Standard Oil Company in all the markets of Europe and the Orient, not doing so in any deferential manner so as not to attract attention, but going at it hammer and tongs, apparently feeling that they were amply able to take care of their own interests. This struggle has unsettled the petroleum market abroad to such an extent that the smaller companies have had a difficult time to earn dividends.

However, there was one field in which the Standard remained undisturbed—the American market. Once in a while someone had brought a suit against the Standard and won, as in Missouri, Texas and Tennessee, but

they had immediately organized under another name and pursued their regular methods, serene and undismayed. When Judge Landis fined them \$229,000,000, they knew full well there was another and higher court that would reverse the decision.

It was such a joke that when the New York bar gave a dinner to one of its members who had been appointed attorney general in the new cabinet, the toastmaster, a former ambassador to England, Mr. Choate, poked fun at Judge Landis and his decision and it was accepted as uproariously funny. That it was unseemly for the attorney general to take part in belittling and ridiculing a United States judge never seemed to enter any one's mind. All this has been mentioned merely to show what plain sailing the Standard has had in the land of its birth.

A few weeks ago we published the statement that the Shell-Royal Dutch-Asiatic combination had made arrangements to open an office in San Francisco. This can only mean that the struggle for supremacy that has been waged in all the other oil markets of the world is to be brought into our American fields, beginning right here in California.

Which reminds us that when Colonel Gibson, of the 71st New York Infantry, reported to General Kearney, at the battle of Chantilly, and asked for orders, the general smilingly told him, "Go in anywhere, Colonel; there's beautiful fighting all along the whole line."

#### SNOWFALL IN THE MOUNTAINS. By Professor A. G. McAdie, U. S. Weather Bureau.

"April was a cool month and with much less precipitation than usually occurs. With the exception of light showers at the beginning of the month, there was little precipitation. The snow cover, which was unusually deep at the beginning of the month, increased slowly until about the 12th and then steadily diminished, until at the end of the month there was only about one-half the depth on the ground at the end of the first decade. At an elevation of about 7,000 feet there is now about eight feet of snow, well packed and melting at a fairly uniform rate of about four inches per day. There is every prospect of an abundant supply of water during the summer months, sufficient for irrigation, stock, mining and power operations.

"The season probably will be a late one, quite different from that of last year, which was one of the earliest on record."

The steamship Tamarac came into San Francisco the other day and discharged a cargo of 6100 tons of benzine, following which she began loading with petroleum for Hankow, China.

The American Petroleum, according to a circular sent out, has contracted its oil for five years to come for an average of 58 cents per barrel.

## INDIANS AND INDIGO

An Exciting Eleven Days' Chase after Indian Outlaws.— Incident in the Early History of Arizona.

[Written for the Mining Review by Mr. C. B. Genung, Forepaugh, Arizona.]

In June, 1871, I was farming in Peeples Valley, Arizona. Having occasion to go to Prescott and my wife not feeling safe at the ranch with the small force of men that I could leave behind, she concluded to go with me as far as Ed Bowers' ranch and station and visit with Mrs. Bowers until I returned. The Bowers family were our nearest family neighbors at that time, and they were twelve miles away on the road to Prescott in Skull Valley. I took with me W. H. Smith, my wife's brother, and a young man named Boyce for escort. We all stayed at Bowers' ranch the first night, and the next morning as we were leaving my wife called after me: "Don't forget the indigo!" She had sent by me for indigo before and I had forgotten it.

I had told my wife that I would remain in Prescott but one day and return the third day. I had some business with the Quartermaster which took me to Whipple where Herbert Bowers was keeping the sutler store. I found Herbert a very sick man, and as he was a dear friend of mine I spent a good deal of time with him trying to cheer him up. He had a bad case of yellow jaundice and was in bed all the time that I stayed with him.

I got settled up with the Quartermaster and got my voucher for what he owed me, and was back in Prescott late in the evening and had everything ready to start home in the morning. At 9:30 I started from the Diana Saloon—across the plaza to where I slept. Right out on the plaza I came upon Herbert Bowers standing there like a statue! My first impression was that he was out of his head. I asked him what in the world he was doing there. He said, "Charles, the Indians killed one of the herders and have gone with a hundred and thirty-seven head of horses, mules and cattle from my Agua Fria ranch. The other herder escaped the Indians and brought the word to the ranch. Nathan, my brother, sent a courier in to me, also one to Camp Verde. I have applied at Whipple for help, but there are no men nor animals there to go; all I can get there is one old pack mule."

I said to him: "You go to Brook & Lind's stable and get all the saddle horses they have and have them brought down and tied here at the Diana Saloon, then go to C. C. Bean and tell him that I want his buckskin team—one for me and the other for Smith, my brother-in-law."

I walked into the saloon and told the people what had happened, and called for volunteers to go out and get the stock back. The Diana Saloon stood on the corner where the

St. Michael Hotel now stands, and there were several more saloons right along side by side. The news spread like a flash and there were plenty of men to go but they had no horses. Just two men who were willing to go had horses, Tom Roderick of Kirkland Valley and Jeff Davis of Davis ranch on the head of the Has-sayampa. I saw John McDerwin in the crowd and called him to one side and asked him if he would tell my wife the next day that I had gone after Indians and not to expect me back until she saw me, which he agreed to do. By this time the horses began to come to the hitching rack. I singled out the men that I wanted, and we all got some lunch of whatever kind we could scrape together and at eleven o'clock—just an hour and a half from the time I left the saloon to go to bed—there were eleven of us armed and mounted and ready to make the most successful raid against the Apaches that ever started from Northern Arizona.

I had met John Townsend and been introduced the day that I stayed in Prescott, and as he was an Indian fighter I made inquiry for him before we got started and learned that he had started for his ranch on the lower Agua Fria, which was about twenty miles below Bowers' ranch; that he had gone via the Vickers ranch which was on the then only wagon road from Prescott to the Agua Fria. I wished to take the short trail; so sent two men via Vickers ranch to ask Townsend to join us, which he did, and we were all at the Bowers ranch before daylight. As several of our horses needed shoeing we got the negro blacksmith who was working for Bowers and had a good shop, to fit the shoes, while the men drove them on as fast as three hammers could do it.

By sunrise we all had had breakfast, and had a sack of flour, some bacon and coffee that we had got at the ranch. Just as we were ready to start I called all to attention and suggested that we elect Townsend captain of the company, which was agreeable to all. Then we were off, sixteen of us, having picked up four men beside Townsend in the Agua Fria settlement.

What provisions and some cooking tools that we had were packed on the old Government mule.

We traveled pretty fast after we got strung out on the trail of the stock until about noon, when we stopped to water and rest our horses. Tom Roderick had been in town drinking pretty hard for several days and was very anxious to have a drink of whiskey, thinking perhaps some of the men had a bottle in their saddle bags. We all had saddle bags on

our saddles those days. Tom called to Townsend and said, "Captain, if I can't get a drink I'll die sure."

Townsend replied: "Oh! not so bad as that, Tom."

Says Tom: "I bet you two hundred dollars I'll die in fifteen minutes if I don't get a drink."

He lived although he didn't get the drink.

The first night we camped on a sidehill where there was good grass, and the next morning we were moving by daybreak, and about sunrise we ran into a soldier camp where they were just eating their breakfast. The soldiers had started from Camp Verde and had a Mexican for guide who had been a prisoner with the Apaches for a number of years, and he knew about where to cross the mountains to strike the trail that he knew the Indians would have to take the stock over. So when he struck the trail they made camp, where we came upon them. There were twenty-eight enlisted men, a doctor, and a young lieutenant named Morton in charge. The lieutenant was fresh from West Point, and as we rode along, Townsend being in the lead, the lieutenant asked one of our party who the leader was, and was told that Mr. Townsend, that man in the lead, was our captain. The lieutenant called to Townsend and walked out a little way toward him, as Townsend pulled his horse out a little to one side and stopped. He said, "Mr. Townsend, my name is Morton, and I suppose we are all out on the same business and I would like to accompany you."

"All, right," said Townsend, "come ahead," and he rode on.

We had a bad slow trail all forenoon climbing over a rough malapa country, and for long stretches the mescal was so thick that two horses could not pass on the trail. The mescal leaves are as sharp as needles and as hard as steel. It would ruin a horse if he happened to run against one.

The soldiers soon came stringing along and overtook us about the time that we got to the top of what was known as Ox Yoke Mountain. There we found several ox yokes which had been taken off of oxen that had been run off in other raids by the Indians. The Mexican guide told us that it was twelve miles down the mountain side to the Verde River from that point.

Here the Mexican guide said that the Indians were liable to fire the brush ahead of us; so we rushed our horses down the steep brushy trail as fast as we could, but we had not gone more than two or three miles before we saw the smoke rising down the canyon below us. The trail led down the north side of a ridge which was cut with steep gulches, and as it was on the north side and the mountain was very steep the brush and grass did not burn very readily. Still nearly all of the soldiers were cut off by the fire and had to leave the trail and make their way around as best they could, everybody for him self.

We reached the Verde River about



two o'clock in the afternoon, horses and men all pretty tired and hungry but all safe and sound. We crossed the river at the mouth of the east fork, and camped to let our horses rest and graze while we got something to eat ourselves. Here we scoured the country thoroughly to be sure that the Indians had not divided their party, but satisfied ourselves that the whole lot of them had gone the one trail up the east fork. About four o'clock we started again on the trail, which led up the river for several miles, then turned up the face of a great table mountain which was one mass of lava boulders and the trail so steep that most of the men had to dismount. Townsend had told me about this place, having learned of it through some soldiers who had been there and had to turn back as the Indians had rolled boulders down from the top until the whole face of the mountain seemed to be flying rocks of all sizes. The mountain is several miles long, and from the top down for many hundred feet it is a perpendicular bluff, then slopes to the river below. The trail ran along under this bluff, and the Indians could stop an army from passing along that trail if they were to throw over even small-sized boulders.

Several parties before us had gone as far as the foot of this mesa where the trail started up, and then had given up the job and turned back. When we got to this point we all bunched up and some of the men started up the trail. Townsend let them go a little while and then called them back; told one of the soldiers to fire a shot to recall them that were out of hearing of his voice. When the men were all turned back we strung out single file, which was the way we traveled all the time, and before sundown were back at the place we had left several hours before.

Townsend said to the lieutenant, "Have some of your men fire a shot or two at a mark."

Townsend wanted the shots fired, but did not want the citizens to waste their ammunition. He thought it did not make so much difference whether the soldiers had ammunition or not. When we overtook the soldiers that morning Townsend was mad, for up to that time the citizens and soldiers when they hunted Indians together never could get along agreeably. The officers had always wanted to boss the job, and made a failure of it every time. So far Lieutenant Morton had not made any suggestions at all, but had just come along, which was agreeable to Townsend and all the rest of us.

We built up big camp fires, fired a few shots, put out a strong guard and made down our beds, which among the citizens consisted of saddle blankets and saddle for pillow. We knew the Indians were watching our every move from the high rough points which surrounded us on all sides. We got our suppers and still kept the fires burning bright, and all lay down to rest if not to sleep. The guard was changed every two hours, and at two o'clock the fires were all out, and as noiselessly as possible we

mounted and retraced our steps to the foot of the big mountain which we reached just as the light began to show in the east. Noiselessly we began to climb up the face of that mountain, and by the time it was light enough to see to shoot we were all over the worst of it; but we had now several miles to travel along the face of the mountain directly under that great bluff, which seemed to hang over in places.

It was very slow traveling until we got past this big black mesa, then we had rolling hills to cross with occasionally a pretty rough canyon. About two o'clock the Mexican guide, who was ahead, threw up a hand and we all were on the alert. There had just gone over a ridge about a mile ahead of us an Indian on a horse. We were then in sight of quite a large piece of comparatively level land and could see cottonwood trees in the bottom along the East Fork, which at this place proved to be dry. Townsend and I jumped off our horses to tighten the cinch on our saddles, which let several of those that were in the line behind us go by, and they were going as fast as they could. Among the others that passed us was the lieutenant.

When we had traveled about a quarter of a mile, Townsend ahead of me, he saw an Indian track in the dry dirt which bore off the main trail to the right, and we followed it as fast as our horses and eyes would allow, and of course all who were behind us followed us. Across the flat that we had seen from a distance we all went as fast as our horses could carry us, and on the opposite side of the river we ran into an Indian camp pretty well hidden in the brush. The Indians had most of them gotten out of their camp and were making for the hills through the thick brush, but we were shooting every one we could see that was near enough to make it worth while trying our guns on.

As we were crossing the dry river bed I noticed one Indian running apparently behind a hill, and I started for the top of the hill as fast as I could, and just as I reached the top I caught sight of a big fellow running down a gulch. I dropped him, and as he fell I saw another in a bunch of oak brush about seventy-five yards away. I shot him, and he fell in the brush. Among the soldiers was a Corporal Flynn who had done duty for a long time between Camp Verde and Prescott as mail carrier, and Flynn saw the last Indian that I had shot when he fell. Flynn having followed me up the hill. Flynn said, "You hit, but I think you only wounded him."

So I told Flynn if he would ride up on a little point of a hill that overlooked the place where the Indian fell so that he could see if he ran out and at the same time cover my horse which I left where we stood, that I would go into the brush and see what I had done to the red. Flynn stationed himself where he could see all around, but could see nothing of the Indian; so I advanced cautiously into the brush and in a few minutes heard shots off to my right. I

looked and there were seven or eight soldiers about two hundred yards away, and then I heard a bullet strike a rock close to me. Flynn began to yell like a crazy man, and said: "What in — are you d—d boys doing? Trying to kill a white man?"

The soldiers had seen my black hat moving in the bushes and mistook me for an Indian, and had all taken a shot without dismounting. I found the Indian, who had crawled into the thick brush; but he was a good Indian.

We had spent so much time looking for the Indian that there was no use in doing anything but to go and find the balance of the people. We returned to the Indian camp, and were the last to get there.

Morton, the trailer, some citizens and a few soldiers had struck a big trail while running on the main trail that we had been following. This trail crossed the main trail at right angles and led up a small ravine to another Indian camp, but much smaller than the one that we had struck. The lieutenant had no rifle, but killed a big buck Apache with his Forty-five—about the first one that was killed. Altogether we had killed thirty-five Indians that we knew were dead. We plundered the camp, and about five o'clock took the trail and followed it until dark.

After we had eaten something and were sitting around camp Townsend asked the trailer what was the meaning of "Wapop" in the Apache language. He said it meant "Oh, Father!". Then Townsend told of shooting a young Indian about eighteen or twenty years old and breaking his leg. The fellow grabbed hold of a brush and pulled himself up, stood on one foot and slapped his breast and cried out, "Wapop! Wapop!" two or three times before he got the second shot. This was probably a white man who had been with the Indians so long that he had forgotten his mother tongue, as all who saw the body said it was much whiter than any Indian.

The next morning we took the trail as soon as we could see distinctly, not wishing to miss any sidings, as we were on the rolling country which we knew was the divide between the East Verde and some other stream, and we were expecting the Indians to break up into small parties as was their custom when followed and pressed by the whites. However this did not happen in this instance, as we had completely fooled them and put them entirely off their guard by doubling back to the Verde from the foot of the big mesa. It was very lucky the Indian the men saw on horseback the day before did not see us, or the alarm would have been spread and we should only have got the thirty-five.

(Concluded in Next Issue.)

A. M. Howat, for the United States Smelting Company, is busy sampling the Rockland mine, near Pine Grove, Nevada. The samples will be run at the sampling works at Yearington.

## OVER THE COLORADO DESERT INTO DEATH VALLEY

Prospecting Expedition Leaves San Bernardino Thoroughly Equipped and Well Organized—Will Be Out Several Months.

A few weeks ago there came to Los Angeles, a mining engineer, W. C. Marshall, who had made Denver, Colorado, his headquarters for many years. He had done a great deal of work in Colorado, Utah, New Mexico and even in Nevada and Arizona, but

They bought eight burros in San Bernardino and from that point they made their start on Wednesday morning of last week. They have the necessary prospecting tools, a good camp outfit, guns, ammunition, medical supplies and galvanized iron tanks for

Palms and the surrounding country; thence they will work north and northwest into the Mojave Desert.

In a general way their route has been laid out to the northwest till they reach Alpine County, California, where they will probably remain



"Ready for the Trail"—Photograph taken just before leaving civilization.

he realized that the opening of the Panama Canal will make this city a great mining center and a good place with which to be identified.

Mr. Marshall has not only done the engineer's work but has made some very important investigations and discoveries for syndicates that have secured his services from time to time. He has organized and taken charge of some very successful expeditions that explored new fields and opened up a number of valuable properties and the benefits of all such work have gone to investors elsewhere.

Another such exploring and prospecting expedition has just been organized, with Mr. Marshall in charge and with this city as its base. The men associated with him are Dr. W. C. Dickson, R. E. Nathanson and Thomas Frey, all of Los Angeles.

packing water and constructed for this trip. The party also carries a good field outfit for testing the ores they find. In addition, they have a set of the best county maps they could purchase, of the territory they expect to cover, and a map issued by the geological bureau which shows where water is to be had, not only on the Colorado Desert and the Mojave Desert, but around the rim of Death Valley and including southwestern Nevada.

Leaving San Bernardino, they struck due east for the west base of the San Bernardino Range, thence south into Riverside County and along the west slope of the Morongo Range as far south as the Morongo Pass, thence east into the Imperial Valley, swinging northward to 29

some time, giving that field a good examination.

Mr. Marshall has promised to write the Mining Review, from time to time, when within reach of a post-office and give an outline of the geology and mineralogy of the country they cover and the places where supplies may be had and where water can be found. In the letter he sent us from San Bernardino, at the moment of departure, he reiterates the above promise and adds: "I do this for the benefit of other prospectors." Surely that is the right spirit.

We believe this expedition to be the best equipped in every way of any similar undertaking from this city and, as it will cover one of the richest mineral zones in the world, it is sure to be a splendid success.

### TUBE MILL

Mr. Geo. E. Roth has practically concluded arrangements with a Los Angeles firm to establish a tube mill

at the old Bagdad-Chase mill, Barstow, to work the tailings. Mr. Roth is recovering good values. For information of those who never saw a tube mill, it is a big iron cylinder like a boiler, revolving horizontally.

It is half filled with hard rocks the size of a baseball, and the ore finely ground is carried through in a cyanide solution. Thus all values are extracted as at the Tom Reed and Gold Road mines.—Barstow Printer.

## ACT PASSED BY GOVERNOR JOHNSON TO SAVE NATURAL GAS

New Measure Now in Effect Will Prevent the Needless Waste of Millions of Cubic Feet Annually.

Governor Johnson has approved of the Act suggested by State Mineralogist Aubury, and passed by the California Legislature at its recent session, which provides a penalty for permitting the unnecessary waste of natural gas from wells. The date of approval was March 25, 1911. The act is therefore in effect. The text of the measure is as follows:

Section 1. All persons, firms, corporations and associations are hereby prohibited from willfully permitting any natural gas wastefully to escape into the atmosphere.

Section 2. All persons, firms, corporations or associations digging, drilling, excavating, constructing or owning or controlling any well from which natural gas flows, shall upon the abandonment of such well, cap or otherwise close the mouth of or entrance to the same in such manner as to prevent the unnecessary or wasteful escape into the atmosphere of such natural gas. And no person, firm, corporation or association owning or controlling land in which such well or wells are situated, shall willfully permit natural gas flowing from such well or wells, wastefully or unnecessarily to escape into the atmosphere.

Section 3. Any person, firm, corporation or association who shall willfully violate any of the provisions of this Act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not more than one thousand dollars, or by imprisonment in the county jail for not more than one year, or by both such fine and imprisonment.

Section 4. For the purposes of this Act each day during which natural gas shall be willfully or unnecessarily allowed to escape into the atmosphere shall be deemed a separate and distinct violation of this Act.

Section 5. All acts or parts of acts in conflict herewith repealed.

Section 6. This Act shall take effect immediately.

The necessity for a measure of this kind arose from the fact that at different places in the State where wells have been drilled for oil and other purposes, only gas has been met with. Where it has been possible to utilize this gas for domestic or other purposes, it has been done but there are many instances where the wells have been abandoned and countless millions of cubic feet of gas have been allowed to go to waste in the atmosphere and no attempts were made to cap the wells. Some of these wells have been flowing for years.

Demonstrations that gasoline can be profitably extracted from natural gas have been made in Ohio, West Virginia and Pennsylvania, where a number of plants have been installed. It is reported that a large plant is soon to be established in Kern County on the Honolulu Gas Well, where it is expected to handle 4,000,000 cubic feet of gas daily, which is expected to yield 8,000 gallons of gasoline per day.

In some instances it has been found difficult and almost impossible to control the flow of gas in wells. Owners have made every attempt to do so; but, in numerous instances where oil was sought for and only gas encountered, the wells have been abandoned without any attempt to check them. Hence, with a knowledge of these facts, State Mineralogist Aubury brought the matter to the attention of the Conservation Commission where the above bill was prepared and presented to the Legislature.

to determine. The courts cannot compel it to set aside the lands for settlement; nor to suffer them to be used for agricultural nor grazing purposes nor interfere when, in the exercise of its discretion, congress establishes the forest reserves for what it decides to be national and public purposes.

"In the same way and in the exercise of the same trust, it may disestablish a reserve and devote the property to some other national and public purpose. Those are rights incident to proprietorship to say nothing of the power of the United States as a sovereign over the property belonging to it.

"Even a private owner should be entitled to protect it against wilful trespasses, and statutes providing damages done by animals cannot be recovered until the land has been enclosed with a fence of the size and material required, do not give permission to the owner of cattle to use his neighbor's land as a pasture.

## Statutes Do Not Apply

"They are intended to condone trespasses by straying cattle; they have no application to cases where they are driven on unfenced land in order that they may feed there.

"Fence laws do not authorize wanton and wilful trespasses nor do they afford immunity to those who, in disregard of property rights, turn loose their cattle under circumstances showing that they were intended to graze on the land of another. This the defendant did under circumstances equivalent to driving his cattle on the forest reserve."

In the California case Justice Lamar upheld the rules which the secretary of agriculture had promulgated for the control of reserves. He said the violation of reasonable rules regulating the use and occupancy of the property is made a crime, not by the secretary of agriculture but by congress.

It was difficult, he said, to separate the legislative power to make laws and the administrative power to promulgate rules and regulations to put the laws in force.

"The offense is not against the secretary but as the indictment properly concludes, contrary to the laws of the United States and the peace and dignity thereof."—L. A. Herald.

## THEY WIN.

The Stargo mine is about half a mile from Morenci, Ariz., and it is being operated by Manager W. L. Keppler. The mine is owned by Mr. Keppler, Thos. F. Campbell, Joe E. Tellez, Peter Fuentes, Mrs. C. A. Campbell and Mrs. Len Scott. The ore, gold-silver, is contained in a contact between a shale hanging and lime footwall. The vein is from 2 to 30 feet in width, and of course values are better when it narrows down. There are several shafts, two of which are equipped with horse whims. Extreme depth is 165 feet.

The history of this property is interesting. Nine months ago it was idle, and someone offered the owners \$15,000 for it. Mr. Keppler advised against the sale, and strongly urged

## U. S. SUPREME COURT SUSTAINS FOREST RESERVES

WASHINGTON.—The legal battle against the forest reserves of the west in particular, and federal conservation of natural resources in general, was lost today in the supreme court of the United States.

The court not only upheld the constitutionality of the establishment of the reserves for any national and public purpose, but it settled once for all that the federal government and not the states may say how the reserves shall be used. The immediate results of the decision are that Fred Light, a Colorado cattleman, will remain enjoined from allowing his cattle to graze on the Holy Cross forest reservation in Colorado, and that Pierre Grimaud, K. P. Carajous and Antonio Inda, California sheepmen, must answer to the indictments charging them with grazing sheep on the Sierra forest reserve without permit.

The subject was dealt with in two opinions delivered by Justice Lamar. The entire court concurred. The basic

principle on which Justice Lamar proceeded, was that "the nation is an owner and has made congress the principal agent to dispose of its property."

"The United States can prohibit absolutely and fix the terms on which its property may be used," said the justice in the Colorado case.

"As it can withhold or reserve the land, it can do so indefinitely.

## U. S. Rights Defined

"It is true the United States does not and cannot hold property as a monarch may, for private and personal purposes. But that does not lead to the conclusion that it is without the rights incident to ownership, for the constitution declares that congress shall have power to dispose of and make all needful rules and regulations respecting the territory or property belonging to the United States.

"All the public lands of the nation are held in trust for the people of the whole country. And it is not for the courts to say how the trust shall be administered; that is for congress

all the owners to "put in a little money and work the mine." This they finally decided to do, and in nine months the Stargo has paid them in actual profits \$20,000, leaving a very good working fund in bank beside. The ore is shipped to the Copper Queen smelter at Douglas.—El Paso Mining Journal.

## REMARKABLE AREA MAPPED

The United States Geological Survey's topographic map of the Mount Lyell quadrangle, California, which was recently brought up to date by field surveys has just been reprinted. It shows a fine piece of mapping of a remarkable part of the High Sierra. The area mapped affords one of the best illustrations of the old lowland plain which, uplifted in early geologic time, now forms the crest of the Sierra in California to the west and south of Mount Dana and Kuna and Kolp peaks. The quadrangle contains a portion of the famous Mono Lake, which is about 15 miles in diameter. This lake has no outlet and lies in a beautiful mountain valley where there are perhaps 20,000 acres of volcanic land that under irrigation will yield large crops of alfalfa, grass, and other products. To the west and southwest extends the great backbone of the Sierra with a multitude of peaks which tower to heights of 10,000, 11,000, 12,000, 13,000, feet, and even higher. South of the lake are the Mono craters, once active volcanoes, and one or more similar craters are probably covered by the lake itself.

### Water Power Streams.

Tuolumne, Merced, and San Joaquin Rivers head in this high mountain region. The Tuolumne flows through the beautiful Hetch Hetchy Valley and the Merced through the more famous Yosemite Valley in the Yosemite National Park. On all these streams there are splendid water powers; indeed the Tuolumne and the San Joaquin, whose waters merge in the region to the northwest of the Mount Lyell quadrangle, have probably as great if not greater possibilities for the development of water power than any other two streams in California. Portions of the Mono and Sierra national forests are included in this area.

The fine forest area on the west slope of the mountains is one of the most striking examples of beautiful rugged mountain country west of the Sierra divide, where there is abundant verdure and ample water power. Immediately to the east, in Pumice Valley and around Mono Lake, is the border of the great Nevada desert. Looking down upon this desert country and upon Mono Lake is Mount Dana 13,050 feet in height, the descent from its peak to Mono Lake, a distance of 8 miles, being 7,638 feet.

### Glaciers and Trout Streams.

Many examples of fine glacial sculpturing are seen in the Mount Lyell quadrangle and the region abounds in large and small glacial lakes and streams which are alive with trout of many varieties. A number of pic-

turesque glaciers contribute to the water supply.

Lyell Canyon, heading on Mount Lyell at an altitude of 13,090 feet, is a splendid U-shaped glaciated canyon, the original V-shaped gorge having been scoured and ground out into its present form by the irresistible forces of the ice flow. In the southern portion of the quadrangle is the Devil's Post Pile, a great mass of basaltic columns rightfully regarded as one of the natural wonders of the Sierra. In the vicinity of Iron Mountain and the Minarets is a highly mineralized section in which gold, silver, copper, and iron show good prospects.

The quadrangle is traversed by many trails and some good roads, which are frequented each year by mountain-loving tourists. In 1909 the State built a road from Leevining Creek to the Tioga road, leading to Tioga Lake, making a through route across the mountains. This road opens easy communication from the entire Nevada desert country, including the Mono Lake, Tonopah, Goldfield, Death Valley, and Owens River regions, through to the coast. The only other available wagon roads are those over Sonora Pass, 50 miles to the north, and Walker Pass, 200 miles to the south.

The Mount Lyell map is sold by the Geological Survey at Washington at the nominal price of 5 cents. A portion of the quadrangle is included in the area shown on the Yosemite National Park administrative map, the pocket edition of which, bound in covers, is sold at 35 cents singly, or 21 cents each if at least fifteen are purchased.

## SALT ON THE DESERT

Ten thousand tons of salt will be manufactured in Kern County within the next twelve weeks unless some unforeseen obstacle is thrown in the path of the Diamond Salt Company to prevent that corporation from accomplishing this end.

Numerous vats of 40,000 square feet evaporating surface are being built at Kern lake on the desert twenty miles south of Randsburg, and as soon as this work is completed water will be turned into them from which the salt will be extracted by the sun evaporation process. They are constructed in the style of levees and mud reinforced with lumber, which will give them ample strength to hold the water, and in such a manner that little loss of water will be experienced through seepage.

Several large wells are being drilled and windmills installed for furnishing fresh water to the works and the enterprise, when in operation, will be one of the largest, aside from the oil industry in the county.

Allowing that a small sack of salt weighs approximately five pounds, which is said to be about the average, the annual output of the plant on the desert will be approximately 2,000,000 sacks.

The salt industry in Kern County is a practically new one, and it opens

up a tremendous field on the desert where water can be obtained. The Diamond Salt Company, which is handling this enterprise is one of the largest manufacturers of salt in the world and with sufficient funds to thoroughly handle every branch of the industry Kern County is assured of a new and attractive industry of immense proportions.

The Diamond salt refineries are located on the California-Nevada railroad only a short distance from the scene of the present operations, which, with good railroad facilities, will make it an easy matter for the manufacturers to refine the raw product within the confines of Kern County.—Bakersfield Morning Echo.

## CO-OPERATIVE MINE RESCUE TRAINING.

Editor Mining Review—

Sir: In the investigative work of this Bureau it becomes necessary at times to employ temporarily miners who have been trained in the use of breathing apparatus. It is the desire to procure for such service miners whose training renders them most efficient.

To extend the list of available miners trained in the use of breathing apparatus by the Bureau, it is proposed to conduct supplemental training of miners trained at private or State stations and to issue rescue training certificates to all who prove themselves eligible.

In this co-operative work the Bureau will follow the scheme outlined below:

1. Representatives of the Bureau, upon invitation, will inquire into the facilities provided by mine owners, States or organizations for furnishing instruction and training in the use of breathing apparatus; and such stations as appear adequately equipped will be recorded as co-operating training stations.

2. Men trained in the use of breathing apparatus at such stations will, upon application, be invited to appear at government rescue stations or cars for examination for the receipt of a Bureau of Mines' certificate of training; or will be examined by government engineers or foremen at private stations when such procedure is practicable.

3. Those persons who pass the examination will be certified to this Bureau for record and the issuance of a certificate. Applications for record as co-operating training stations, or for supplemental training for a Bureau of Mines certificate, should be made to the Bureau of Mines, Pittsburgh, Pa.

Very Truly Yours,  
J. A. Holmes,  
Director.

The National Mines Company, National, Nevada, has elected H. A. Foss general manager.

The product for the first ten days in April at the Ernestine, in the Mogollons, New Mexico, was 6590 ounces of gold and silver bullion and 5 tons of concentrates.

## HART, CALIFORNIA — SPECIAL CORRESPONDENCE.

Mining interest in this vicinity is deepening.

The Oro Belle Mines Co. has had a 12 inch well drilled just outside of town, and secured a fine flow of water.

A large steel storage tank will be built, a pipe line laid to the mine, more storage tanks built at the mine and a mill built of twenty stamp capacity.

The Big Chief Mining Co., is expected to resume operations on the Jumbo property very soon. Both of these properties have much development work done. Hart is sure to be noticed.

At Ivanpah, California, Fitzpatrick has shipped several car loads of high-grade zinc ore, and nearby the tungsten property is being worked and is reported to be looking better than ever. These properties are both near the High Grade Silver camp, of Ivanpah, which produced millions in the early seventies.

The property in N. Y. Mountain, near Barnwell, California, commonly called Bob Young's mine is being unwatered looking to active development.

The Oro Belle Co., has a drift on ore 400 to 500 feet long.

## GOLD ORE WORTH \$125 A POUND.

Should the Adamson-Turner gold discovery in the hills near Winnemucca go down thirty feet more it will prove the greatest gold strike ever made in the state, is the opinion of the well known Nevada mining operator, William Rea, who came in from Northern Nevada and was at the Cullen yesterday, says the Salt Lake Herald-Republican.

"I never saw anything like it before," said Mr. Rea. "At the bottom of the 40-foot shaft there is a solid vein of almost pure gold four inches wide. This will run \$125 to the pound. A six-pound piece was taken out which went \$125 a pound. A sixty-two pound chunk averaged \$100 a pound. The boys now have \$3,000 of this pure stuff in the vaults of the First National Bank at Winnemucca. The balance of the vein, which is thirty feet thick, will run \$20 a ton. The gold is found in a matrix of quartz. The country rock is a lime and shale, with porphyry and andesite cutting through it and outcropping in various places.

The Adamson-Turner people have four claims along the strike. They have just let a contract for a 200-foot tunnel to run under the shaft. This will tap the vein at 200 feet depth and 160 feet under the present bottom of the shaft. Mr. Rea heard that a number of leases may be let on the property in the near future.

"Rawhide Jack" Davis has some promising claims adjoining the Adamson-Turner bonanza. These have been developed by shallow shafts and tunnels.

Even George Wingfield of the Goldfield Consolidated has had his consulting engineer, Simpson, out there

three times. It is said overtures have been made to Adamson and Turner for control of their property.

## INDIAN COPPER MINING

The copper mines in the Lake Superior region were most important to the Indians. When we remember that they did not understand the smelting of ore, we can appreciate the value of these mines. In them the native metal occurs both in small pieces and great masses. The Indians had only to dig away the earth and smash the rocks with stones, some of which they provided with a groove and attached a handle by means of a withe around the groove. Archeologists have found that they also built fires upon the rocks and thus cracked them, that they might more easily be smashed with hammers. One piece of copper, propped upon poles, over 15 feet below the surface of the ground, was found by explorers where it had been abandoned by the Indian quarrymen. Weighing almost three tons, it was a monument to the industry of the North American Indians, who have too often been considered lazy, and who, we must remember, had only the simplest tools with which to raise this heavy mass. One of their shafts, which contained a mass of copper weighing several tons, was 26 feet deep, and the mass of copper had been raised several feet, probably the only means the Indians had of moving it being wedges and sticks. These were exceptionally deep shafts, many others being smaller. In one place an area of about 400 acres had been worked over. Judging from the number of stone hammers or mauls found in a given bulk of debris, thousands and thousands of the hammers must have been used and may be found by clearing out the old workings.

## ASBESTOS

In the animal and vegetable kingdoms fibrous structure is common and renders many materials most useful to man. The discovery and utilization of fibrous structure is one of the early steps in the development of civilization. But organic fibers are ephemeral. They are easily destroyed.

In the mineral kingdom fibrous structure is unique. It is practically limited to asbestos, according to J. S. Diller, a geologist of the United States Geological Survey, in a recent report. The possibilities of usefulness possessed by this mineral are far from being fully appreciated, not only by the general public but by manufacturers in search of material for special purposes to which asbestos may well be applied.

Asbestos in its highest development is not only fibrous but its fibers have a high degree of flexibility and a good degree of tensile strength and elasticity. Furthermore, it is incombustible, being thus strongly contrasted with organic fiber and rendered most valuable for fire-proofing.

## Has An Important Role.

Asbestos plays a more important part in the national life than is gen-

erally credited to it. The well-made asbestos theater curtain assures the safety of the audience from stage fires. In the home the asbestos covering of the furnace and heating pipes, or of the gas logs in the open fireplace, makes for economy and comfort. Wherever steam is used as a motive power in factories, on trains, or on ships, it is asbestos packing that holds the steam to its work; on the other hand, if electricity is employed the wires are probably insulated by asbestos tape and the adjacent parts are made of asbestos "lumber." Asbestos shingles and sheathing make houses cooler in summer and warmer in winter and reduce the fire risk. From the ice house, where asbestos protects the brine pipes from the heated air, to the foundry, where it shields the workman from molten metal, in the workshop, the home, or the place of amusement, asbestos contributes materially to human welfare.

## United States Asbestos Deposits.

The United States has long held first place as a manufacturer of asbestos goods, but the raw material for that purpose was freely drawn from Canada, at present the chief source of the world's supply. It is, however, gratifying to learn from Mr. Diller's report that the production of asbestos in the United States is not only increasing in quantity but improving in quality. The total output for 1910 was the greatest ever credited to the United States, being 3,693 tons, valued at \$68,357. This was an increase of 20 per cent in quantity over the production of 1909, with brighter prospects for the future.

There are two varieties of asbestos—the serpentine variety (chrysotile) and the amphibole variety. The former is the more valuable. Georgia and Vermont are the chief asbestos producers, the former of amphibole and the latter of chrysotile which is reported by manufacturers to compare favorably with that imported from Canada. The production in Wyoming and Idaho has advanced, but in those states the industry is still in the development stage and has not become permanently established.

Mr. Diller's report is published as an advance chapter of "Mineral Resources of the United States" for 1910, and copies may be obtained from the Director of the United States Geological Survey, Washington, D. C.

## DEVELOPMENT AT EMPIRE.

George S. Schneider, manager of the Conqueror mine at Empire, in Clear Creek county, reports that the 50-ton mill will be put in operation at once, and that he has received instructions to go ahead with the construction of a 200-ton plant, plans for which were fully matured by the former manager, W. S. Plyor, before his death. Four inches of gold ore running \$400 a ton and three feet of good milling ore is reported in the Pioneer at Empire. The property is worked through the Gold Dirt tunnel by S. A. Offerson & Co.



## MINING MATTERS

## Late News from Districts Producing Precious Metals.

DENVER, Colorado—The Cripple Creek production for April was about the same as in March, while the development of new ground and mill construction under way promise steady gains. Sinking is in progress on sixty shafts, and there has been an increase in the number of men employed.

The Elkton Consolidated G. M. Company, has just paid a bi-monthly dividend of \$37,500, and the Vindicator Consolidated G. M. Company, a quarterly dividend of \$45,000. The Vindicator Company has acquired control of the Christmas property lying west of the Vindicator by purchasing 600,000 shares of Christmas stock for \$60,000. The suit brought by the Vindicator to recover \$75,000 on account of ore said to have been taken from Vindicator ground by Christmas lessees will be dropped.

## Camp Bird Dividend.

The Camp Bird Limited has declared an interim dividend of one shilling a share for the quarter ending April 30. It is payable May 18.

## Colorado Smelter Producing Cadmium.

Cadmium has been added to the list of metals produced on a commercial scale in Colorado. Following a series of successful experiments, the recovery of metallic cadmium from the flue-dust of the smelters has been undertaken by the American Smelting & Refining Company. Most zinc ore carries a small per cent of cadmium, and is practically the only source of supply. The metal sells for 60 to 70 cents a pound, and is used in the manufacture of alloys having a low fusing point. Cadmium sulphide is a brilliant yellow pigment.

## Strike in Iron Silver.

The Iron Silver at Leadville, has recently opened several important bodies of zinc carbonate, and a vein of copper ore carrying half an ounce in gold and 50 ounces in silver per ton. The discoveries were made in a drift from the eighth level of the Tucson shaft.

## Dredgers For Chaffee County.

The Twin Lakes Placer—better known as the old Cache Creek diggings in Chaffee county, is to be worked with dredgers. This placer is credited with a production of \$5,500,000 in gold. Operations were stopped because of suits to stop the dumping of tailings into the Arkansas river. With dredgers, this difficulty will be avoided; and a thorough prospecting of several thousand acres of the ground, which is owned by a London syndicate, has been ordered.

## Vanadium in Demand.

Disturbed conditions in Mexico have stopped production from properties owned by the General Vanadium Company, and W. L. Cummings, the Colorado representative of the company, is making every effort to obtain a large share of the Colorado production. The Primes Chemical Com-

pany, operating the vanadium mill at Newmire, has about 100 men employed in the mines and mill.

## Buying Park County Mines.

The Colorado Gold Mining & Milling Company, owner of the new pyritic smelter at Alma, has recently added to its holdings of mining property in Park county by buying the Grover and Winnie patented claims and the Atlantic group of 23 claims. The price reported is \$30,000.

## State Engages in Metallurgical Research.

Working out problems in ore dressing and metallurgy—problems whose solution will put value into ore that cannot at present be handled at a profit, has been undertaken by the state of Colorado. By next winter the Colorado School of Mines at Golden, will have in service, an ore testing plant completely equipped with the latest and most efficient machinery. The foundations of the buildings have been finished, the structural steel is arriving rapidly, and much of the equipment will be in place this spring.

Mining companies backed by ample capital and operating on a large scale have proved that more than satisfactory rewards are to be gained by comprehensive and thorough experiment in ore treatment. The Portland company, for example, spent about \$75,000 in experimental work before building its new mill in the Cripple Creek district, and can now earn dividends on millions of tons of low grade ore in the mine and on the dumps, ore that formerly contributed nothing toward meeting the expense of breaking and hoisting. Small operators have similar problems, but cannot undertake to work them out as individuals. This is one of the reasons for using state money in metallurgical research.

SPOKANE, Wash. — Official announcement was made in Spokane by E. H. Wilson of San Francisco, consulting engineer of the Pacific Coast Smelting, Refining and Mining company, that 75 men will be at work on the old Snowshoe mine in the Libby district of the Coeur d'Alenes within 30 days, adding that the crew will be doubled before the end of June. Mr. Wilson estimates that upward of 75,000 tons of ore is ready for elevation. The ore shoot has an average width of 15 feet, extending to 22 feet in places, and has been opened on several levels, one of which is 1,000 feet. The values run \$12 in lead and silver and about \$2 in gold. It is now planned to extend the drifts and add lifts to the shaft, which begins at the end of the 400-foot tunnel and is 850 feet in depth. The property is equipped with a 1,200-ton underground hoist and a mill of 250 tons capacity.

Seventy thousand dollars is the amount of the bond taken by A. J. Sherwood of Vancouver, B. C., for

himself and associates on the Ula Fraction and the Try Me, the oldest group of claims in the Coeur d'Alene district. The properties are owned by W. L. James of Spokane, A. C. Kerus and A. McCallum of Wallace, Idaho. Development work will begin soon. The Ula group was patented 20 years ago, but little work has been done. The property is regarded as a promising one. Its development has been retarded because of the fact that the adjoining Sunset mine is owned by former United States Senator Clark, who has done nothing in the way of proving that property since he acquired it.

Reports from Burke, Idaho, say that the ore body encountered in the Hercules mine a month ago is increasing in size and richness. It is the same as that in the bonanza shoot. The extent of the new find has not been ascertained. For 125 feet the drift has been in the ore. No attempt is being made to mine the new body, all work being solely for development purposes. Not even a crosscut has been run to ascertain the thickness of the shoot. The strike was made by a drift from No. 4 tunnel, the lowest level in the mine. The drift was run westerly from the main ore body, and the new ore was found in the same ledge that carries the original ore body. The ore bodies are 750 feet apart. Where No. 4 tunnel strikes the main ore body a depth of 1,900 feet is attained, but in drifting west the apex of the hill is passed and the depth at the new strike is 1,500 feet. The new ore body is a blind shoot, showing no croppings on the surface.

Thomas L. Greenough, president of the Snowstorm Mining company, gave out this statement in Spokane: "While I did not go underground in the Snowstorm mine, I am confident that the developments at depth are more than encouraging. The underground investigations I left to my son, Leo Greenough, who was formerly manager of the mine, and he reports to me that the No. 4 level looks most promising. We now are shipping from 175 to 200 tons a day and the company is amply able to pay a dividend. Personally, I am not in favor of such a disbursement of profits at this time, but it is up to the directors. I think that it would be better for the company to conserve its cash resources." One hundred and ten men are employed in the mine.

Jay P. Graves of Spokane, vice president and general manager of the Granby Consolidated Mining, Smelting and Power company, and a number of New York and local officials, have gone to the Portland Canal district, where the Granby people are developing the Hidden Creek mine. Mr. Graves says that 4,000,000 tons of ore, running 2½ per cent copper, has been developed since the company took the option. He adds that more economical mining and treating of the ore can be done at the Granby smelter and it is believed that the two properties will work well together, the Hidden Creek ores mixing well with the Granby output.

Daniel Cardoner, one of the owners

(Continued on Page 19)

## NEWS NUGGETS

## Concentrates Gathered From Various Properties.

There is a project on foot to construct a water storage dam near the old Treadwell smelter, at Mayer, Ariz., to impound water for working the gold bearing gravel beds and bars in that vicinity. The city of Mayer will then be alongside of a considerable lake with good fishing for ten derfeet.

The Big Four, at Manhattan, Nevada, obtained a saving of \$81 a ton on a run of 381 tons.

In spite of the production of 5,500,000 ounces of silver by the Nipissing, at Cobalt, Ont., last year, the ore reserves at present are much bigger than last year.

The Centennial-Eureeka has the reputation of being the largest dividend payer and the largest shipper in the Tintic district, Utah.

A rebel expedition visited the little town of El Oro, near the San Francisco del Oro mines, in the Parral district, Mexico, in April. Some recruits were secured and those who remained at home were given positions of command. When these men announced to their friends, their new and exalted stations, trouble began. Results, three dead and three wounded. Josh Billings used to say it took a wise man to stand prosperity.

There is promise of early activity at the Indian group in the Funeral Range, on the eastern rim of Death Valley.

The time allowed under the statute to mark definitely the boundaries of the location of a lode mining claim is intended to give the discoverer of the lode, who has posted his notice, time for exploration, so that he may know how to lay his claim; and where he completes his location within the statutory period, it relates to the date of the notice, and the fact that in swinging his claim he may conflict with junior locators does not destroy their rights, except so far as the conflict extends.—Street vs. Delta Mining Co., Supreme Court of Montana, 112 Pacific 701.

Give the very best of care to your gold pan. If you are at all careless it will soon have a number of dents and these will interfere with its accurate and smooth manipulation.

The Last Chance, at National, Nevada, is developing into a good property.

The directors of the Tonopah Belmont, at Tonopah, are planning to put up a \$300,000 mill.

"Essential factors in the formation of Producer Gas" is the title of Bulletin No. 7 just issued by the Bureau of Mines.

The bulletin is of a scientific character and will be of interest to engineers engaged in gas producer and gas engine work. Copies may be obtained by addressing the Director of the Bureau of Mines, Washington, D. C.

The first real indication of a serious situation in Mexico was the

exodus of American women and children, which set in some time ago. The men were sending them out to the States, as a precaution. And now the American mining men themselves are leaving certain fields in Mexico and coming home till the fighting is over and peace restored.

The steamship Princess May has just completed a round trip from Vancouver to Skagway with oil for fuel. Naturally, the results were satisfactory.

The Standard Oil Company is preparing to erect a big refinery at Manhattan Beach, Los Angeles County.

Patrick Burke, manager of the Blackhorse and Jack Waite mines near Murry, Idaho, states that the 150-ton concentrator at the first named property, will be operated by a double shift in a short time. The mill is a great success.

The Warren Peak Mines company, at Sundance, Wyoming, E. A. Bock, manager, has ordered a milling plant, which will soon be installed.

More than 30 prospectors and land locators left Stewart, B. C., last month for the Naas valley.

Work is soon to be resumed in the operation and development of the Snowshoe near Libby, Montana, by E. H. Wilson, owner.

It is stated that the Pioche-Demi-john, of Pioche, Nevada, has a fine showing of ore on the 125-foot level.

An important strike of highgrade ore has been reported in Mill canyon, thirty-five miles south of Golconda, Nevada, on property owned by Brown, Thomas and Kauffman.

The Broken Hill, of Australia, in twenty-six years has paid more than 3000 per cent on the capital stock and still has 153 per cent surplus.

All the material required for the condensing equipment for the operation of the turbine engines which will generate the electricity to be transmitted to the El Tigre mine is now on the ground and the work of installation has been started and this is expected to be completed during the next month, at the Copper Queen smelter, at Douglas, Arizona. Some of the structural iron workers at work on the erection of the McDougal roaster building have been taken off to assist in the work at the power house.

Salt Lake men claim to have found valuable new mines in the Death Valley region. A silver-lead property is on the rim of the valley, and a gold group is located in the valley itself, below sea level. The discoverer claims that silver-lead ore is found in abundance, and that he has sacked 200 tons which run from \$45 to \$65 a ton. The gold property, on which he has drifted for 110 feet, is said to contain a ledge 4½ feet wide averaging \$149.

The Calzona Mines Company, operating in the Riverside Mountains, recently shipped two carloads of ore

to the Humboldt, Arizona, smelter that ran \$245 a ton.

In 1868 there were about 8,000 people in the Big Bend placer diggings above Revelstoke. In a week they stampeded to Perry creek in East Kootenay, and only 20 men were left behind.

The Keystone group of twenty-nine claims, adjoining the Coronado mine, in the Clifton-Metcalf-Morenci district is under bond and leased to a large eastern mining company.

Do not allow your magnet to become hot. At red heat it will lose all magnetism.

The Mulcahy mines at Calico, Cal., are producing jasper for the Los Angeles market.

The spring clean-up of gold in the Klondike district has begun. Estimates place the yield at \$5,000,000.

Secretary MacVeagh contemplates asking congress for authority to stop the coinage of the \$2.50 gold piece which finds use mostly for Christmas gifts and watch charms.

The management of the Stewart property, in the Coeur d'Alenes, Idaho, will erect a new mill at a cost of \$75,000 to \$100,000.

D. E. Moore, an old time miner, has been in the Gold Run field, a few miles south of Golconda, Nevada, and speaks very highly of it. The best showings are in silver and lead.

The general manager of the Bala-kkala Consolidated Copper Company, R. T. White, has resigned to become general manager of the Braden Copper Company, Racangua, Chile, South America.

Roy H. Allen is manager of the Sierra Plata, in the Minas Nuevas district, Mexico.

Carl Heinrich has resigned as manager of the Nueva Luz, at Guana-jato.

T. E. Dickel, who had charge of the cyaniding plant for the Minas del Tajo, at Rosario, Sinaloa, Mexico, resigned to go with the North Washington Power and Reduction Company, at Republic, Washington.

Theodore Tobiason, who is president of the Ohana Mining Company, visited the property lately, in the Blackhorse field, Nevada.

W. P. Fairman, of Philadelphia, president of the Esmeralda-Parral Mining Company, is on a tour of inspection of his company's property in Mexico.

A. D. Myers is a well known mining man and manager of the Johnnie mine, in Nye County, Nevada.

Henry H. Corliss, of Boston, Mass., president of the Bullfrog syndicate, was out at Pioneer, Nev., examining the company's property last week.

Frank Bailey, after several years' work in British Columbia, has returned to England.

W. A. Thomas, member of the Institute of Mining and Metallurgy, of London, has gone to Siam on professional work but expects to return to England by mid-summer.

The Smythe mine, near Angels' Camp, will soon be in operation. smelter by the Belmont, at Tonopah, gives an average recovery of \$34 a ton, and the ore body seems to be getting larger and better every day.

## PETROLEUM NEWS

## Recent Happenings Among Oil Men. Notes from the Wells.

J. E. Crouch, secretary of the Oil & Metals Brokerage Company, went to Ventura last Saturday to select a place to erect a rig and set some men to drilling for the California Union Oil Co., which has 80 acres in that territory.

Mr. Crouch was lately in the Lost Hills negotiating for a rig and locating a place to drill. He also has, individually, over two thousand acres in the Kramer-Barstow field. The showing of oil in that territory, with a paraffine base, naturally fills the holder of land in that section with cheerful anticipations, for everyone realizes what a great market there will be on the coast for its products.

Ten cars of crude oil have recently been received at Parker for sprinkling along the line of the Santa Fe railroad between Wickenburg and Parker, and the directors of the road have ordered oil in quantities for the remainder of the line west of Parker to prepare the road for summer travel. Before the hottest months of the summer commence the dust along the Santa Fe will be settled by a liberal application of crude oil, and there will be a minimum of dirt raised by the overland trains as they run west and east.

The city trustees of Coalinga, Cal., have ordered the street superintendent to plow two furrows entirely around the city, thirty feet apart, and burn off the grass between.

The Brooks oil company in the Santa Maria field intends to put in an air compressor in well No. 2 with the expectation of making the well flow. This well is at present pumping steadily with fine results, but it is expected that with the air compressor in action the oil will flow in greater quantities without the pump. The Brooks is making heavy deliveries of oil to other wells and will also begin the delivery of oil to the railroad company and the Primrose Oil Company.

The Moctezuma Oil Company, of Columbus O., was incorporated last week with a capital of \$500,000 by Frank T. Stewart, Charles B. Prugh, H. B. Davis and C. A. Schwartz and marks the entrance of Columbus capital into the oil fields of Mexico.

The discovery of new oil wells at Trinidad has caused the Barber Asphalt Paving Company to erect an oil refinery near its asphalt works in Perth Amboy, N. J.

The Coalinga Refining Company has decided to locate its plant on the property of the Pacific States Company, section 6121-15. It will endeavor to refine oil there and sell the product throughout the field. The company will confine its efforts to the manufacture of lubricating oil.

D. C. Oyster, capitalist of Michigan, has been elected president of the North American Oil Co., operating at Hawes, Cal. They are covering the claims with derricks and will soon begin drilling.

The total production of the Bear Creek Oil Company is now about 1500 barrels daily, according to reports from North Midway. No. 5 their new gusher is flowing about 400 barrels a day and it is expected to do even better under the pump. This makes the Bear Creek a good piece of property. Work on well No. 6 will begin as soon as possible.

## BRITISH BUYERS BALK AT ASSOCIATED PRICE.

SAN FRANCISCO—Leading stock-brokers received advices from New York to the effect that the deal by which a syndicate of New York and London people were seeking to buy the majority of the Associated Oil company from the Southern Pacific company, its owners, has been declared off.

Several directors of the Associated now in the city when asked their opinion as to the correctness of these advices replied that they were not surprised that such a story was current, because during the past two days they had understood the syndicate was balking at the price of \$75 per share set for its Associated stock by the Southern Pacific. Officers of the latter corporation, in speaking on the subject, contented themselves with stating that the members of the syndicate were objecting to the price of \$75 per share fixed by President Robert S. Lovett, of the Southern Pacific. Whether all negotiations had been declared off they were not prepared to say. Such a thing might be true, however.

Southern Pacific owns 220,000 of the 400,000 shares of the Associated Oil Company. A syndicate of New York and London people, whose identity has never been disclosed, asked Lovett and the bankers behind him early last March to set a price at which they would sell. They fixed the figure at \$16,500,000, which is at the rate of \$75 a share. The syndicate promised to buy the holdings of most of the directors if it consummated a deal with the Southern Pacific. Since then the negotiators have been backing and filling and only last week William F. Herrin, president of the Associated and chief counsel for the railroad, was summoned east to take a hand in the negotiations.

It is not known what price the syndicate is willing to pay. Yesterday Associated stock was quoted at \$49.75.—Oil Record.

## THE SAN JUAN FIELD.

Although little news is now coming from the San Juan oil field, and out of the 31 rigs now there only a few of them are working, one of the largest deals in oil lands that has ever taken place in the state is being put through. Since late last fall a rep-

resentative of an Eastern syndicate backed by some of the wealthiest independent oil men in the United States, as well as a number of well-known railroad officials and capitalists, has been in the field gradually rounding out the consolidation of much of the property in the heart of the district. It is understood that close to 100,000 acres of land have already been taken under option at prices ranging from \$10 to \$50 an acre.

Several days ago an option on some of the land of the district expired and an extension of a few days was given in order that all the details could be finished. This option will fall due about May 10, it is declared, and means the payment of about \$40,000. It is declared that positive assurances have been given by the people behind the syndicate that the deal will go through.

The closing up of the deal means a great deal to the San Juan country, and practically assures that a railroad will be built through this wealthy corner of the state within the next two years. Three railroad surveys have already been run through the country, and railroad officials are in possession of all the necessary data. It is asserted that a prominent railroad official closely allied with the Gould interests is one of the leading figures in the syndicate that will take over the land.

Since the deal has been in progress many persons have been branching out for other oil fields. A large number of claims are being staked out to the west of the present field, where it is declared that indications are just as promising. The syndicate is also locating what it wants on the outside of the known oil area.

The syndicate has taken an option on the property owned by Col. A. C. Ellis of Salt Lake, the pioneer of the field, and the 24,000 acres of land held in the name of N. W. Gilchrist, one of the largest operators in the field.—Mining Record.

## ENGINEER FROM HOLLAND INSPECTS OIL DISTRICTS

Backed by extensive capital, W. A. Knol, a prominent European engineer, representing one of the largest Dutch mining syndicates, arrived yesterday at the Hotel Alexandria. From Los Angeles as a center Mr. Knol intends to make trips to the different oil districts of Southern California, with the idea of ultimately acquiring for the firm which he represents large holdings in this part of the state.

Mr. Knol has been in the United States for two years, sifting down the mining question as it presents itself in different localities, and has finally come to Southern California with the intention of investing for his company a large amount of money.

"There is a great quantity of Dutch capital already invested in American mines of one kind or another," said Mr. Knol yesterday, and that capital has paid such handsome returns to its owners that much more is to be invested.—L. A. Herald.

## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

J. A. Moffett, president of the Standard Oil Company in California and a vice president of the parent organization, of New Jersey, is in Los Angeles.

J. Kruisheer, representative of the Rothschilds, of England, stopped off in Los Angeles a few days ago, on his way to the Kern County oilfields, of California.

Charles S. Martin of Berlin, Germany, of the firm of Martin & Logan, is investigating producing properties in the Northwest.

C. W. H. Swanson has been engaged as consulting engineer by the McKinley Mining Company in the Orient district, Washington.

Geo. V. Herrington is manager of the Hypothek Mining Company, operating in the Coeur d'Alene district, Idaho.

A. J. McMillan is the managing director of the Le Roi Mining Company, Rosslund, B. C.

J. N. Nevius, of Pasadena, Cal., is on a business trip to the property of the Dixie Meadows Mining Company, near Sumpter, Ore.

Placer Mike and Joe Payne are working away on their diggings in the Cofa Mining District, Arizona, and are getting as good as \$100 a day.

A. W. Allen, of London, England, who installed the mill for the Cherokee Mining Company, at San Julian, Chihuahua, Mexico, will leave shortly for Uruguay.

Earl Cleveland, of the firm of Cleveland and Weatherhead, operators of the Deadwood mine, in the Mogollons, New Mexico, has come to Los Angeles on business.

Tom C. Parker, of Cortez, Nevada, recently sent a carload of \$100 ore to Salt Lake City.

Mr. Sherwood, at Polaris, Arizona, has written his partner, Martin Elwood, since the latter came in to the city, that a new strike has been made on their properties, a three or four foot ledge on the Blue Stone and running close to \$100 a ton.

Chas. Holland, who has been mining in Central America, has returned to Bishop, California, for a change of climate.

R. Kemp Welch is manager of the Idaho-Champion properties at Elk City, Idaho. Tim J. Driscoll, now residing at 536 Cal. St., Los Angeles, was one of the board of miners that drew up the mining code for Elk City.

Hubert Field is superintendent of the mill at Piguelo, Mexico.

H. E. Steece, president and general manager of the Steece Copper Co., in the Riverside Mountains, in the northeast corner of Riverside County, Cal., has a shaft down 600 feet and reports the ore body as increasing in size and value.

Kund Doerr, manager of the Aguas Calientes smelter, is on business in the United States, at present.

A. C. Elsen, Rufus Thayer, W. H. McGuire, and Ralph F. Shafer, all of San Francisco, accompanied by Fred

J. Siebert, mining engineer of Reno, and Gordon Campbell, the superintendent, were in Winnemucca, Nev., a few days ago on their way to the Mammoth National.

Lewis E. Aubury, State Mineralogist, was in Los Angeles a few days ago and favored the Mining Review with a call.

Franz Cazin, of Denver, Colorado, is in the Deadwood district, South Dakota, on business appertaining to the installation of cyanide plants.

Oscar A. Daube, of New York, and John McGee, of San Francisco, were in Manhattan, Nev., a few days ago.

Joe Scott, superintendent of the Spiritu mines in Sonora, Mexico, has been taking out silver ore that runs thousands of ounces in silver per ton.

J. R. Buchanan is the new superintendent of the Standard Consolidated Mining Co., Bodie, Mono County, Cal.

R. S. Rainsford is manager of the Golden Rule, Stent, Cal.

A. J. McCone and W. H. Landers, former superintendent of the Standard, at Bodie, Cal., are opening up the Reward mine, near Independence, Cal.

Col. Partridge, an English mining engineer, is getting encouraging results with the Austerlitz, in the Oro Blanco district, Arizona.

Lamar Cobb, mining engineer, of Clifton, Arizona, has been examining the properties of New York-Arizona Gold and Copper Co., near Morenci.

Dr. D. K. Bentley, of Scranton, Pa., president of the Richfield Copper Company, accompanied by George Stack, Major J. A. Cooper and John Glasson, the manager, are on a trip to the company's property in the Ures district, Sonora.

John Poppin reports things as looking good out at Chipmunk Springs, Nevada, where he is developing a mine.

Dickey Bros. and Crevey have made a promising discovery while prospecting in the Mason Pass country, Nevada.

E. G. Pomeroy, the superintendent of the Wolf Tone mines, left Hailey, Idaho, to go to the property on horseback. He had to complete the trip on skis.

Z. F. Chenoweth has been elected president of the lately organized Gem Mining and Milling company, at Silver King, Arizona.

Claude W. Freed, a wealthy business man of Salt Lake, has transferred the Ely Resurrection of Ely, Nev., to the Princess Copper Company.

Joe Arthur left Ely, Nev., a few days ago to develop a prospect in the northwestern part of Nye county where fine indications have been found.

Charles Moore, mining engineer, from Park City, Utah, was examining mining prospects near Ely, Nevada, a few days ago.

Clark Brothers were in Kingman,

Arizona, the other day with a sack of rich sample ore from the Rico.

The Yuma Sun says:

Word comes in from the mining country that W. E. Marvin has found native silver in the White Elephant on which he is doing development work.

C. E. Walker, president of the Rainbow Mountain Mining Company, accompanied by Geo. E. McCarn, secretary, were at Chloride, Arizona, a few days ago. H. L. McCarn is general manager and has 100,000 tons of ore blocked out.

H. J. Santonge, of Sawtelle, Cal., mineralogist and geologist, has returned from a trip out on the Mojave desert. He is testing some finds he has made.

J. H. Wells, a mining man from Texas, has been on a business trip to Yerington, Nevada.

Geo. S. Mayneson, of San Jose, Cal., has been in the Mount Grant country, Nevada, looking after his mining interests there.

J. E. Bentley, of Blackpool, England, is in Mexico looking after his mining interests.

The Nevala-Goldfield Reduction Company, at Goldfield, Nevada, will resume operations under the direction of E. Perrier, a French mining engineer, and Wallace Macgregor.

Henry E. Carter, manager of the Searchlight Mining and Milling Company, at Searchlight, has the water under control at last and he will be able to give his attention to the production of ore.

F. O. Jasmer is cyanide superintendent and assayer for the J. S. Qualey properties in Chihuahua.

David Williams is superintendent of the Beaver Carbonate at Millford, Utah.

William T. Kennedy, a chemist at the Consolidated mill, Goldfield, Nev., has received the bronze medal awarded him by the Carnegie hero fund commission for saving two children from drowning at Wharton, N. J., in January, 1908. The award also carries \$2,000 for the education of his brother and sister as needed.

Frank L. Rodgers, is consulting engineer and president of the Marietta Mining & Milling Company, at Chloride, Arizona.

The Dallas, Texas directors of the Gold Frog, have recently visited the property, near Silver City, N. M. J. Y. Robertson, of El Paso, is president and manager.

J. B. Fleming is erecting the mill at Fairview for the Nevada Hills Company.

Alfred J. G. Swinney, who has been on an inspection trip through the Dutch East Indies, has returned to London.

W. J. McCormick, has resigned as superintendent of the Casados mine for the Consolidated Mining Co., in the Hostotipaquillo district, Jalisco, Mexico.

S. F. Shaw, mining engineer of Los Angeles, arrived in New York a few days ago. Mr. Shaw, who was in London, has had charge of operations at the Montezuma mines, Costa Rica, C. A., during the past two years.

## MINING MATTERS. (Continued from Page 15)

of the Hercules mine at Burke, Idaho, has returned to Spokane from Spain, where he is developing a lead property in the Barcelona district. During the last 42 months he has expended \$125,000 and driven 6,000 feet of tunnels and sunk a 500-foot shaft. The product of the property is a lead ore which runs from 50 to 70 per cent in lead and is reputed to be the cleanest and most desirable at either the Rio Tinto works in Spain or the Swansea smelter in Wales. The hand miners, he said, average from 80 to 90 cents a day, while machine men are paid about \$1 a day.

Work has been started on a double compartment shaft for the Nellie mine in the Coeur d'Alenes, to follow the recently exposed streak of high grade ore from the station in the lower tunnel. The shaft will be sunk 1,000 feet, the lower end connecting with the tunnel. An electric compressor and hoist will be installed next month and as soon as this work is completed the company plans to begin mining on an extensive scale. Two cars of high-grade ore are ready for shipment.

Kendall Mining company has paid its 77th dividend of \$10,000, at the rate of two cents a share. The capital is \$500,000 in shares of the par value of \$1 each. This disbursement brings the total of dividends paid by the company to \$1,365,000. The property is located at Kendall, Mont. Its stock is principally held in Spokane, Finch and Campbell being controlling owners.

### SILVER LAKE

Warburton & Hoagland have a low grade deposit of tungsten west of Silver Lake.

The Precious Metals Development Co. has been running its 4-stamp mill at its full capacity for several months on good free milling ore.

The Garrison Co. are pushing their work at Five Points with good results. They also have a force of men at work on their gold property east of town.

Last contract is nearly completed on the tunnel on the Uncle Tom

property, making the tunnel about 1000 feet under the mountain. Messrs. Stevenson and Kleinbeck, managers, will now let contract for 400 feet additional.

Frank Riggs has struck another lead or frich silver ore in the Alta.

R. Y. Williams bonded his talc property to a Los Angeles Co. last week, receiving a cash payment.

President H. H. Kerckhoff and Secretary T. L. Henderson of the Awatz Gypsum Co., came in from camp recently, having completed surveying and mapping the property and preliminary survey for the railroad.

Several oil locations have been made south of town.

The Amos Bros. are shipping talc from their property north of here.

### TAILINGS FROM BIG COPPER MINES

The tailings problem has been undoubtedly solved by the Detroit Copper Co. and also by the Arizona Copper Co. Instead of the tailings being dammed up near the mills, they run off in flumes down the canyon and are carried several miles to where they have formed a solid, compact mass, making a dam almost as strong as cement.

Heavy rains would only cut in small places, letting out a small stream which could readily be controlled before it reached either the Frisco or Gila rivers. A cloudburst might break the dams, but no human being could prevail against such a catastrophe.

Both copper companies have gone to considerable expense to convey the tailings from their mills to a place of safety and the entire absence of any tailings in the Gila river is proof that they have succeeded in finding a way to keep them out of the river.

### BROKEN HILL.

Few of the world's "big bonanzas" have given a better account of themselves than Broken Hill, in New South Wales, where silver-lead ores are quarried on open cuts, like sandstone is in America ;and where one remarkable mine (the Consols) has

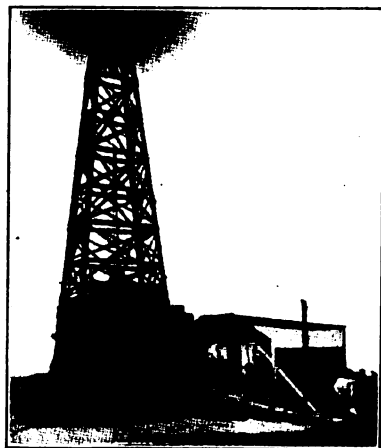
yielded incredible quantities of ore that ran 95 per cent pure silver. And although silver mining on "the Barrier" is greatly depressed, and the Cobalt mines have monopolized the attention of that part of the mining world interested in silver for several years past, the Broken Hill Proprietary is the largest silver producer in the world today. In the twenty-seven years that have elapsed since the discovery of "the Barrier" (as the vein is called), its mines have paid more than \$100,000,000 in dividends. They have yielded silver of a value of \$300,000,000 to say nothing of shiploads of lead and zinc, and no inconsiderable quantity of gold and copper. Yet the Broken Hill mines are rarely mentioned in the journals, and the average American, unless well informed, probably does not even know the name of the great silver-producing lode to which New South Wales owes its prosperity and the commanding position it occupies in the world's metal markets.

### KING SOLOMON MINE PRODUCES RICH VALUE

RANDBURG.—Four and one-half tons of ore were cleaned up at the Red Dog mill of the Stanford Mining and Reduction company at Johannesburg, giving the operators of the King Solomon mine a pleasant surprise. The ore plated \$240 per ton, which was nearly twice as much as had been expected.

The occasion for this milling was the dissolution of the working partnership existing between J. J. Miller, owner of the King Solomon, and Pete and Thomas Watchman. In adjusting the affairs of the partnership it was first intended to settle on a basis of \$125 per ton, without milling the ore at present. It was concluded later to divide the ore, amounting to about nine tons, which resulted in a fortunate deal for the Watchmans.

This ore was taken from the shaft and drift at a depth of about fifty feet. The vein at this depth is somewhat irregular, varying in width from five inches to fifteen inches. While it was realized that the ore being mined was high grade rock, it was



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**WILL BORE OLD HAT FOR OIL.**

A deal contemplating the formation of a corporation upon subscription plan among the holders of oil placer claims in the Rillito valley, is revealed by the filing of a deed transferring large holdings to F. Craycroft, of Tucson, and associates. Plans are now on foot by which, through co-operation of a number of citizens drilling rigs will be put at work to develop the old fields by sinking one and possibly two wells.

The deed in question transfers from B. Craycroft and G. Herzog to F. Craycroft et al., for consideration of \$10, the Sabina group of four claims Eagle group, four claims; Verde group, ten claims; Pima group of eight claims, and the It claim, all located in the Old Hat district of Pima county.

For many years it has been known that the surface showing of the valley, in the natural basin near the mouth of Sabino canyon, was excellent for oil. One or two costly efforts have been made in the past to sink wells, but on account of the practic-

ally prohibitive cost, have been abandoned.

The plan of the company which is now in course of formation, is to allow no one man to subscribe for more than \$200 in the company. In this way heavy personal loss will be avoided.

The company will probably be composed of about 100 stockholders, and in this way a large sum of money for development of the ground will be gathered together.

It is the company's plan to sink one well, at least, to a depth of 1,500 feet and, if possible, two. Each stockholder, when he becomes such, will be told that there is little chance of getting any return for his money, as the work is merely experimental. There is, however, good chance of the well striking a flow of oil, in the opinion of the experts who have examined the ground. It is also their belief that artesian water will be encountered. At any rate, the opportunity for settling once and for all the divergent

opinions of authorities upon underlying formation and mineralization is considered too good to be lightly passed over.—Tucson Daily Star.

During the last six years twenty-five copper companies have distributed \$350,000,000, in dividends.

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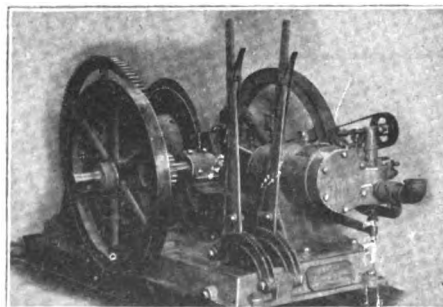


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### QUICKSILVER.

The Pitts Quicksilver Mining company is being organized and promoted by William Zinkand and H. C. Robinson of this city, together with Louis Patriquin of Parkfield. The three gentlemen recently made a trip to the location of their mine and brought back with them several rich samples of ore which are now being exhibited at the Sullivan cigar store, the Coal-linga jewelry store and O. M. William's clothing store. Some of the

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ore was retorted and an excellent quality of quicksilver was obtained and is being exhibited as a sample.

The discovery is located on section 35, 22-14, and 2, 23-14, in Monterey county, and is about six miles north-east of Parkfield and consists of five claims of 20 acres each. Cinnabar in rich deposits has been traced for a distance of 3000 feet on the outcroppings and the vein has been prospected in various places showing rich deposits of ore from 200 to 600 feet in crosscut into the lode, one running in from the west side and the other from the east side. Both have touched the main ore body at a depth of 450 feet below the highest outcrop. The hanging wall is of serpentine and the general character of the ore is a metamorphic rock, making the ore easy to reduce and also making the mining operation the simplest.

Arrangements are now being made with Robert Scott of San Jose to construct a 20-ton Scott ore furnace. By using a furnace of this nature perfect results in reduction can be obtained, affording the opportunity of reducing the finer and coarser grades of ore at one operation, thereby doing away with an expensive method of handling.—Coalinga Oil Record.

#### THE MOGOLLONS.

Enterprise Mining Company. Sinking continues in the winze below 5, where good ore was recently encountered.

Deadwood Mines. In the mill 15 stamps are now dropping, with a materially increasing tonnage. Work is being advanced on 1st and 2nd levels in mine.

Gold Dust Mines Co. Work is being pushed in the main winze, where it is said good ore has continued from the top. Values in east and west drift in vein are also holding out well. Gold predominates in all their findings. An extensive survey of the property and workings is being conducted.

Ernestine Mining Co. The main tunnel continues in excellent ore. All other development headings are also said to be showing good values. The clean-up for 2nd ten-day period of April resulted in 7480 troy ounces gold and silver bullion, with 100 sacks concentrates. Last week 75 sacks concentrates were obtained from 698 tons ore treated. This month's output will likely equal that of March, the record breaker in the history of the company.

Socorro Mines. The installation of the pipe line on Whitewater Creek for the generation of power will be started at an early date. Contracts have been let for advancing the east and west drifts 300 feet on the 700-ft. level. The mill runs steadily, producing an average of 1700 ounces of gold and silver bullion daily in addition to the high grade concentrates.—Silver City Enterprise.

Robert N. Bell is now serving his fourth term as state mining inspector of Idaho.



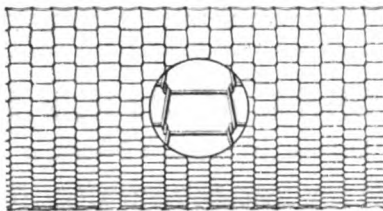
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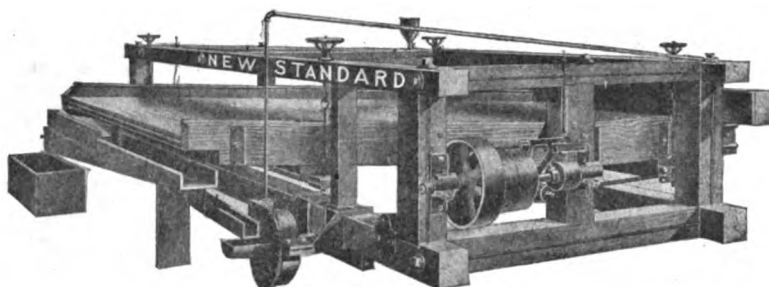
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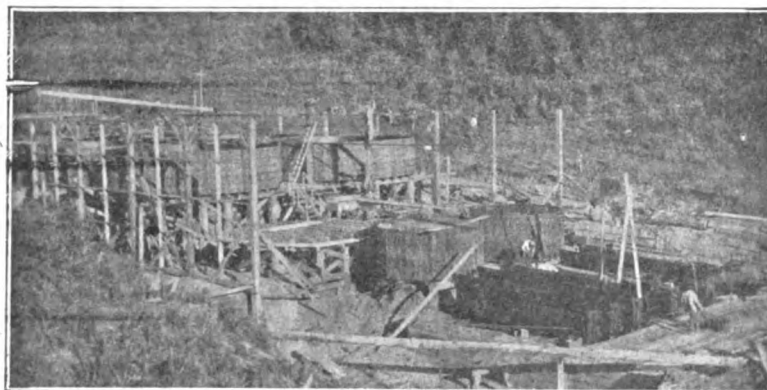
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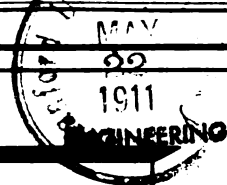
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# Los Angeles Mining Review

Vol. 30, No. 9

LOS ANGELES, CALIFORNIA, MAY 20, 1911

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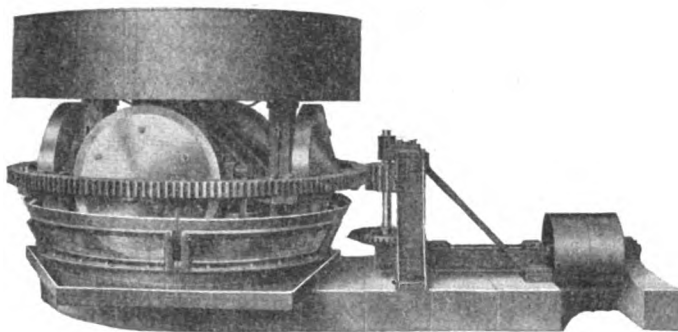
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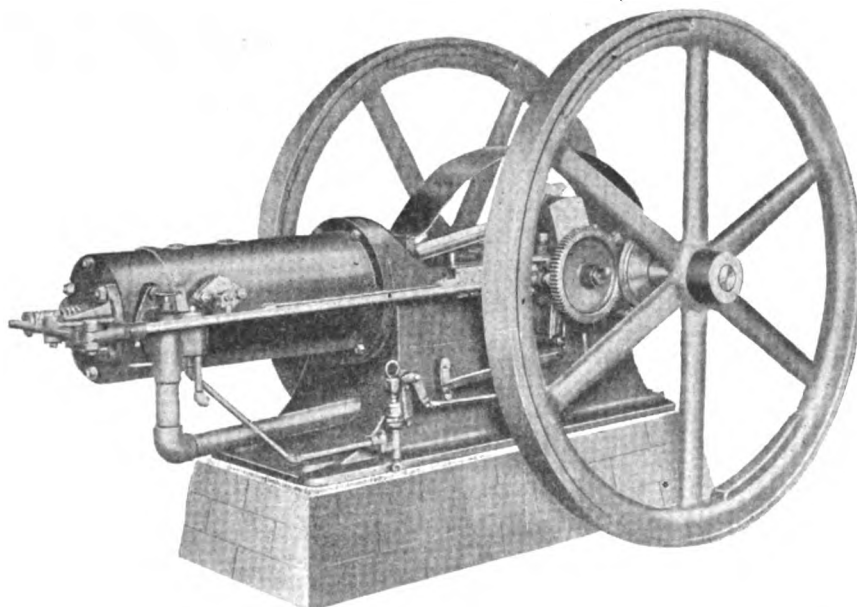
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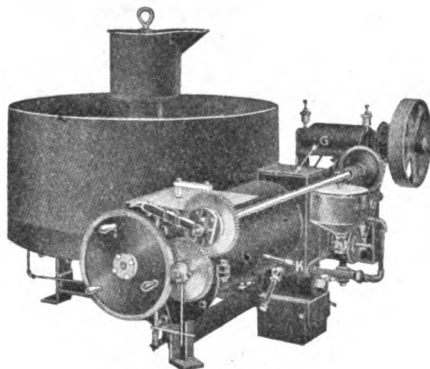
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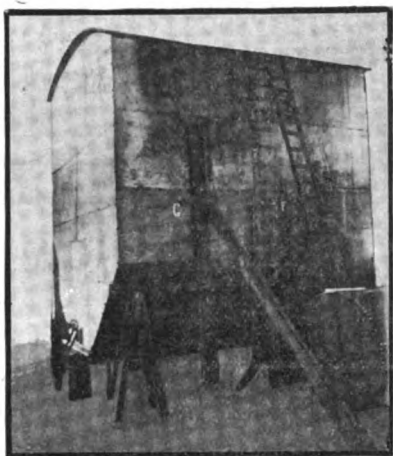
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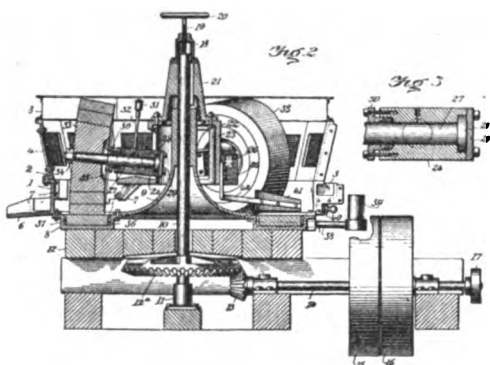
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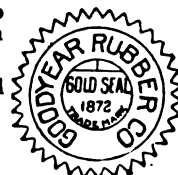
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## EDITORIAL

### THE LEASING SYSTEM

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We have ever doubted the authority of Congress to enact laws regulating the use of the public land, so long as it is not taken from the people and devoted to private profit. We have felt and still believe that giving millions of acres of land to the railroads was and is unlawful and contrary to the spirit of our in-

stitutions and without authority under the constitution.

We do not make any use of the expression "sovereign state" in connection with this or any other subject appertaining to matters purely American. Certain portions of the public land have been set off from time to time and called territories and within these territories. Certain other portions have been set off and called counties. This has all been done for convenience in the administration of public affairs and no one, so far as we remember, has ever spoken of such divisions and subdivisions as either "sovereign" territories or "sovereign" counties. Just how anything could be sovereign that owes its very existence to the general government, is past our comprehension. We go into this matter frankly that there may be no misunderstanding as to our position. What we may have to say is not based on any idea that the territories and states created by an act of Congress have ever been or can ever be sovereign, so long as they remain a part of the American Union.

But we wish to set up and maintain the doctrine that the man who is prepared to occupy and does occupy and use the public land, in good faith, has a right that can not be ever fairly annulled or set aside except by his own consent.

When the United States and Great Britain disputed over the ownership of Oregon, our claim of title thereto was based solely on the ground that our citizens had actually occupied the land, although only in a very small degree. It would seem rather weak in spots for our government to set up that such occupancy gives no special rights to the settler when it has depended on that very act of the settler for its own title!

Discovery itself has never been admitted to establish supreme authority, except when followed up by occupation. In other words, the title depends upon the settler.

The great southwestern portion of the United States was occupied here and there by Spanish explorers and priests and when Mexico established her independence, her title to the same land was never disputed. When we bargained for this country with the Mexican government and finally took it over it is not very difficult to see that our own title could be no better than that of the nation from which we received it and

that the whole claim to ownership was based on the homes established by the original settlers.

There is no question at all, in our mind, of the prior right of the first occupant of any part of public lands but such right, as against an act of Congress, is purely moral and not one that can be maintained in an action at law. If Congress had evicted every settler from Oregon, after first securing title by treaty, not one of the victims could have gone into court and set aside the act of the supreme authority in our government but it is quite certain that at the next election the people of the whole country would have recalled its unfaithful representatives and would have sent others in their stead, to undo the wrong. That is the certain and unfailing remedy—recall the unworthy and the unfaithful.

In Arizona and New Mexico are remains of irrigation systems that were established and maintained on a large scale, and yet the very people who constructed them have been so completely forgotten that even the Indians have never had a legend or story to account for the ruins. But this much the Indians did have, without any white man's guidance; whoever found a spring or stream was entitled to its use, over all others. We practice the same thing in our laws governing water rights and again we see the working out of the same natural law; that the first settler or user should have prior right over those who came after.

In our opinion it does not change the right of this first user whether he plant the land to corn or dig holes in it and take out ore or bore wells and take out either water or oil. To our view it makes no difference at all what he produces or obtains from the land he occupies; it is and of right ought to be, his very own. Now if his right be conceded to be greater than that of the man who comes later, what shall be said of his right as against the man who comes not at all?

We have now come to the parting of the ways. The man who has not come at all wants this land taken up under a royalty or leasing system if the first settler finds oil thereon. The man who has not come at all does not care, as yet, about demanding a royalty from the metal miner, homesteader or desert entryman but that will surely follow if he once fastens

the leasing system on the man who finds oil or any other riches on his land.

Bear in mind that the man who makes this demand has done none of the work nor does he intend to; he simply demands a share of the proceeds because the power to withhold is in the general government and in that way he can take from the first settler a part of his reward without any cost to himself or any possibility of reparation for the man whose property is taken.

There is no question that the final authority rests with the general government, just as it has supreme and final control over the navigable streams and harbors and even one marine league of the entire salt water adjoining our coasts. Now if the congressmen and senators from our mining states would start a movement to levy toll on all ships using any of the navigable streams and to exact a license from every man dropping a hook and line within that marine league, a very large part of the men who talk for the leasing system in season and out, would probably faint. Their own idea is that the people who live on the Hudson or ply up and down its waters, should be allowed its untrammelled use and that if the other people in the United States want to use the Hudson they should go there and do so but not stay at home and levy a tax on those who do use it. It is to be supposed that the steamboats that sail its waters and the ferryboats even make money thereon, but we fail to hear any loud demand that the owners should turn over one-eighth of their gross receipts to the general treasury.

It seems to us that any able-bodied gentleman who lives in New York and wants to have the ownership of our public land for himself and his posterity, should come right out here and get to work; find a piece of unoccupied land and develop it, working more with his hands and less with his mouth. But it is surely unfair for him to get all the benefits of the Hudson and in addition thereto, levy a toll of one-eighth on all we produce. In New York they would surely call that "easy money" and one can see why it looks so good to them.

Another thing that comes from a queer twist, is the wholesale withdrawal of public lands from entry as soon as some man has had the courage to go in and find something. He strikes oil and there he can sit with his little patch of ground for there can be none of the general development that produces pipe lines and refineries.

It is that same spirit, born of a desire to get something for nothing that forces the people of Alaska to buy British Columbia coal at \$18 per ton when they ought to be allowed to mine their own coal and have all the fuel they need at \$4 a ton. And who is it that objects to their mining their coal? The other Alaskans? Not by any means. On the other hand, when the Cordova Coal Party was held every man in Alaska who was not already frozen to death and could

reach a wire telegraphed his congratulations and hearty approval.

In Mariposa County, California, lies the old Fremont grant, covering a fine mineral belt. The company that now owns the grant has two quartz mills thereon, one at Mt. Bullion and another at Bagby, on the Merced River. The company allows the finder of any mine to go ahead, develop the same, get out ore and take it to either mill for treatment. His royalty, including charge for milling, is 15 per cent. The drawback is that the man who finds the mine and develops it does not own it and this is so serious that properties known to be good are lying idle. That is what the royalty system does in practice, not in theory.

It is surely contrary to the spirit of American ideas of fair play that the man who bears all the risk and does all the work, should be deprived of the reward.

Another thing that ought to be recalled is the fact that great holdings of timber lands that were acquired in the western states were obtained by the means of dummies who took up claims under the stone act, timber act, homestead law, etc. The land office knew that these tremendous holdings were being secured but was entirely content to have it so. It is probable that the beneficiaries secured the passage of some of the various acts so as to expedite matters.

Actually, to protect the public and keep the remainder of the land from being patented by the land office to the grabbers, it became necessary to go direct to the President and induce him to withdraw millions of acres from entry and add them to the forest reserves. There was no other way to hold the property for the people.

The ridiculous part lies in the fact that the department to which the care of these lands is given now makes it as difficult as possible for the public to derive any benefit therefrom.

The great areas of public land still left, lie almost entirely within the mineral states and in these mining states arise all the disputes and difficulties. It would seem only reasonable that the administration of the land laws should be placed in the hands of a man who has had actual mining experience.

The final test of any man or his methods is the results obtained. The fact that the man who does not know how and his methods are a failure in the administration of the public domain, is plainly indicated by the last census which shows a falling off in population in every county where the lands have been placed in the forest reserve.

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#### THE STANDARD OIL DECISION

At the battle of Santiago Captain Jack Taylor said "Don't cheer boys, the poor devils are dying." We are not requesting our readers to withhold their cheers from any such sense of commiseration but because we are sure you will all agree that this "devil" is certainly not poor, is probably far from being dead and, even if such were the case most people

would not feel any overwhelming grief.

When the people take the control of congress into their own hands there will be a long term of imprisonment given to all the officers and directors of any concern or corporation convicted of a similar offense and when such a law goes on the books the responsible heads of the great law-violating concerns will then see how advantageous it is to be law abiding.

As a matter of fact, both the Standard Oil Company officials and the American Tobacco Company officials have spoken with contempt of the Supreme Court and any decision it might render, saying it would be in response to public clamor and would make no difference at all to them.

#### MOONLIGHT

Stockholders of the Moonlight Mining company at a meeting in Burke, Idaho, decided to extend the tunnel, now in 2,400 feet, at least 1,800 feet further this season. Two shifts will be employed, machine drills being used in the work. When completed this will bring the tunnel under the point where very rich ore was found in the upper workings, and will give a depth on the ledge of 1200 feet, about 600 feet lower than the tunnel first driven. Other development work is completed.

Bonanza Copper company, operating near Wallace, Idaho, has awarded a contract for 100 feet of work on its lower tunnel, which is now in 519 feet and has cut the vein. The vein will be drifted on in an endeavor to tap the ledge. The tunnel is being driven to get under the ore body encountered near the surface, where high values in copper, silver and gold were shown by assays. The vein was crossed at a depth of 320 feet and it is expected the ledge will be tapped at a similar depth.

Charles McKinnis, manager of the mine, which adjoins the properties of the Bunker Hill & Sullivan and the Federal companies, reports that the shaft development is 500 feet, with extensive workings on the 300 and 500-foot levels. Exploration on and between these levels is constantly adding to the ore reserves. One third of the work has been completed on a lower crosscut tunnel, which will tap the vein on its dip at a depth of 1,400 feet.

The mining industries of the United States paid dividends of \$33,134,745 during the first four months of this year.

A new strike of silver-lead ore has been made in the old Cerro Gordo, in the Inyo Range, east of Owens Lake, California.

The mines of Yavapai County, Arizona, produced \$6,083,331.10 in 1909 and \$6,369,057.75 last year, a total of \$12,523,388.85 in the last two years.



## A GREAT OIL POOL!

Recent Investigations by Noted Scientist Lead to Discovery of Oil on the Desert.—Product of Light Paraffine Base is Found in Commercial Quantity.

[Prepared for the Mining Review by Prof. G. E. Bailey].

PROF. G. E. Bailey gives to the Los Angeles Mining Review the following results of his many trips to the desert covering the question of the existence of oil in the region between the Cajon Pass and Fremont's Peak, north and south, and from Mojave to Barstow.

The Eocene rocks that lie at the bottom of Tertiary and underlie the oil formations of the State are exposed in a number of the canyons along the north side of the Sierra Madre range. At Rock Creek the formations show the Eocene fossils and seams of lignite coal. Rocks of this period are also found north and west of Johannesburg in the region around Pilot Peak in the Fremont mountains and in the range running from Indian to Paradise Springs. In other words, rocks of this period are found along the Sierra Madre dipping north. At the west end of the desert they dip east and along the Fremont range they dip south, outlining an immense bowl covering the region from Mojave to the Mojave River.

There is a distinct anticline extending along the south flank of the Fremont Range that may be traced well to the west towards Mojave and to the east to the Mojave River. This anticline lies between the Fremont Range and the Harper Dry Lake where Black formerly had a ranch. The formations along the south edge of this dry lake and from there south to the Kramer well are white shaly formations similar in all their characteristics to those of the upper, middle Miocene, such as are seen in the Coalinga and McKittrick districts, and seem to be the equivalent of the Santa Margarita formation. This belief is strengthened by the fact that the Kramer well is in formation apparently identical with the well of alternating clay and lime material with alkalies, are well exposed in the known Monterey formation.

A careful study of the surface from the Kramer well to the Cajon Pass shows that it is composed of recent Lake Beds that are similar in character to the series of well known Lake Beds that extend to Death Valley and into Nevada and are generally recog-

nized as of Pliocene age. These beds bluff along the west side of the Mojave River from Victor to Helen. South of Victor the surface is covered by the heavy wash of gravel from the Main Range. These beds lie close to the horizontal but in two or three localities are curved into slight anticlines. It is probable that these may indicate the existence of sharper anticlines in the underlying middle Miocene formation. A study of these oil bearing formations where they outcrop show heavy folding and it is not probable that such foldings would take place without the formation of parallel folds or anticlines between the Santa Fe railroad on the north and the main range on the south. In fact the strongest indications are found directly west of Helen. Helen is a station on the Santa Fe Railroad in T.8 North Range 4 West, S.B.M. The anticline here runs northwest being marked by a ridge that runs along the roads running from Helen to Mojave and Kramer. The main part of the anticline lies along these roads in Tps. 8 N. Range 5 and 6 west S.B.M. There are also indications of a minor parallel anticline between this and the Kramer Well. I have been unable, however, to find any indications of anticlines further to the south although they may be there, buried under.

The Kramer Oil Well is just finishing the work of pumping out the water that has been standing in it for nearly a year and I was unable to see the well at its best. They have found a light, valuable oil that has a paraffine base. Until the well is fully cleaned it will be impossible to judge its flow. From the material brought up it is evident that the well has been badly gummed by standing idle for so long a time with several hundred feet of water in it.

The situation sums itself up about as follows.—Oil has been found on the desert; it is a light high grade valuable oil containing paraffine. At least one anticline is known with strong indications of the existence of at least two other parallel anticlines. The middle Tertiary forma-

tions that extend over the oil fields of the southern part of the San Joaquin Valley, were also laid down on this part of the desert. There is no evidence of faulting or volcanic disturbance but on the contrary the formations have been covered up and sealed against escape of lighter gases and oils. Beyond this very little can be told, except by penetrating the formations with a drill.

### CAL. STATE MINING BUREAU

At the entrance to the Museum of the California State Mining Bureau, Ferry Building at the foot of Market Street, San Francisco, the beginning of the institution of a striking show of California structural materials is now in evidence. Visitors to the museum now pass under an arched way which carries a reproduction of the seal of the State of California in the center. This device is flanked on one side by a conventional design suggesting construction. The arch is composed of ornamental terra cotta, in finely contrasted colors and of California sandstone. The general effect is pleasing. Below the designs is an inscription: "State Mining and Structural Materials."

Just within the arch is a very large space, entirely apart from the great room in which the specimens of ores, etc., have been stored as museum exhibits for years, to the number of some thousands, embracing gold, silver, gems, copper, lead ores, crystals and scores of other metallic substances. In the space now added to the Museum, but in a separate room, will be placed, by the producers of California structurals, a splendid assortment of building stones, terra cotta, bricks and all the other minerals that are used in construction work in this State, and all the samples will represent native productions. To make up this exhibit, there has been general cooperation on the part of the producers.

The result will be an exhibit along industrial lines that will at once please, surprise and educate. The conjunction of strictly mining exhibits and those representative of quarries, clay pits, etc., will impress any one who sees the show, of the importance of the allied mineral producers and of the almost inexhaustible quantities of products that characterize California.

Taking the mineral substances col-  
(Continued on Page 11)

## CYANIDE TREATMENT

## Cursory Remarks on Cyaniding Applied to the Small Mine.

[Prepared for the Mining Review by Mr. Gordon Surr].

The above heading suggests "Cursory Remarks on Swearing," a title proposed by Tom Hood, the poet, for a book; the following, however, more or less bearing upon the enquiry of the subscriber to the Review who is "quite anxious to learn the particulars of how to proceed by the use of large barrels to cyanide small quantities of free milling gold tailings."

Obviously, the process is much the same, whether conducted on a large or small scale and, as full details would fill a bulky volume, the subject can only be touched upon in a brief article. Preliminary tests should invariably be made in bottles before any kind of a cyanide plant is thought of, and, if such be satisfactory, it is then an excellent plan to experiment on a little larger scale, using jars, buckets or tubs. The writer knows of a case where \$30,000 could have been saved had a few bottle tests been carefully made and their significance realized, in the first place. Ordinary 42-gallon barrels are far too small for commercial work nor, on account of their relative depth, are they well adapted for leaching tailings, unless sawn in half. To cyanide in common barrels at a profit, the tailings would have to be of extraordinary value, much richer than most gold ores otherwise the operator would soon find himself "over a barrel," in both the literal and figurative sense. Light tanks of corrugated, galvanized iron are preferable to barrels in every way and the tanks can be made to fit one into the other so that little space is occupied in the event of moving them to another small bunch of tailings. Expensive foundations are not required for small tanks as they may be set on the ground, after leveling and surfacing with a thin coating of fine earth or tailings. Should there be a little fall a hole may be dug for the sump-tank, below the zinc-boxes, and when the bottom of the hole has been levelled and smoothed a tank can be placed therein.

The preliminary tests will show whether the tailings will leach well and, if so, how long it will pay to treat them, and thus give an idea of the number of leaching tanks required for a certain daily capacity. For example, it may pay to treat the material four days, and evidently if a tank can be filled, treated and emptied in four days, four leaching tanks would mean that one tank could be shovelled out and filled every day. The daily capacity of such a plant would, therefore, be the amount of tailings held by one leaching tank. The leaching tanks must, of course be provided with filters, which latter may be protected from injury, in shovelling out, by coarse screening of

iron wire. Wooden strips used for this purpose tend to reduce the filter area too much. If the tanks can be sluiced out the filter-cloths need no protection but care is required to see that the foundations are not undermined by the water employed for sluicing, especially if the tanks are on the ground. Then a sump-tank is needed, into which the zinc-boxes discharge, and the smaller this tank the more often it must be pumped out. A solution-tank is also required, in fact two solution-tanks are better, particularly when one of them has to be used occasionally for water. Naturally, a plant for working small quantities of tailings is usually more or less of a makeshift, and tanks are dispensed with which should be in evidence in operations on a larger scale. The writer and associates once cyanided a 1200-ton batch of tailings and managed with two solution-tanks and one sump-tank, aside from the treatment tanks. Each of these three tanks held 1000 gallons, or a little over four tons of water or solution. A water-tank and another sump-tank would have been convenient but the quality of tailings did not warrant the additional expense. Needless to say, there is little or no profit in cyaniding when the costs of plant and operation equal or exceed the value of the bullion recovered and, although shovelling tailings is good exercise, the time may be spent more pleasantly, and sometimes more profitably, in other ways.

Solution and sump-tanks may be of any shape, being usually cheaper if deep rather than wide, but leaching tanks are preferably of small depth, depending in part upon how the tailings leach. Oxygen, moreover, is necessary for the dissolving of gold and of many silver minerals by cyanide and shallow tanks give a better access of air. Three or four feet of material may leach well but the percolation through eight feet of the same tailings might be poor and, consequently, the extraction also. Some tailings are so slimy that they will not leach at all, in which cases an agitation and decantation process would probably be the cheapest method to cyanide a small pile. The slimes are agitated in cyanide solution, either by mechanical stirrers, centrifugal pumps or compressed air and, after settling, the clear solution is drawn off and run through the zinc-boxes, the process being repeated until further treatment with solution or water does not pay. Lime is added to the slimes, not only to prevent undue consumption of cyanide, but also to hasten the settling and clearing of the solutions. Course sands pack and are hard to agitate and, for good results, these should either be removed and leached, or ground to the

fineness of slime. In many piles of tailings the sand and slime are more or less separate and it is sometimes possible to work the slimes, after a fashion, by spreading a thin layer on top of the sands in the leaching tanks. Mixing slimes with sand has occasionally been resorted to but, in general, slimes and sands should be treated separately.

Pipes, valves and interior pump-fittings should be of iron, brass being affected by cyanide, and it is a good plan to coat the tanks and zinc-boxes on the inside with a suitable paint, such as "P. and B." The outsides of the tanks afford opportunities for the exercise of artistic skill as such are preferably decorated with the word "POISON" in large letters, and also with a skull and cross-bones for the benefit of those who have not mastered the gentle art of reading. Strange as it may seem, the most terrifying and realistic representation of a skull and cross-bones fails to prevent animals and birds from ending their woes by partaking of the lethal liquids about a cyanide plant. The zinc-boxes can easily be made of boards and if the joints are not perfect, two or three coats of P. and B. paint help to make things watertight. Two zinc-boxes are better than a single box, as one can then be always in commission, and insufficient zinc is equivalent to too short a sluice in working a placer. Most of the gold and silver is precipitated in the first three or four compartments, the zinc shavings being generally moved as needed from the lower to the upper compartments, after which the lower compartments are replenished with new, clean shavings. When zinc shavings have been in contact with cyanide solutions they should be exposed to the air as little as possible and close attention to small details, such as this, pays as well in cyaniding as in other lines. The beginner should get a good book on cyaniding of which several excellent ones may be had and, among the less expensive books, one of the most practical is, in the writer's opinion, "The Cyanide Process of Gold Extraction," by James Park, a work selling for \$2.50. Particulars of tests and details of construction may be found in this book, a technical book being of especial value when the reader is actually engaged in working the processes described. Reading alone would never make, say, a good chemist, nor would experimental work teach much without some knowledge of the fundamental principles.

The more the cyanide man knows of chemistry the better but, on the other hand, the tests usually necessary are extremely simple and it is easy to make up solutions without employing a formula which may convey as much meaning to the uninitiated as the inscriptions on Cleopatra's Needle. Suppose, for example, that four tons of solution, containing three pounds of cyanide per ton, are wanted, and it is desired to make use of two tons of solution showing two pounds of free cyanide per ton. Twelve pounds of cyanide are required in all but, in the solutions on

hand, there are three pounds of available cyanide, hence, as will be seen at a glance, the addition of nine pounds of cyanide and a ton and a half of water will fill the bill. On no account should the required amount of solid cyanide be thrown into a tank to dissolve, a good method being to put the cyanide into a 5-gallon coal oil can, punched full of small holes and to suspend the can by a wire hook just under the surface of the water or preferably to hang it under the stream of water or solution when the tank is being filled. Coal-oil cans and baling-wire are decidedly useful in cyaniding, as well as for many other purposes. Solutions may readily be measured with a stick plainly marked in feet and inches, or in tons and fractions of a ton to save calculation.

Preliminary tests, of the hit and miss variety, may be made in bottles by shaking weighed, representative samples, lime being added if necessary, with solutions of differing strength in cyanide, allowing the bottles to stand over night, with the stoppers out, and then filtering and assaying measured volumes of the solutions to ascertain the extraction of gold and silver. Other portions of the solutions can be tested for consumption of cyanide. The bottles may be shaken for a minute or two, every half hour or so, throughout the day, the stoppers or corks being removed between each agitation to permit access of air. It is much easier to assay a solution than it is to thoroughly wash, dry and assay the tailings after treatment. One of the first things to find out, however, is the amount of lime required to neutralize the acidity, the following simple method of obviating the necessity of making up and using standard alkali and acid solutions. Weigh out say four equal portions of an average sample of tailings, put each portion into a clean bottle of colorless glass and add finely powdered lime to each at the rate of one, two, three and four pounds per ton respectively, using if possible, the lime which may later be employed in the actual working. One-tenth of a gramme of lime to 200 grammes of tailings is equivalent to one pound of lime per ton, twotenths to two pounds, and so on. Next add an equal volume of water to each bottle, and a few drops of a solution of a suitable indicator, such as methyl orange, shake the bottles occasionally and set them aside to stand over night with the corks removed. A glance at the color of the solutions in the morning will show whether the lime is deficient or in excess. Bottles that can be picked up are usually empty, although it is well to make sure of the absence of beer or whiskey, for intoxicating liquors and cyanide liquor and cyanide solutions, when mixed, are mutually spoiled.

If the bottle tests indicate possibilities, they should be followed by others on a larger scale, in jars or buckets, when the leaching capabilities may also be noted, and these tests ought as far as possible to ap-

proximate actual working conditions. Time of treatment, number of washes, strength in cyanide, and amount of lime can all be varied, one at a time, while assays of the treated material furnish excellent checks on the solution assays. The erection of a plant should not be considered for a moment until these final preliminary experiments show satisfactory results, in fact common sense is as essential to success in cyaniding as it is in most things.

Every cyanide plant, no matter how small, ought to be provided with an antidote in case of poisoning, as the unexpected may happen, and solutions should be guarded also from domestic animals. Some bright spirits, for instance, were making preliminary tests in Arizona, during which they left tubs of cyanide solutions exposed, when along came a cow one day and took a drink. Result: an unlooked-for increase in the cost of the experiments due to the price charged for the cow. The writer and two friends by the way, were once astonished to see water-bottles, half an inch or so in length, swimming about and apparently enjoying themselves in tanks of weak solution. One of the beetles was caught and left in a jar of strong cyanide solution, in the cause of science, and the next day the jar was emptied on the ground, when the beetle seemingly none the worse, soon flew away. Truth is truly at times stranger than fiction.

The word cyanide is derived from a Greek term for blue, and blue indeed may the outlook for successful cyaniding appear at first to the beginner as he is sure to encounter many difficulties. Great, however, is the satisfaction in overcoming obstacles and lessons learned from that valuable teacher, whose name is Experience, are rarely soon forgotten. Suffice it to say in closing that much may be gained by visiting cyanide plants and noting how operations are conducted, and it is the writer's firm belief that many companies would profit were they to send some of their technical men on periodical tours of inspection to the plants of others in the same business and thus prevent getting into ruts and being satisfied with things as they are instead of as they should be.

GORDON SURR,  
San Bernardino, California.

## CAL. STATE MINING BUREAU

(Continued from Page 9)

lectively, they represent an annual output now little, if any less than \$100,000,000 per annum. Of these the structural materials are represented by an annual value of not less than \$15,000,000 on the present basis of production, with capacity for representing at least five times that sum by the wider development of properties now worked, if the demand for such an output should exist. They are representative of all parts of California, just as the exhibits in the Museum including more than forty

mineral substances, represent more than fifty counties.

The purpose of the industrial structural exhibition is to advertise the resources of the State in the most conspicuous and sensible way possible. The idea originated with State Mineralogist Aubury and the exhibition will be made under his direction. The movement is in the line of encouraging the use of home materials, an enterprise with which Aubury has been connected for some years. Collectively the structural exhibits will be sufficient to convince property owners, architects, contractors and the public in general, of the ability of the State to supply home materials of all sorts that are needed in construction.

The structural materials that are annually produced in large commercial quantities include the following, with the values of the production of each in a period of twenty-three years: asphalt \$9,357,662; bituminous rock \$2,721,099; cement \$17,369,254; bricks \$25,229,515; pottery clays \$2,267,978; granite \$10,875,806; gypsum \$992,405; lime and limestone \$11,553,637; crushed rock, including rubble, \$12,026,184; marble \$1,509,841; paving blocks \$1,895,064; glass sand \$129,012; sandstone \$3,757,044; slate \$653,399.

All these will be represented in the new addition to the State Mining Bureau's great exhibition. The entrance arch to the exhibition is nearly completed. Within a very short time the room that is immediately approached through the arch will be filled with exhibits arranged with taste and in such manner that a collective idea regarding the substances can be easily gained by all visitors.

## OLD ROMAN MINES

The story of the renaissance of goldmining in western Europe in the last three years reads, in some respects, like an Arabian Nights dream. Centuries ago, in the Roman occupation of western France, some gold mines were worked to a depth of 65 to 95 feet when, encountering water, the primitive mining methods of those days caused the abandonment of the mines.

One of these open pits, neglected shrubbery and trees had so thoroughly masked all traces of its identity as a former mine that a retired chief inspector of mines in France, spending his declining years in a cottage on the brink of the pit, did not suspect the true nature of the forested hollow.

Visited some fifteen years ago by a boyhood chum, a well-trained engineer acquainted with Roman workings in other parts of the world, the latter recognized the tree-covered hollow as a Roman mine. In 1905 operations were begun by a company, with 2,000,000 francs capital (\$800,000). In 1908, 352,350 francs were paid in dividends; in 1909 the dividends were 981,943 francs; the profit for 1910 is believed to have exceeded 1,000,000 francs. This is the Beliere mine, in La Vendee, employing an average of 700 men.

## NORTHERN MINING CAMP WARMING UP.

Much Activity in Evidence at Porcupine.—Discovery has Corroborated a Prediction of Ten Years Ago.

Porcupine, Ont.—The big thaw is at hand and every one is straining to the utmost to get in, or to get out, before the trails become impassable. For several weeks freight teams have been passing in a steady stream, carrying supplies and machinery; some teams have been worked almost to the dropping point, but the supplies are in, and now we are ready to sit back and wait until the streams are open. Those unlucky individuals who put off until the last moment the trip into this gold camp of the north are paying double price, even three times the ordinary fare, to have the pleasure of riding in a sled that sometimes scrapes along on the corduroy, where the snow has softened too much; or of experiencing the thrill of gliding over the ice that is showing air holes, here and there, and which is no longer safe for freight teams.

The cold nights have helped to stay the onward march of the spring time, but warm weather is gradually getting the best of the controversy, and within a few days, before another week has passed, in all probability the trail will be simply a bog, connected by waterways full of slush and cakes of ice. Then comes the wait for the streams to clear; a period when we shall all be marooned, cut off from the world, and hoping that all is going well on the outside.

Interesting in this connection is the experience of the stampedeers who recently made a rush for the Matatchewan country. This northerly country, hand in hand with the oncoming spring, holds forth no sympathetic aid to the man who endeavors to travel when the thaw comes. The ice has broken in the Matatchewan region, and this, coupled with the glaring sun, which rendered a number of the stampedeers snowblind, prevented many of them from reaching their destination. The majority abandoned their packs and provisions, and swam or waded back, leaving a feast for the Indians, who promptly appropriated the provisions left behind. Such is the experience of those who tempt fate.

All this will be changed within a few months, for the railroad is now being rushed, and, in fact, is in operation for a short distance, even now. With the railroad in Porcupine, sightseers, or those who want to find out for themselves what this country can really produce, will be able to step into their Pullman at New York City and within a few hours step out in the midst of the most interesting gold discovery ever made in the Eastern country.

## A Tip That Made Good.

How did this find come to be made? Well, in the first place, while accounts differ, it seems evident that ten years ago the Ontario Bureau of Mines made an examination of this region, and Professor Parks, who was in charge, in his official report, gave it as his opinion that gold would

be found in the vicinity of Porcupine lake. This intimation went unnoticed for many years, apparently the report not being read, or, if read, not wholly believed—as if, which seemed to be the attitude of many even up to a few months ago, that gold would never exist, except in the mountains of the West. This opinion, of course, was fostered by the practical failure of some of the gold districts before opened up.

In the fall of 1908, or the spring of 1909, however, the report came under the eyes of one or two men, who were of a more adventurous turn, and who decided that the tip was worth being given attention. As a consequence, parties were sent out to prospect the region—and the Porcupine rush has followed. The honor may be divided, for it has apparently not been decided as yet who the real discoverer, or the first man to make a find, might be.

## Worth Unquestioned.

Whatever may be the opinion upon this question, there is no controversy over the real worth of the finds which have been made. One of the early parties camped several times within sight of a dome-shaped rock, over 500 feet in length, moss covered and presenting no appearance of carrying value. Out of curiosity, however, a bit of the moss was scraped off—and glistening gold stood revealed. Such was the discovery of the Dome, now one of the prominent properties. Three shafts have been sunk upon the property to a depth of 60 feet, and 1,000 feet of underground work has been done. Diamond drills have been sent down to a depth of 300 feet, yet the values persist. The ground above the 60-foot point has been divided into blocks and thoroughly prospected. There are 600,000 tons in that small area.

The Hollinger is another property that has been much in the limelight during the past 15 months. Consisting of four claims, only two have received any amount of development. Two shafts have been put down to a depth of 100 feet each, about 70 feet apart, connecting with a drift. Other development work, the total not being very great at that, has been accomplished, but with this limited amount of work, it is asserted that the ore opened is worth up in the millions. A 250-ton mill is under construction on this property.

The best evidence of the stability of the district is found in the fact that the Consolidated Goldfields of South Africa, has acquired very large holdings, which have been put under the ownership of the Rea Mines Company. Diamond drill prospecting has been carried on, and the results are evidently satisfactory, though official confirmation is hard to obtain. The Bewick-Moreing Company, Ltd., a firm identified with mining for more than a century, has also made extensive investments in the field, and has

organized a number of operating companies. This firm has, perhaps, gone in upon a more extensive scale than any other interest. It has taken in a large amount of stores, has erected buildings, installed a large equipment of machinery and is now going ahead with prospect and development work.

Much attention to the region has been paid to Porcupine by mining interests from across the Atlantic, for in addition to the heavy representation of conservative English capital, Scottish and French capital is also interested. But American capital is now going in with a rush.

## Its Location.

Where is this camp that is attracting so much attention? Take a map of Ontario and draw a straight line from Georgian bay, on Lake Huron, to James bay, the southern projection of Hudson's bay. Porcupine is at about the midway point, 475 miles from Toronto. It is a district covering ten or fifteen miles square. Over this entire area extensive prospecting has been done, and no less than 12,000 claims have been staked. What the real value of all these claims will be, only the future can tell, but there is no question but that the gold is there and in quantity. The big capital which has taken hold is the surest indication which can be found. Before the end of the year one mining man who has been over the district, asserts there will be 500 stamps dropping upon ore, with a crushing capacity of 2,000 tons a day. The average value of the ore will probably be around \$7 or \$8 a ton, though some people are inclined to believe that the values may be considerably higher; anyway, these are conservative figures. There are already 70 stamps on the ground, 30 on the Hollinger and 40 on the Dome. Foundations at the latter property are laid for a battery of 200 stamps, and these are to be completed in units of 40 each as they are required. The Hollinger expects to have 100 stamps within a comparatively short time, when, the estimate has been made, it will be able to treat 400 tons a day, at \$8 a ton gross and \$5 net. It is rumored further, apparently upon good authority, that the Hollinger is also contemplating the addition of cyanide.

As a result of the showings which have been made at Porcupine, prospectors have spread out over all the surrounding country; into Quebec as well as Ontario. It has also awakened renewed interest in other gold fields of the north. Swastika is receiving attention; so is Larder Lake.

In all, it is evident that this northern country will receive such a thorough scratching over as will awaken the world—for the results promise to be sensational.

## COLORADO VANADIUM.

As an indication of the interest in the vanadium industry, probably the best example is a recent purchase of ore bearing land by the Primos Chemical company. Some two thousand acres are included in the deal. Six

hundred and forty acres were bought from George Nixol and W. H. Staver for \$12,800, eight hundred acres from George and Frank Ripley and Ed. Schmid, and several quarter sections from other ranchers. The tract lies between the Fall Creek and Bear Creek, and is known to be within the vanadium belt, although some of the property has never been thoroughly prospected. The total consideration is somewhere between thirty and forty thousand dollars. The Primos Chemical company is well known as the great American vanadium reduction company and its interest in the local field presages much for the future of the industry. — Telluride Journal.

#### HANDLING HEAVY TIMBER.

Unloading timbers from deep skips is usually a long and tedious job. At the Argonaut mine near Jackson, California, the men have a method that is both simple and expeditious. The skip having been lowered until its edge is flush with the station platform, light timbers are lifted out by driving into them with a timberman's axe, one man at the top of the timber is to lift it and a second at the lower end to swing it out. In the case of heavy timbers, and in this mine posts thirty inches in diameter are used, a rope is looped loosely around the upper end of the stick. The rope runs over a pulley fastened in the roof timbers of the station, and down to a 'snubbing-pin' at the side. It being ready the timberman signals the engineer to hoist and the skip is then lifted until its bottom is clear of the station platform and stopped there, the assistant meanwhile taking up the slack in the rope. The skip is then lowered and as the bottom of the timber swings free the timberman drives in his axe, the assistant slacks the rope, and the man with the axe guides the falling stick out upon a roller placed conveniently on the station platform. The rope is then loosened and the timber rolled to the waiting truck. The whole operation is completed in less time than it takes to describe it, and the method is as satisfactory as if it had been devised by an efficiency engineer after elaborate motion studies.—Mining and Scientific Press.

#### TIN IN SAN DIEGO COUNTY

There are evidences of tin all through the mountains of San Diego county, and every once in a while tin crystals, or to be more accurate, cassiterite crystals, are brought in by prospectors who have found them as float or in black sand.

Some day, a good-sized deposit of cassiterite will be found in San Diego county, probably in the same form as at El Paso in good-sized lenses in the county rock of granite or granitic feldspar, as there are many evidences of its presence here in this county.—San Diego News.

## INDIANS AND INDIGO

An Exciting Eleven Days' Chase after Indian Outlaws.— Incident in the Early History of Arizona.

[Written for the Mining Review by Mr. C. B. Genung, Forepaugh, Arizona.]

#### Part II.

We traveled on a trot or lope for several hours the morning of the fourth day out, through cedar and juniper timber, over mesa and rolling hills along the foot of the mountain. About ten o'clock the leaders came right onto a big rancharia in a big canyon, the banks of which were so high and so near perpendicular that there was no way of getting down into the canyon only by single file down a narrow trail. The Indians were getting away. I took in the situation at a glance, and saw several Indians skulking into a gulch that ran into the main gulch near their camp. I forced my horse to jump down about ten feet, where he landed on loose sloping dirt, and made across the big gulch (which was about one hundred yards wide) up onto the mesa on the opposite side, and made a dash to try to head off the Indians that I had noticed going up the mouth of the small side gulch. The mountain to the west of them was so steep and bare of brush that they dare not try to climb it, and I managed to get ahead of them and shot two. One raised up in a sitting posture, and I was about to give him another shot when "Hold on, boys!" came from the corporal. He had been right at my heels, the same as the day before. "Hold on, boys! Don't waste your ammunition. I'll finish him wid a rock!"

I had seen an Indian down the gulch when I jumped off to shoot the first one, and I tried to watch the banks to prevent him from escaping; I had never taken my eyes off the place where I saw him long enough for him to climb the steep bank, and the mountain was too bare for him to try that side. Several of the men had followed up the gulch on foot from the Indian camp at the mouth, and I had asked them to look carefully, which they thought they did, but none found him. Still I would not give it up and remained in my position. Finally a young fellow named John Bullard came in sight from among the juniper trees and stopped right above where I had lost sight of the Indian. I hailed him and told him what I had seen, and for him to get into the gulch and hunt carefully while I watched from where I stood.

With as little delay as possible he climbed down, and pretty soon a big boulder hid him from me; then a gun went off and Bullard's head came up from behind the boulder. Then down it went again out of my sight. Then up came the head again, and Bullard climbed upon the boulder and, holding up his right hand (from which a part of the fore finger had been shot off with the guard of his pistol a cou-

ple of years before by Indians who waylaid him while he was on his way from Townsend's ranch to the Bowlers ranch on the Agua Fria), he hallooed to me, "I have got even with that finger. I'm very much obliged to you, Charley."

On all the trip Bullard had not got an Indian until this one.

I went back now to the place where the Indians were camped, and the men had already plundered the camp looking for valuables, and among other things they had found a buckskin sack with a lot of indigo balls in it, and that reminded me of what my wife had sent me to Prescott for. I poured about a pound of them into my saddle holsters to take home with me. The men had captured several guns, a few buckskins, etc., but nothing of much value.

In the scrap at the Indian camp Townsend had a very narrow escape from an Indian bullet. He was walking through some brush and was within a few feet of a wounded Indian who was lying behind a boulder, so that Townsend could not see him, with his rifle cocked and sighted; and if Townsend had taken one step more he would have been within range, but Providence was with him. Jeff Davis caught sight of the Indian, called out to Townsend and stopped him, and in the same breath finished the Indian.

We got a lot of roasted mescal and some horse meat at this camp, and took up the trail again which led to the southeast from this point through low hills and long mesas.

We had traveled some three or four hours and were following a long low grassy ridge which was skirted on the south and west by a big wide canyon which seemed to run far back into the mountain. The trail ran along the top of the ridge, which in some places was quite narrow as it wound around the head of some short gulch that ran off toward the big valley below to the east. There was quite a little rise in this ridge just before it pitched off into the large gulch to the west of us, and as the Mexican traller rode nearly to the top of the ridge he threw up his hand and stopped and turned his horse partly around. He had seen what he supposed was two Indians mounted on horses going ahead of us on the same trail about six hundred yards in advance. Townsend slipped and peeked over the ridge, watched a few moments, then turned and came back and started down a very steep gulch which we could see led down to the big wash. If we could get down it with our horses we should not be in sight of the Indians until we were close to them.



Townsend had brought the gun that came so near killing him and had several buckskins lying across his saddle upon which rested the two guns. As he passed me he started down the gulch, dropped the Indian's gun then dumped the buckskins, and was cleared for action. I had no plunder to dispose of except the indigo, and I could not part with that for my wife sent me after it. That was a rough gulch, but our horses were sure-footed and we landed on the level ground side by side. Here the ground was soft, sandy land, and we turned our horses loose and gave them the spur.

The Indians were going very slowly and appeared to be asleep, for we were in plain sight of them for as much as three hundred yards. They were following the main trail and were crossing a grassy flat with bunches of oak brush here and there scattered. We ran our horses at full speed to within forty yards of them, and both jumped off at the same time and fired. Both of us shot the same Indian as he was nearest to us and we could see that he had a long rifle lying across the horse in front of him. We had both noticed before we jumped off that there were two on one horse, and at the crack of my gun the nearest Indian pitched head foremost off the horse, and with him went the gun and a big quarter of horse meat that he had balanced across the horse's withers.

The other two Indians jumped off of the horse they were riding and began firing at me, as I was in the open ground and Townsend was behind a small bunch of brush and the Indians had the horse between them and Townsend. They fired three or four shots at me, one with a Henry rifle and the other with a six-shooter. I was jumping sideways and trying to reload my rifle when Townsend got in a shot and broke the right arm of the Indian who had the rifle. Then they both started to run, keeping as much as possible the brush between them and us. They had run only a few steps when they ran together, and the one with the six-shooter got the Henry rifle and gave the pistol to the one with the broken arm. All of this time I was trying to get a shot, but there was too much brush and they were taking advantage of it.

Then we both made a dash for our horses. Townsend's horse had stood still where he left him, but mine had moved off a little way, and I suppose he did the wise thing for if he had stood right beside me as the other horse did he might have been shot or killed. When I ran toward the horse he became frightened and would not let me catch him. When I realized that I could not catch him readily, I started running after the Indians. Townsend had started along the side of a low hill trying to get a shot and at the same time trying to head them off to give me a chance. The Indians kept in the wash, which headed about one-quarter of a mile from where we shot the first one. Along the wash on each side was a growth of oak brush higher than a man's head.

which prevented Townsend from getting a shot. Townsend was on the left of the Indians, which made it necessary for him to turn in his saddle in order to use his gun. He said if he had been on the other side he could have had plenty of shots at them.

At the head of the gulch there was a low divide, and there the Indians separated. One ran down a gulch and the other through some brush and was out of sight, but Townsend kept in sight of the one with the rifle and followed him for something like a mile before he got a good show to shoot. Then he hit him in the back of the head and killed him instantly. When Townsend rode up to where the Indian lay he took hold of his ankle to pull him down out of some brush, and the grain of his hide slipped like he had been scalded. When I came up to Townsend he was examining the Henry rifle, and he asked me if I had seen the wounded Indian, which of course I had not. He called my attention to the way the hide had slipped on the dead Indian's leg, and while we were commenting on it the balance of our party began to show up on the hills about a mile back on our trail. We got up in sight, and they were all soon with us.

We desired to go back to the big wash that we had crossed in overtaking the Indians, to camp, as it was then about sundown and we knew there was water and feed there. On our way back I was riding next to Townsend, the other men having caught my horse and brought him along. I said, "Townsend, why didn't you shoot when you jumped off of your horse?"

His reply was, "Why didn't you shoot?"

I said, "I killed that big Indian all right!" and we both claimed to have shot the Indian. So when we got back to where he lay we examined the body and found the small Henry rifle hole, and the bullet must have passed through his heart, while my big Sharp's bullet had passed through right between his shoulders. We had both fired at the same time and we both thought the other had not shot at all.

Townsend said to me, "How many have you killed?"

I said, "Two yesterday and two this morning."

"Well," he replied, "you count this one. That shot would have killed a big bunch if they had been in line."

"How many have you got?" I asked.

"Eight," was the answer, "and one gone with his right arm shot all to pieces. We will track him up in the morning, and that will be nine for me!"

The gun that had caused us to both shoot at the same Indian proved to be the herder's gun that was killed when the herd was taken. The horse that he rode belonged to the Bowers ranch, and the other horse belonged to the late Robert Postal. It was quite a noted race horse.

The whole command had sat and watched Townsend and me until the

first shots, then came on as fast as possible.

One of the soldiers had noticed a road leading up the mountain side across the valley some eight or ten miles away, and recognized it as a road that he had traveled several years before and said that it led from Old Camp Pino on Tonto Creek to Green Valley. That was the first that we had an idea where we were.

From what I can learn from people who have lived in that country the creek that we were camped on is now known as Wild Rye.

The next morning we were out as soon as we could see and tried to locate the wounded Indian. We found his track where he had crawled through the brush and skulked along for nearly half a mile, then in some way had built a signal fire and other Indians had come to him during the night and taken him away. So Townsend only counted eight for the trip.

After satisfying ourselves that there was no show to find the wounded Indian we took the trail, and about ten o'clock struck Tonto Creek and the old wagon road before mentioned. The Indian trail led down the creek to a point below a small canyon that the road was built around. There the Indians had left the road and taken to the hills again, going east. Here we halted for the first time to consult. As our horses were in very bad shape (several being entirely or partially barefooted), and our grub all gone, that is, the citizens' grub, we concluded that it would be folly to go further on the trail, and we also realized that the Indians were thoroughly aroused as we had been seeing smoke by day and fires by night on the mountains for the past twenty-four hours.

Some of the party were in favor of going back and trying to get home via Camp Verde. It was also suggested by some that we might as well take our back trail. That suggestion made some merriment among the wise ones, and Townsend spoke up and said five hundred men could not get back by the way which we came without losing half of them. Townsend hunted up the soldier who had recognized the wagon road the day before and learned what he could about the country and road. The soldier had been over the road but once, but he thought we were not more than ten miles from Old Camp Reno and from there there had been wagons over the Reno Mountain to McDowell. We concluded to go to McDowell, and as we began to mount our horses Townsend remarked, "We will have to be on our guard from from now on or somebody may get hurt."

That was the most talk that he had made on the trip at any one time, and the lieutenant had not said that much so as to be heard by the citizen part of the crowd, and we all began to think he was all right. Even Jeff Davis had quit calling him corporal when he had occasion to ad-

dress him, and called him "Mr. Morton."

We were halted on a mesa of a considerable extent while we were consulting about the road to take. We were among pre-historic ruins of some kind and they covered many acres of ground.

We had a good road until we reached the old abandoned post. A few miles above the post we passed what had been a garden, irrigated with water taken out of Tonto Creek. This was done by soldiers while the post was occupied, we afterwards learned.

We reached the old ruined post about noon, having traveled some twenty or twenty-five miles that morning, and had spent a considerable time hunting for the Indian with the broken arm. That Indian building the fire with one hand was a puzzle to us all. He must have had matches.

As we found a fine large stream or spring near the old camp we concluded to camp there that night to rest our horses. Several of the citizens had walked all the morning to favor their horses. My own horse was very lame, and the first thing that I did after reaching the camp was to hunt up the old blacksmith shop and I found plenty of old shoes that were good enough to keep a horse's foot off the ground. I also picked up quite a lot of nails, most of which had been bent, but I got enough to put a shoe onto my own horse and a lot to spare for the others.

While several other men and I were hunting for the nails we were startled by seeing some of the fellows in camp run to their horses, while others were running to camp from where they had been picking blackberries, of which there was quite a patch at this place,—the first that I had ever seen on the Pacific coast growing wild. The excitement was caused by a big cloud of dust about two miles up the McDowell road just at the mouth of a canyon that the road passes through before it reaches the open mesa country. Our first impression was that it was Indians coming with a band of stolen stock as we could see nothing but dust and a glimpse of something moving. Only a few of us had our horses when we heard a bugle call, and the soldiers said it was a command to charge, and I guess it was for here they came just tearing up the earth until they were within about four hundred yards. Then they subsided and walked their horses into camp, and none of them a bit hurt. It turned out to be a company of cavalry sent out from McDowell to kill Indians, and as our soldiers were all mounted on white horses they were mistaken for a band of sheep and the officer in command had the horn blown, I suppose to scare them away so that they would not eat him.

The officer stopped and talked a while with our men and made a strong talk with some of the boys, trying to induce them to join him and go after the ones we had lost.

(Concluded next week.)

## MINING MATTERS

### Late News from Districts Producing Precious Metals.

Seward, Alaska, is having quite a boom in quartz prospecting. A body of ore, samples of which assayed \$950.00 to the ton, has been uncovered on the Gold Bullion property, just north of that point, according to latest advices received. It is said the new body of ore is three feet thick and is by all odds the richest quartz yet uncovered in the north. This property will have seven stamp mills working this summer, and the management confidently announce that they expect to take out \$400,000 during the season.

The Cliff Mine at Valdez, which with a small two stamp mill produced \$200,000 in six months last year, is having additional stamps installed and preparing for a heavy run during the summer.

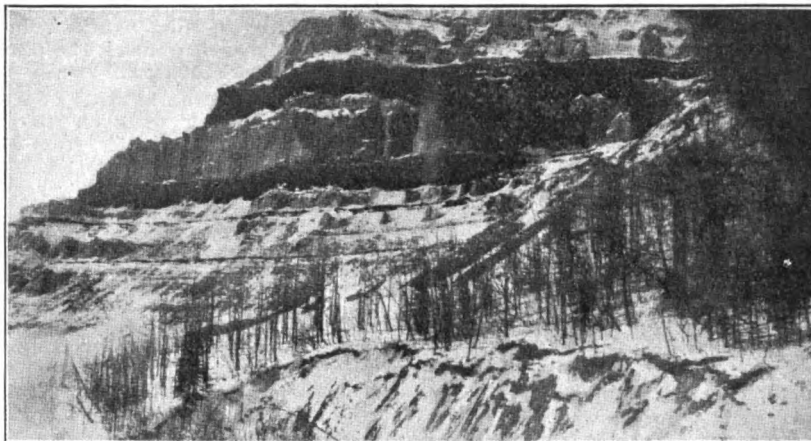
The Alaska Northern management announces that they have considerable English and Canadian capital available for the development of their section during the coming summer.

They are perfecting plans to mine coal in the Behring river fields and to back to the last ditch 5000 volunteers who have been recruited in Alaska for that purpose.

Numbers of telegrams have passed between Seattle and Cordova, Valdez and Seward within the last forty-eight hours, and as a result a number of scows, tugboats and mining implements have been assembled at Katalla, to be towed to the fields as soon as moving ice allows the stream to become navigable.

Telegrams received by prominent Alaskans in Seattle indicate that the action of the people of Cordova is being generally indorsed throughout the territory. Sufficient money to carry on the project has been pledged and will be forthcoming as soon as it is needed.

It is probable that the first draft will be sent north on the next departing steamer for Cordova.



Undeveloped Coal Fields Near Fairbanks, Alaska.

The first shipment of copper ore from the mines back of Haines, located in Southeastern Alaska, was brought down last week and while the shipment consisted of but 35 tons, it ran very high in copper and indicates lively development in that camp during the season.

Nome is looking up. The Alaska Steamship Co. will dispatch vessels for that port June 1st, and 4th, and already many people are securing reservations. The same company dispatches a vessel for Bethel, on Kuskokwim River, May 27th, and according to present indications the early rush for far Western Alaska points will be something like the early days of Nome.

### WILL MINE ALASKA COAL

SEATTLE, In open defiance of the federal authorities, Alaskans in Seat-

Seattle, Wash., May 15, 1911.—That Alaska will receive during the present year, the most extended exploration in its history, is demonstrated by the advent into that territory of the United States Mining Smelting & Refining Co. Recently, arriving in Seattle from the Boston headquarters of the company, were officials of this wellknown organization and following their trip of inspection comes the official announcement that offices will at once be opened in Seattle. A. P. Anderson is now here looking after the details. It is the purpose of the United States people to thoroughly explore Alaska, securing options on copper and gold quartz properties which they will either take up or discard after examination. Already they are about to close for the Mt. Andrew Mine, one of the most promising properties located in Southeastern Alaska. Agents will at once be dispatched

## NEWS NUGGETS

## Concentrates Gathered From Various Properties.

to the Copper River region, Seward, Valdez, Kenai and Fairbanks. Alaskans are jubilating over the advent of this company, owing to the fact that it is the most formidable competitor of the American Smelting & Refining Co., and it is understood that the United States people will look for a suitable smelter site on Puget Sound, near Seattle, or somewhere in Prince William Sound, Alaska.

## A BONANZA

The Underwood placer mine near Cornucopia is again smashing records as a producer of virgin gold. For several days rumors have been afloat that a very large deposit of very rich gravel had been encountered in the drift being driven into the property. This was confirmed yesterday by letter as well as by a shipment of almost pure gold in nuggets ranging in size from a grain of wheat to an almond, and in value from a few cents to \$3150.

J. H. Underwood of this city, formerly of Nevada City, Cal., principal owner of the mine, received the shipment of gold and letter from his partner, C. H. Rhodes, who is pushing development on the property. The shipment of gold amounted to over \$8000.

Following are extracts from the letter from Mr. Rhodes.

"I am sending two packages containing forty-nine ounces of gold. The pay in the crosscut at present is over ten ounces per shift. I cannot work more than two shifts to good advantage, but will shove this tunnel ahead until we find the width of the pay streak. The largest nugget is from the clean-up on Monday, the 17th, and weighs \$3150; the next largest weighs \$10.50 and several \$10, as you will see.

"As we proceed the gold grows coarser and more of it. Last Saturday's clean-up amounted to over ten ounces, and the average for the balance of the week was over five ounces a day.

"The pay dirt in the crosscut is several feet thick and goes better than \$50 a car. You can figure this pay streak will be no less than sixty feet deep. I cleaned up what Doc Laswell dug the first two hours this morning before I started to town and got \$45-\$2250 an hour. How is that for pay dirt? And there seems to be plenty of it.

The Underwood mine is located on Bowlder creek.—Baker City Democrat.

A big discovery of lead and silver ore, running as high as 600 ounces in silver has been made in the Arizona-Cleveland property in the Gunnison range of the Dragoon district.

The Twin Peaks Mining & Milling company is developing first class ore in its property near the New Mexico-Arizona line twenty-two miles from the town of Duncan.

A gravel mine is being operated at Table Mountain, near Jamestown, commonly called Jimtown, California.

The first and the last freight train on the Mexico North Western railway carried up from the Pearson country a carload of ore from the Dos Cabezas mine, situated about 70 miles west of Casas Grandes, state of Chihuahua, which was sent to the El Paso smelter, and which netted the company \$50,000 United States currency.

Plans have been completed for reopening the old Kossuth mine, south-east of Dayton, Nevada.

There were at last reports, five banks in Porcupine.

At Tonopah, Nevada, the weekly shipment of ores to the smelter runs \$200,000 in value.

A core drill has been ordered by the Desert Chief Mining Company, for use on their property in the Barstow, California, field.

The Pine Valley Mining district, about sixty miles northeast of San Diego, Cal., gives promise of being a rich and permanent gold-producing field.

Prospecting in Nova Scotia is more active now than in years. The search is for gold and tungsten.

A report from the Ititarod of April 1, says the winter work on Chicken creek, just over the divide from Flat creek, last season's big producer, indicates that the big thing this season will be the newer creek. Chicken is longer, has more water and is better off for timber. The gold is coarse with a good sprinkling of large nuggets. The pay is in gravel that is almost on the surface and goes right down to bedrock. The pay streak runs from 4 to 14 ft. thick and has an average width of about 300 ft.

Over in Arizona there are one or two favored places that claim to have telephone connection with Paradise.

We ask our friends to send us the names and addresses of prospectors.

The directors of the Big Eye Mining & Milling Company held an important meeting at the offices of the company in Yuma, Arizona last week. Those present were T. E. Finch of Covina, Cal. I. F. Overholser and Hugh Ketcherside of Long Beach, Cal., E. E. Hahn of Los Angeles, Cal., Dr. J. A. Ketcherside and H. C. Johnson of Yuma. Balance due on stock purchased from Spittler & Huffman was paid. The directors decided to continue development work.

The new smelter at the Mina Mexico property, 35 miles from Tenichi, Mexico is running nicely and giving entire satisfaction. The stack was constructed to accommodate 75 tons daily but it can easily handle 100 tons. About 70 per cent of the ores handled are high-grade and the output of the smelter is a high-grade silver-lead matte. W. E. Pomeroy is superintendent of the property. The

consulting engineer for the company H. L. Hollis, recently made a visit to the property.

The annual report of the Lucky Tiger Combination Gold Mining company has been issued. The report of Consulting engineer, Malcolmson shows that there was mined and milled during 1910, 38,915 tons of ore, upon which a profit of \$935,036 was realized.

One of the biggest mining deals undertaken in Grass Valley in many years is on the point of consummation. All that remains is for the contracting parties to place their signatures to the legal documents transferring the property and the claims and improvements in the possession of the Pennsylvania Gold Mining Company will pass into the control of A. H. Winn, representing the California Title and Insurance Company. The price paid for the properties is reported to be \$500,000, said payments to be paid in annual installments of \$100,00 for a period covering five years.

"Great oaks from little acorns grow," and big mines and regular dividend payers can be established by the development of the prospect.

The Washoe and Great Falls, Montana, smelters turned out 21,500,000 pounds of copper in April.

L. C. Dimminck, of Kingman, Arizona went to Needles, Cal., last week and signed up the transfer of a large block of Southern California oil land. The amount involved was large, Mr. Dimminck receiving \$57,000 as his share.

A rich strike of ore averaging from 12 to 16 inches wide was struck in the Jo Jo mine on the North Fork near Phoenix, B. C., that will run 160 ounces of silver to the ton.

Gravel has been struck in the Hope mine at Placerville, California, running from \$2 to \$8 to the pan.

The leasers on the Butte Lode mine have been putting a lot of high grade ore through the Red Dog Mill at Johannesburg, California.

In 1909 three gold mines in western France which show indications of having been worked by the Romans some 2,000 years ago, yielded \$1,800,000 in gold.

Eight hundred Yaquis, under Chief Mori, have sent a messenger to Madero offering to take and hold any cities in Sonora if Madero will promise to restore to the Yaquis at the end of the war the lands and chattels they claim were unjustly taken from them by the Mexican government. This report is said to have created much excitement at Hermosillo and General Torres has ordered 300 troops from Caborca to protect the capital.

The lodge of Odd Fellows at Placerville, formerly Hangtown, California, has engaged in mining at the site where its new building is being erect-

ed. While workmen were excavating for foundations for the building a rich prospect of gold was discovered on bedrock. A sluice box was put in, and all dirt excavated is being run through it to extract the gold. Good values are being taken out daily, and the total sum will amount to a large figure. The lodge will use the gold toward paying for the building.

The American Metallurgical Society, with headquarters in San Francisco, was incorporated under the laws of California, March 14, 1911. The objects of the society are twofold:

First, it is for the advancement of the arts of mining and metallurgy, employing for that purpose the various means at its command, and more particularly by encouraging the exchanging of ideas on mining and metallurgical topics through the medium of professional papers and discussions which shall be given publicly in the transactions of the society; and second,

It is for the welfare of its members and shall encourage in them a healthful spirit of mutual co-operation.

The board of directors of the Tonopah Belmont Development Company declared a dividend of 25c a share, also announced that the company will now receive bids for a new 450-ton mill at the mine.

An abnormally rich gold strike is reported in the Pick and Drill mine in Yavapai county, Arizona, near Humboldt.

The Consolidated Leasing Company has just completed a run of 1,000 tons of ore through the War Eagle mill, at Manhattan, Nevada, and will net between \$50 and \$75 a ton.

A prominent merchant who has returned to Douglas, Arizona from the Yaqui river country reports that the Yaquis, about 800 strong, have again gone on the warpath, that they have not allied themselves with the insurgents but are acting independently along the old line of warfare that they so successfully have used in the past. Many prospectors who have planned to go into the Yaqui country, will be wise to make other plans.

Silver Bullion to the value of \$300,000 was moved from El Rayo mine, in the Los Azules district, to Santa Barbara, Mexico, under rurales. James S. Colbath, the manager arranged for the guard through Jefe Politico Chavez of Parral, who has promised the people of his city a grand fiesta when peace is declared.

The announcement has been made in San Francisco by officials of the U. S. Steel corporation that they plan to establish branches in Seattle, Portland and Los Angeles to be operated in connection with the Risdon iron works of San Francisco.

The total output of the mines in Cochise County, Arizona, for 1910, amounted to the tidy sum of \$19,265,737.09.

M. D. Foster, chairman of the Committee on Mines and Mining in the present Congress, has introduced a bill to extend government assistance to state schools of mining and metallurgy. The bill deserves support from miners and the mining press.

## SPECIAL CORRESPONDENCE

Paradise,  
Arizona.

This district is just about as dead as it is possible to be without needing burial. In some ways the lack of population is not regarded by the old timers as anything to grieve over as the departed ones were not miners but location holders hanging on like grim death in hopes some one would buy them out on the strength of some doubtful assay they had made.

Taking the whole district over there are better prospects of something being done than has been the case for several years and the claims are certainly looking better as more work is done. Unfortunately there are only a few to do it but they have every reason to feel encouraged.

Captain Duncan has several men doing nothing but development work and he expects to put on more before long.

The Virtue has two shifts driving their long tunnel and reports are that ground is getting softer with some iron.

Dave Doran and partner are steadily at work on their property with some ore all the time. They really need a concentrator to make it pay.

Rube Haddon's ground is well mineralized and ore may be uncovered any shift.

Judge Hancock started in assessment work; early development shows iron and copper stain on one group and some nice black oxide of copper on another.

B. C. Pickard and party visited the Hilltop group some time back; while having very little to say they were surprised to find so much work done and ore showing and it is quite likely they will be back again and make a more extended examination. There are quite a few sacks of shipping ore on the dump.

Albert Finck has been on the sick list but is improving and the echo of his blasts will be heard before long.

George Murray is at work on the Black Queen group for Walker & MacLellan.

Louis Bradshaw has been at work on the west side of the mountains for several months. He reports striking several promising bunches of lead-zinc ore.

## SIERRA MINING CO IN MEXICO.

"We are working about 400 men at the mine, right along", said Robert Linton, general manager of the Sierra Mining Co., to an Enterprise reporter.

"We are still carrying out the development program laid out when we took charge. Construction work has been started on the 300 horsepower electric generating station, situated in our Durazno timber tract, about six miles from Ocampo. The power will be transmitted to Ocampo and used for driving mining machinery.

"At this point we are installing a new central compressing station, which furnishes the compressed air

for power to the principal mines under development.

"We are putting in something like 150 tons of new machinery, which is now being transported over the wagon road from Temosachic. We have also put the wagon road in good repair at a cost of \$20,000 gold. About onehalf of the machinery is already on the ground," concluded Mr. Linton, "and the balance should reach Durazno and Ocampo in May."

We might add to Mr. Linton's plain statement of facts the remark that here is an American company not only developing the mining resources of the country and paying good wages in cash to Mexican labor, but spending large sums in the improvement of roads, directly adding to the prosperity of the state.—Chihuahua Enterprise.

## MINE PROTECTION

The Virginia, Nev., Chronicle says: "Announcement is made today that orders have been given Superintendent McCormack of the C. & C. shaft to remove all the present wood buildings around the collar of the shaft, and work will be started at once to make this important change. The gallows frame will stand in the open the same as at the Union, the Yellow Jacket and Belcher shafts, and the engines, boiler rooms, carpenter and machine shops will all be enclosed in corrugated iron buildings and the entire plant modernized in every particular. The C. & C. hoisting works, as now constituted, entirely covering the mouth of the shaft, have been standing for many years, since the Bonanza days, and it is largely to do away with the fire hazard that these changes have been ordered. It is a marked step in advance and will materially change the appearance of the surface equipment of this historic and world famous hoisting works."

\$750,000

By the terms of a transaction announced today one of the biggest mining deals in recent years in Oregon goes on record. The United States Smelting company purchased the Rainbow mine in the Mormon basin district from the Commercial Mining Company for a consideration of \$750,000. The initial payment was \$200,000.

## AT GOLD MOUNTAIN

Development in the outside camps is slowly but surely bringing new and important discoveries to light, the latest strike to be reported being at Gold Mountain, where J. A. McDonald has just opened at shallow depth four feet of lead-silver-gold ore on a property within a few hundred feet of the Randolph company's claims.

Conservative parties who have seen the strike are very enthusiastic over the showing and declare it to be one of the best ever opened in that section.—Goldfield News.

## PETROLEUM NEWS

## Recent Happenings Among Oil Men. Notes from the Wells.

The Calabasas Company of New York, of which S. S. McClure, the publisher, is president, has leased fourteen quarter sections in township 1-19 in the Santa Monica mountains near Calabasas, in Los Angeles County. Wilfred C. Steele, manager, has arrived and is preparing to start a well at once. The location is about four miles southwest of the Lucky Baldwin well.

Edwin G. Jack, of Kittanning, Pa., has leased seven sections in this region from Gen. F. G. Downey, from whom was also obtained the Calabasas property. Jack has also acquired the mineral rights on 1,600 acres of the old Bonestall ranch, a mile and a quarter east of Nordhoff, Ventura County, near where some twelve years or more ago the Union drilled several shallow wells credited with having produced from 50 to 125 barrels. This oil tested about thirty gravity.

The Lucky Baldwin well near Calabasas is down 1,264 feet and is said to have a sand capable of yielding five or six barrels a day of an oil testing higher than any yet found, close to forty gravity, it is said. Drilling is still in progress in the hope of getting a commercial production.

## ARIZONA OIL COMPANY

Phoenix, Ariz., William Olander, A. K. Stacy and George F. Gardiner have been announced as officers of the Northern Arizona Oil Company, recently incorporated at Winslow for the purpose of opening up extensive properties in the territory in which it is believed oil will be discovered. The company has a capitalization of \$1,000,000, divided into 1,000,000 shares with a par value of \$1 a share. There are upwards of 200 stockholders in this city.

Among the properties taken over by the new company is the claim of the Salt River Valley Oil company. In addition 3,000 acres of land in the vicinity of Phoenix have been leased, and these properties are being drilled for oil. An option has also been secured on a large tract north of Winslow, and an order has been placed for a drilling equipment, so that the work can be begun at an early date.

## NEW OIL FIELD.

What at present promises to create one of the greatest mining excitements ever seen in Nevada is the discovery of almost unlimited deposits of phosphates together with an underlying deposit of high grade nitrate rock 25 miles east of Mina. About three years ago the editor of the Western Nevada Miner discovered immense beds of fossils and numerous other sedimentary deposits of the tertiary age, and, being familiar

with the oil fields of Wyoming, Colorado, Kansas, Indian Territory and Texas, it looked a very likely place for oil. A quiet examination of the field, which is several miles in extent, has since been made, and no breaking up of the sedimentary deposits through volcanic action being discernible, it looked to the writer as a favorable opportunity to refute the oft-repeated statement of no oil in Nevada. The matter was taken up with Pennsylvania, Reno, Salt Lake, and other outside capitalists and specimens furnished, which received most favorable consideration. Recently analytical tests not only showed the presence of oil, but high grade nitrate beds and almost unlimited deposits of phosphates and Portland cement rock.

## LAKEVIEW HAS COME BACK

Since the last report to the effect that the Lakeview gusher has gone back to the production of good, merchantable oil, the amount produced and the quality have both improved, and at present the great well is yielding 10,000 barrels of oil in which there is but 2 per cent of water.

The great gusher is now nearly fourteen months old, and in all that time it has never failed to flow a great quantity of oil, although for some months during the past winter the oil was so thoroughly mixed with water that it could not be profitably separated. If its present performance keeps up the Lakeview may again take rank as the foremost gusher in the state. There are not so many that can beat 10,000 barrels steady flow.—Bakersfield Echo.

## UTAH OIL HOLDINGS

Angus Crites, superintendent of the Peerless Oil Company, has returned from an extended trip to Mill Fork, Utah, about twenty miles south of Provo, where he and some twenty-five other local people are interested in 3400 acres of promising oil land.

Of the tract 800 acres are patented, and the remainder is held under mining claims. A good grade of paraffine oil is obtained at a depth of sixty-five feet some distance to the west of the local people's land, and farther to the east a company of Provo people is getting ready to drill. With the exception of the small amount of oil produced from the sixty-seven-foot wells, which are the property of the Salt Lake Paraffine Oil Company, there is no production in the district, but the reports of geologists who have examined the land estimate that the oil will be struck at 1550 feet or less on the land held by Mr. Crites and his associates. Some ten miles south of this tract are large coal deposits.—Bakersfield Morning Echo.

## EASTERN OIL FIELDS IN APRIL

In the states of New York, Pennsylvania, West Virginia, Ohio, Indiana, Illinois and Kentucky, there was no important deviation in April from the preceding months. Only 463 wells were completed, 156 of which were either dry or gassers, but even that small number of completions for those states was 53 more than in March, and the new production of 8,156 barrels, was an increase of 2,129 barrels, small in quantity, but worthy of note for the districts involved, more than half of which came from Illinois. In new work there is a net increase of 26 rigs and drilling wells, the Illinois and the Clinton lime fields of Southeastern Ohio, showing the most activity, with a little more activity in the Pennsylvania districts. West Virginia and Indiana, are dull. In Kentucky there seems to be a slight increase in operations, more wildcatting than in the regular producing districts.

Allegany county, New York, reported 9 completions and 8 bbls. new production; Bradford, Pa., 19 completions, 38 bbls.; the Middle Field, 5 completions, 6 bbls.; Venango and Clarion counties, 57 completions, 72 bbls.; Butler and Armstrong counties, 17 completions, 20 bbls.; Southwestern Pennsylvania, 23 completions, 171 bbls.; West Virginia 100 completions, 856 bbls.; Southeastern Ohio, 96 completions, 667 bbls.; Lima field, 40 completions, 483 bbls.; Indiana, 8 completions, 73 bbls.; Kentucky, 8 completions, 167 bbls.; Illinois, 81 completions, 5,587 bbls. The same districts on May 1 reported 217 rigs up and 539 wells drilling, Pennsylvania grade fields leading with 165 rigs and 306 drilling wells, Indiana having only one rig and 13 drilling wells, Illinois being second with 25 rigs and 171 drilling wells. Kentucky now leads Indiana as an oil-producing state and West Virginia, despite its spurt in 1909 and part of 1910, is slipping back.

The average per well in Illinois in April was 86 bbls., which is indeed a good showing for any field, especially one that is so well developed and has so little outside territory. The Kentucky average was raised by a 100-bbls. well in Wayne county, the Lima average 12 bbls., the Pennsylvania-West Virginia average 18 bbls., the average for Central and Southeastern Ohio 14 bbls.

Illinois holds out some promise at Carlyle, in Clinton county, just east of St. Louis, for a new pool in a shallow formation, and considerable activity prevails there now, with high prices for land. There should be a better line on the possibilities within a month. Western Kentucky and Tennessee are being leased up more actively than for several years and small pools of oil or gas may be found. Central Ohio is quite active just now, especially for gas, with some oil, but the deep drilling is a drawback. The fields east of the Mississippi river are no longer a serious factor in the petroleum industry, if we except Illinois, and that state is only a backstop for its eastern neighbors.—Oil and Gas Journal



## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

Prof. G. E. Bailey, of the University of Southern California, has lately returned from an extended trip on the Mojave desert and the result of his investigations is given to our readers on another page of this issue.

Geo. F. Ober, president of the Ober Engineering Co., Seattle, Wash., sailed from that city, recently, for Hong Kong, China, taking with him a complete milling plant for a gold quartz mine on the Canton river, 230 miles from Hong Kong. The property is owned by the Canton Province Mining Co., and is controlled by Seattle and Chinese merchants. Wong Shin How is president; Thos. W. Smith, vice-president; Geo. F. Ober, secretary and treasurer, and Frank J. de Vry and Ah King, of Seattle, are trustees.

Floyd Weed is manager of the Bailey mine, at Cobalt, Ontario.

George Turner, of Spokane, Washington, former United States Senator, has lately returned from a trip to the Altar district, Sonora, Mexico.

W. R. Reber has taken a lease on the Nannie Baird at Oro Grande, N. M. and is now taking out ore for shipment to the El Paso smelter.

T. C. Cunningham, the English mining engineer, who is consulting engineer for the West Coast Oil Company, recently visited the Espritu silver mines in Sonora, in the interest of English capitalists.

J. Fred Schutte, Jr., of Amsterdam, Holland, and Hon. B. B. Woodward, of Paris, France, two capitalists have been looking over mining properties in Sonora, Mexico.

G. M. Lee is Chief Chemist at the Granby smelter, Grand Forks, B. C.

J. Nelson Nevius, of Pasadena, Cal., lately made an examination of the Octave mine, in the Bradshaws in Arizona.

Edw. L. Dufourcq, manager of the Pedrazzini Gold and Silver Company which owns the famous Chispas mine in the Arizpe neighborhood, arrived

from New York last week, and went out to the property. Mr. Dufourcq stated that the new cyanide plant which has been under construction since last fall has been completed and is now in operation.

C. A. Buchanan, vice-president of the Yellow Aster Mining and Milling Company, at Randsburg, California, has shown his faith in that district by putting his own money into a mining property. He has purchased the William R., which adjoins the Gold Bug.

A. R. Mackay, general manager of the Vulture mine, about sixteen miles southeast of Forepaugh, Arizona, has returned from an eastern trip.

Mrs. V. A. Brewer, with offices in the Stimson Building, Los Angeles, was in Searchlight, Nevada. She is the secretary of the Searchlight Copper and Gold Mining Company.

Fred Burbidge, of Spokane, late manager of the Bunker Hill and Sullivan mine in the Coeur d'Alenes, has been visiting the Slocan district, in British Columbia.

L. D. Hubbard, of Winnemucca, Nevada, has received the pan arrastra mill from National which he used there to extract \$600,000 in bullion in two months for the Stall brothers. Mr. Hubbard had the equipment brought down to handle the high-grade gold ore from the Adamson-Turner mine on Winnemucca mountain.

O. O. Hartman is mining in the Oro Grande country in New Mexico.

H. G. Waler and J. S. Hannawalt, of San Francisco, have leased the Borland, near Imlay, Nevada. They have opened pockets of free gold and are feeling much encouraged.

Wm. Davis, a mining engineer of Berkeley, California, was in National, Nevada, last week.

There was a prominent Kentuckian named Tom Marshall and the present governor of Indiana is another Tom Marshall but the discoverer of gold

in California was Jim Marshall. There are plenty of men still living, at Coloma, Georgetown and Kelsey, California, who knew him.

"Borax" Smith, the mine operator, borax manufacturer and railroad magnate, has purchased some valuable mining properties in the Tonopah district, known as the Halifax mines. It is said by mining men that they will be among the best in the state with proper development.

Thos. McNeeley, one of the supervisors of Mohave County, Arizona, is largely interested in mining in the Mineral Park country.

The Nevada-Utah, at Pioche, Nevada, is under the direction of Chief Engineer Harry C. Parker.

T. E. Thomas is general manager of the Junta Mining and Milling Company, at Telluride, Colorado.

S. S. Jones is superintendent of the Tom Reed mine at Oatman, Mohave County, Arizona.

Laurence P. Stevens, who is mining at Manhattan, Nevada, was in our office last week. He had a remarkable specimen of gold ore.

Chas. T. Lynch is secretary and manager of the Arkansas and Arizona Copper Company, at Jerome, Arizona. Three car-loads of machinery for the company arrived last week.

D. T. Mathews, of Butte, Montana, has been appointed superintendent of the Humboldt, Arizona, smelter.

Oren V. Jones, of New York, was in Goldfield, Nevada, last week on mining business.

Robert Linton, general manager of the Sierra Mining Co., Ocampo, has gone to Duluth, Minn., on business connected with the company. He is accompanied by his wife and daughter, Miss Eleanor, who will go on to Pittsburg for a visit of several months to Mrs. Linton's parents. Mr. Linton expects to return to Chihuahua in about a month.

Walter James, a mining man from Black Rock, Utah, was in Pioche, Nevada, a few days ago.

Clark and Fletcher, at Jarbridge, Nevada, will install a mill in the next few months.

George Stilwell, superintendent of the Hewitt mine, near Denver, B. C. states that the Wakefield mill, at



## 10 Cents per Share

The California Union Oil Company of Arizona offers a limited block of stock at this low figure for a limited time only.

This company owns 80 ACRES IN THE KERN RIVER FIELD and 40 ACRES NEAR THE R. R. in THE MIDWAY FIELD. ALL PROVEN GROUND.

First derrick is now on property. Work will be pushed as rapidly as possible.

Investors should not overlook this opportunity to get in at this low price and take advantage of the advance soon to come. This is the best chance you will get to make money in oil. Write for full information to

## OIL & METALS BROKERAGE CO.

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tached to the property, will commence operation about June 1.

Mr. Crouch while at Ventura, started the road coming out to the point selected for drilling and when that is ready for traffic, the erection of the derrick will follow. The Montebello had an unusual experience. At 640 feet oil began flowing over the casing and at least 100 barrels were discharged; usually the wells are 1200 to 3500 feet.

#### SIERRA MADRE CLUB VISITORS

A slight decrease in the number of visitors marked the past week at the Sierra Madre Club. The following guests were registered:

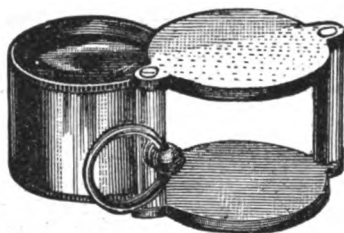
H. H. Weddle, San Diego, Cal.; S. H. Reynolds, Darwin, Cal.; W. T. Forsman, Sacramento, Cal.; O. B. Burdick, St. Louis, Mo.; M. Rynall, Riverside, Cal.; M. Lee, San Diego, Cal.; W. A. Soole, Pasadena, Cal.; T. A. Costella, Denver, Colo.; W. T. Foresman, Sacramento, Cal.; H. W. Marcus, Olean, N. Y.; C. T. Hummel, Erie, Pa.; Max Tratman, San Bernardino, Cal.; Walter Du Mont, New York; S. O. Roeston, Chicago; Geo. L. Stevens, Chicago; C. B. Zimmerman, Wichita, Kan.; A. B. West, Denver, Colo.; T. J. Trevanow, Denver, Colo.; O. M. Tuppe, San Francisco, Cal.; L. M. McMahon, Antario, New York.

The famous War Dance mine, in Russell Gulch, Colorado, which

jumped into prominence a couple of years ago by shipments of ore worth thousands of dollars per ton, is again to the front with a shipment of nearly a carload which averages \$1,000 gold per ton, with considerable silver.

#### ROYAL FISHING

The Coalinga Royal Oil company, operating on section 8, 19-15, is down 400 feet in 12½-inch casing in well No. 2. The drillers are now fishing for a lost bailer and expect



**\$2.00 post paid for a VERY POWERFUL**

Genuine Coddington Magnifying MINER'S GLASS, 1 inch diameter, in folding nickel case, like cut.

Especially adapted for miner's use.

**W. D. STINEMAN,**  
115 North Broadway, Los Angeles, Calif.

to have the wayward tool today. In drilling to this depth no water has yet been encountered and at present a strong showing of gas is evident. Water was encountered in the first hole at 80 and 160 feet. A showing of oil is looked for at about from 800 to 1000 feet.

## KEEP POSTED ON OIL

Read the DRILLER and keep in touch with what's doing in the field. Reliable information. Three months' trial subscription free on request.

### The Driller

630 I. W. HELLMAN BUILDING

#### SALE DATES

May 16, 17, 18, 19, 22, 23, 24, 25, 27, 28, 29, 31.

June 1, 2, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, 23, 24, 28, 29, 30.

July 1, 2, 3, 4, 5, 6, 19, 20, 26, 27, 28.

August 3, 4, 5, 14, 15, 16, 17, 21, 22, 23, 28, 29, 30.

September 1, 2, 3, 4, 6, 7.

†To destinations marked † tickets will also be sold on October 12, 13, and 14.

## Back East Excursions

#### Sample Round Trip Rates

Chicago  
Kansas City  
†Denver  
St Louis  
New York

**Limit Oct. 31, 1911**

E. W. McGee, G. A. Santa Fe  
334 So. Spring St.

Phone—  
A 5224—Main 738.



**go  
Santa Fe**

## REDUCED FARES EAST

During May, June, July, August and September, 1911, round trip tickets will be sold to many Eastern points at greatly reduced fares. These tickets will be on sale only on certain days in the months named, and will be limited to fifteen days on the going trip and until October 31st, 1911, for return.

Stopovers allowed on the return, at any point west of Chicago and Mississippi River points.

Some rates via direct routes both ways:

Denver, Colorado Springs, Pueblo.....	\$55.00
Omaha, Kansas City, Dallas, Houston....	60.00
St. Louis, Memphis, New Orleans.....	70.00
Minneapolis, St. Paul .....	73.50
Chicago .....	72.50

Proportionately low fares to many other points.

For more detailed information regarding sale dates, routes, stopovers and additional fares, address or call on any agent of the

## SOUTHERN PACIFIC

Ticket Offices:

Los Angeles—

600 South Spring Street.

Arcade Station, Fifth and Central avenue.

Pasadena—148 East Colorado Street.

## APRIL FOOL BEAUTY.

Some remarkably handsome specimens of gold have been found in the Manhattan district since the discovery of the camp, but none of them have equaled, or in anyway approached, that which Henry Rose brought from April Fool Hill, near town, this morning.

It is pure, wire gold, standing over an inch in height and, as it was taken from its place, nearly two inches in diameter, the gold wires being thickly set on a base of quartz.

Mr. Rose has been prospecting the April Fool for several days and found a ledge of good width, cutting the lime and extending some distance down the hill. The ledge pans pretty well and, in digging into it a "bug-hole" was found about four feet below the surface, and in it this specimen, as he states it, "was shining like a full moon." An hour or more, was consumed in getting it out without destroying its brilliancy or marring it in any way, but it was well worth the trouble.

It is now in the big safe in the Evans, where it may be seen by anyone and many have gazed upon its wonderful formation and beauty.

April Fool Hill was the scene of the first discoveries in the district and some rich specimens were found in the early days of the camp, which started the rush. The ground was located by Mott, Humphrey, Seyler and others, who leased it, the leasers finding many specimens of good value, the owners receiving one, as their share of the proceeds, from which \$600 was pounded out in a hand mortar.—Manhattan, Nevada, Mail.

## INDIAN PINK

SILVER CITY, N. M. — Development work on the Indian Pink mine in the Burro mountains, a few miles from Tyrone, continues. It was discovered about three weeks ago by Walter Woodward who, with his father and brothers, is interested in a silver mine not far from the new mine. Ore taken from the latter has averaged \$40 a ton, 80 per cent of the value being gold. Work so far has consisted in stripping and exposing the valuable ores, and everything indicates that the mine is going to be one of the most valuable in this section.—Arizona Star.



## Baby Chicks

We handle only the best **Thoroughbred Stock**—Rhode Island Reds, Barred Plymouth Rocks, White Leghorns, White Rocks. \$15 per 100.

The Great Baby Chick Saver.  
Twenty varieties of Seed and Grain,  
Price \$3.25 per 100.

Send for our Seed and Poultry Catalogue,  
**AGGELER & MUSSER SEED CO.**  
113-115 N. Main St., Los Angeles, Cal.

## SORE BUT HAPPY

George F. Powell, superintendent of El Tajo mines in Sonora, twenty-five miles from Poza, accompanied by Dick Gilbert and Charley Fowler, Jr., arrived in the city last Sunday morning. They are here yet; none of them seem to be in a great hurry to return to the mines where they have lucrative positions awaiting them. Last Saturday they learned that a band of twenty-two bandits headed by a coldblooded murderer who formerly

worked at the mine, were on their way to El Tajo to hang Messrs. Powell, Gilbert and Fowler, whom the leader claimed had wronged him. The bandits were heavily armed with 30-30 rifles. The Americans only had four pistols in camp with which to defend themselves. They did that which any sane man would do—hit the trail for Poza, afoot, a distance of twenty-five miles, over a rough country, making it in six hours. Sunday morning the boys arrived in Nogales a little sore, but happy.—Nogales Border Vidette.

## Rainbow Packing

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## RED CANYON, NEVADA.

W. H. Brainerd, who has been operating in the Red Canyon section of the Pinenut range of mountains, was in from that section this week and brought with him some fine samples of silver-galena ore. Mr. Brainerd is located on the north fork of Red Canyon, about one mile south of the old Emmerson property and a couple of miles from the old Winters mine. Red Canyon is about six miles west of the Simpson Colony ranch, in Smith Valley, and probably twenty miles west of Yerington.

He has been developing for the past year a strike that can be followed on the surface for a distance of six miles in a northwesterly and southeasterly direction. Tunnel work has developed at a depth of about thirty feet a 14-inch ledge of silver-galena that will average close to \$150 per ton. The ore carries as high as 53 per cent lead, from three-quarters to an ounce and a half of gold, and balance silver. This ledge lies between two walls of white silver quartz, which also carries some gold.

An assay from some grab samples Mr. Brainerd brought to Yerington with him gave returns as follows: Gold, \$17.60; silver, \$18.56; lead \$37.26 per ton, or a total value of \$74.42.

The location of the property is an ideal one for wood and water as the whole country is well timbered and there are numerous large springs. Mr. Brainerd believes that with depth he will have a large and valuable property. There is a fine chance for other prospectors to get into the district, as there has been little work done and no real thorough prospecting, while there is an extensive field of good mineralized ground to look over.—Yerington Times.

Sheriff McGee of Florence had a close call a few days since as the result of a Smith & Wesson army pattern revolver exploding in his hand. It was a new pistol and he went out to try it out at a target. When he pulled the trigger three cartridges exploded in the cylinder, and flying metal went hurling in every direction, but strange to say none of the flying fragments hit Mr. McGee. The revolver was a wreck. — Tombstone Prospector.

## COPPER IN ALASKA

That Alaska will show a goodly production in copper during the current year is now an assured fact. Since the first shipload of copper from the Bonanza mine arrived April 14th, this mine and various other copper properties in Prince Williams Sound have shipped to the Tacoma plant of the American Smelting & Refining Co., 6000 tons of high grade ore and the success of these properties has inaugurated a systematic prospecting for copper, of the entire Copper River region. Three excellent showings have been made at different points along the railroad, samples from each property running over fifty per cent.

The Warrior company at Globe is doing considerable development work in the western portion of its property and continues to ship about 125 tons daily to the El Paso smelter.

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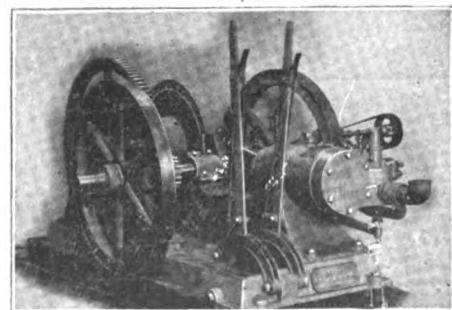
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### UP NORTH

SPOKANE, Washington. — Owners of the Hercules mine, in the Coeur d'Alene district, where a 600-ton mill, costing \$100,000, was completed a few days ago and is now in operation, contemplate the construction of a tunnel of more than 11,000 feet to explore the silver-lead bodies at a depth of 3,000 feet.

Jacob Bloom, Clarence Watt, R. N. Barnett and F. C. Bennett, of Spokane, have bonded the Shoestring property on Eagle creek, near Nelson, B. C. Work will begin in May. Fifty tons of ore from No. 2 shaft on the dump carries values running from \$44 to \$98 a ton.

W. C. Ufford, president of the Washington Mill Company of Spokane, who is largely interested in the Blacktail Mountain Mining company, in the Lake Pend Oreille district, re-

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ports that the Wisconsin tunnel will be used in getting under the silver ledge to be explored. The ore occurs in ear-like lenses in the upper level. These lenses range in lengths of from 10 to 25 feet, and are from 17 to 30 inches in width. Connected by a seam of ore, merely discernible, ten of these lenses have been pierced within 200 feet. The top of each lense is occupied by gray copper, the bottom with galena. A drift so pierced the series as to make possible the stoping of gray copper and the underhand stoping of lead. Everything between walls was taken out at a profit, even the talc seam, which averaged \$100 to the ton. The average value of the product is placed at \$250 a ton.

Silver Mountain Mining company is about to award a contract for 350 feet of a drift westward from St. Joe gulch. The Silver Mountain lies south of the Alice on the Mullan road and has been operated several years.

Snowstorm mine, in the Coeur d'Alene district, has increased its underground force to 110 men. Work is being carried on in No. 3 tunnel, although one shift is being worked in the lower workings. C. A. Mowery, manager of the property, announced that the company will increase its force as soon as it is ready to mill the ore that is being taken from the lower workings.

First Thought mine, at Orient, Wash., has shipped some ore that averages more than \$2000 in gold to the ton. The source of this ore is a shoot opened recently in the main workings at a depth of 500 feet. Knowledge of conditions in the locality came through the casing of a diamond drill exploring the eastern part of the property.

Announcement is made by A. B. Babb of Plaza, president of the Snowstorm Apex Mining company, pany, operating near Larson, Idaho, that a blind lead, encountered in the tunnel that is being driven on the 400-foot level, carries ore with these values: Copper, \$24.36; silver, \$4.88; gold, \$9.71, according to assays made by Samuel Aughey.

Martin Elward, a mining man from Polaris, Arizona, came to Los Angeles a few days ago.

Lorenz von Schoen has good properties in the Arrow mining district, near Fenner, Cal. He has thirty tons of \$40 ore ready to ship.

Arthur Burns, operating on the Montana-Hartford, in the Funeral Range, will send his ore to the mill on the Indian.

E. S. Giles, superintendent of the Bullfrog Mining Syndicate on Quartz Mountain, at Pioneer, Nevada, has a big pile of sacked high grade ore that looks good enough to pay for all work already done.

"Snowshoe Charley" Ravenscroft and Happy Jack Barrier are working on \$20 gravel and "Dry Wash" Wilson is working seventeen men on his diggings between the September and Boston, all at Manhattan, Nevada.



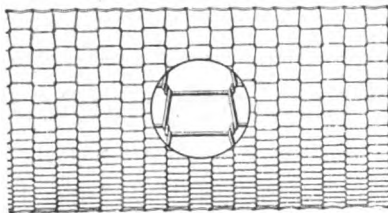
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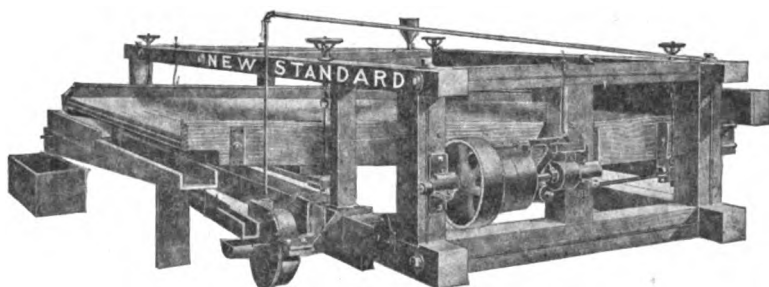
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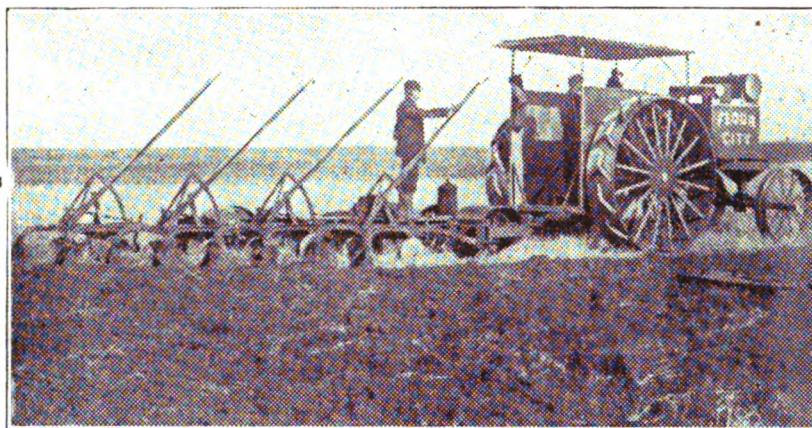
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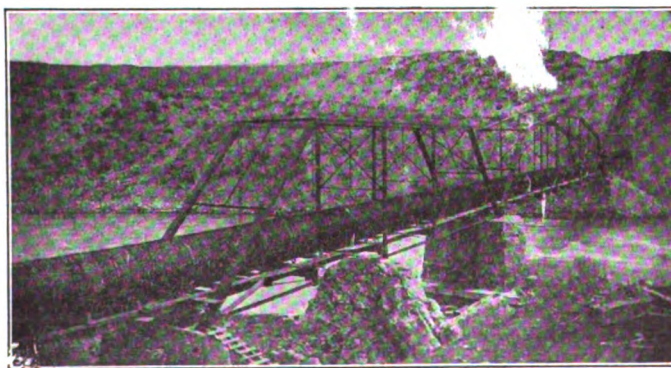
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Vol. 30, No. 10

LOS ANGELES, CALIFORNIA, MAY 27, 1911

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## CONTENTS

### Oil of the Kramer- Barstow District



### Mining Matters



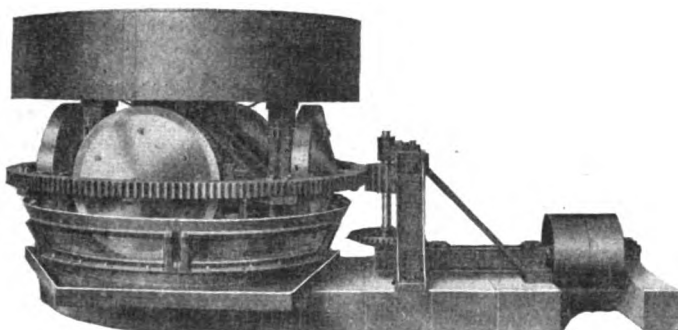
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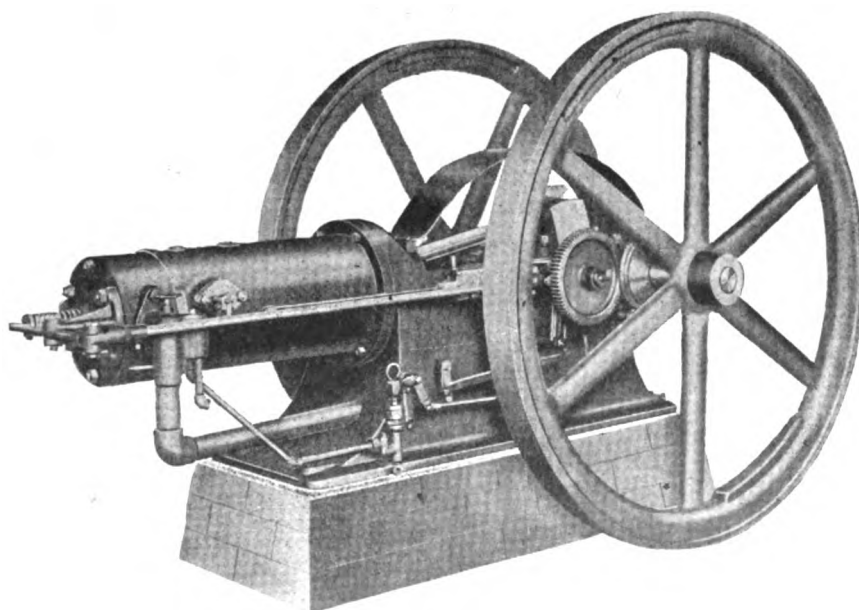
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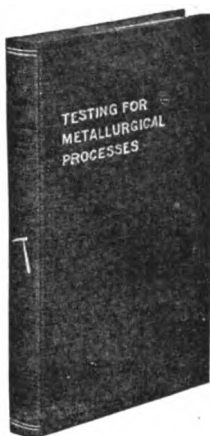
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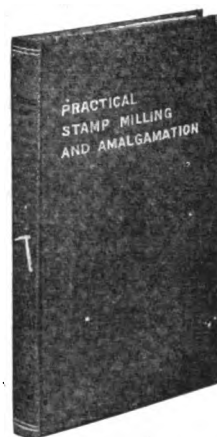
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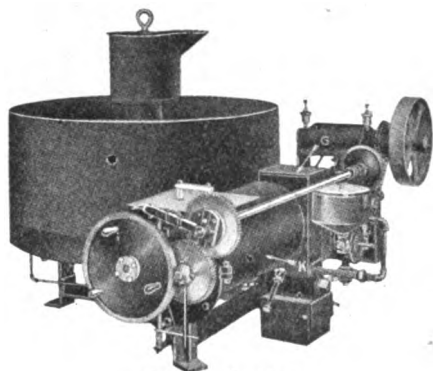
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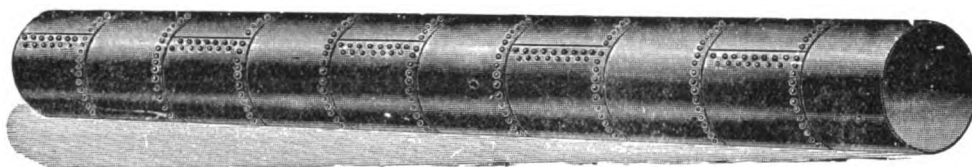
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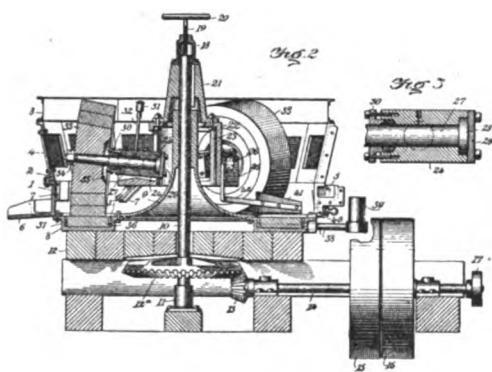
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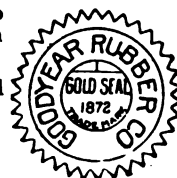
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Vol. 30, No. 10.

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Los Angeles, California, May 27, 1911.

## EDITORIAL

### THE DISCOVERER OF GOLD

"1848—January 18. Date of the most  
celebrated discovery of gold in Cal-  
ifornia. Scene, the American river,  
near Colima, Eldorado County. From  
this place Tom Marshall brought into  
Sutter's Fort, near Sacra-  
mento, a small sackful of nug-  
gets, the first one of which had  
been picked up by his little daugh-  
ter."—(By Alexander Del Mar, in  
Mining and Scientific Press of San  
Francisco.)

Coloma, not Colima, was the cradle  
of gold in California. The finding of  
a few nuggets here led to the search  
for and the finding of tons of gold,  
not only in this state but throughout  
the entire west.

At the time of the discovery of  
gold, January 19th, 1848, all the lum-

ber used in Sacramento was hauled  
down to that city from the moun-  
tains around Coloma, with ox-teams,  
taking eight days for the round trip.

A man by the name of James W.  
Marshall, not Tom, had been sent up  
to this point by Captain Sutter, of  
Sacramento, to superintend the build-  
ing of a saw-mill and operate it when  
constructed. He had seven white  
men, all told, and the entire crew  
boarded with a Mrs. Weimer, who had  
formerly lived in one of the gold  
camps of Georgia.

When they were ready to start  
the mill they found that the tail-race  
was inadequate inasmuch as the wa-  
ter backed up against the wheel.  
Marshall had his men cut a small  
ditch in the bottom of the race,  
chained the wheel up at night, opened  
the bulkheads and permitted the wa-  
ter to run through at full head to cut  
the race larger.

In the morning when the bulkheads  
had been closed and the water had  
run off, Marshall, while inspecting  
the race noticed some little nuggets  
of ore glistening a few inches under  
the water. He picked them up and  
showed them to some of the men.  
As no one knew what they were, he  
finally sent them up to the boarding  
house to get the opinion of Mrs. Wei-  
mer. She was boiling soap and  
promptly dropped the nuggets in the  
lye where they remained till next day.  
The nuggets came out brighter than  
ever and she was sure they were gold.

Marshall struck out, at once, across  
the mountains to Sacramento, about  
fifty miles below. Before starting,  
however, he gave orders for the mill  
to be run full time in his absence.

Captain Sutter had the nuggets  
properly tested and it was established  
beyond a doubt that they were gold.  
Marshall promptly returned to the  
mill and found that every man-jack of  
his crew had gone to digging for gold  
right along the race and the mill had  
not been run at all.

Only a dozen men, all told, includ-  
ing those who were present at the  
test in Sacramento, knew that gold  
had been found at Sutter's Mill, on the  
South Fork of the American River.  
Naturally, they had no idea that it  
could or would be found anywhere  
else.

Captain Sutter had instructed Mar-  
shall to say nothing of the discovery  
and to prevent all search for gold  
until he had finished the grist mill he  
was then erecting near Sacramento.  
He was afraid his workmen would

stampede and he would never get his  
mill completed.

Marshall, on his return to the saw-  
mill drove every man off the mill  
grounds at the point of a pistol and  
then they scattered up and down the  
river, continuing to dig and finding  
gold wherever they went.

Two of the mill crew were mor-  
mons and they drifted down stream  
till they struck it rich at the place  
known ever since as Mormon Island.  
And now we see Captain Sutter's  
judgment confirmed, for the men who  
were working on the grist mill were  
Mormons, too, and when they heard  
of the rich strike made by men of  
their own faith, they promptly drop-  
ped their tools and started up the  
American River in a body. The grist  
mill was never completed and the  
sum of twenty-five thousand dollars  
already invested therein by Captain  
Sutter was a complete loss.

During the time the men were dig-  
ging around the mill in Marshall's ab-  
sence, each admonished the other to  
say nothing about the discovery as  
they would want all the gold they  
could find for themselves. When they  
were driven out, however, and found  
gold on every bar, on both sides of  
the river, up-stream and down, they  
sent word, broadcast, to their friends  
and relatives to come at once as  
there was plenty of gold for every-  
body.

In this way word went abroad of  
the extent and richness of the new  
diggings and men began to flock to  
Sutter's Mill, from all over the world.

Gold was found not only in the  
river and creek beds, but in the can-  
yons, gulches and ravines in every  
direction and, within a year, or a lit-  
tle longer, from eight to ten thousand  
miners were hidden away, during the  
working days of the week, in the  
mountains around Coloma and on  
Sunday, in they came for their sup-  
plies, a jolly, happy, good-natured  
army of boys—for it must not be over-  
looked that the "men of '49" were  
young fellows then.

Marshall was a bachelor and lived  
many years in a cabin on the slope  
of the hill above Coloma. When he  
died at Kelsey, his body was brought  
to this hill for interment, at his re-  
quest. The trail was so steep the  
coffin had to be lashed to a stretcher  
and taken up by hand. The state has  
since bought the place from Mar-  
shall's heirs, sisters who were then  
living back in New York state, and  
on the very top of the hill and cover-  
ing his grave, a beautiful monument

has been erected, with Marshall's figure standing erect thereon and, with outstretched arm, pointing to old Coloma Bar, where he first found gold.

\* \* \*

#### A HIGHER "STANDARD."

One of the Los Angeles daily papers said the other day, editorially:

"But mere size or form is not necessarily associated with law-breaking, and calling a giant corporation a trust does not make it discreditable or socially harmful. It does no good to overlook the merits of Mr. Rockefeller's wonderful creation. It is one of the greatest and best managed businesses in the world. Economically it is a model of efficiency and to date the last word in business organization. It has raised qualities and lowered costs. It is the pattern after which all the agencies of production should be molded.

In doing these things and establishing a stable market its managers have ruthlessly choked the life out of its competitors and strewn its wake with broken hearts. They have dogged rivals with spies, corrupted legislatures and juries, defied laws and court orders. All these things were, however, incidental to competition and were only large examples of what is happening every day. The hundred thousand dollar corporations that are not trusts go as far in the same direction as the hundred million when they dare.

The smashing of the Standard would not stop corporations from growing big and powerful or from gaining monopolies if the men behind them be able and ruthless enough. All that any statute laws can do in the way of controlling the economic laws is to control to a degree the conduct of the trust managers and punish them for unlawful acts by fine or imprisonment, but that would not do more than momentarily check the tendency to concentration and monopoly, for the fierceness of competition under modern conditions is driving men irresistibly to combinations to preserve their industrial life."

The foregoing is so utterly immoral and wicked in its conception and conclusion, that we are unable to let it pass. There are men and firms in business today, many of them, who endeavor to live and work under the guidance of the Golden Rule. Any man must be blind indeed, who cannot see that there is a great awakening going on throughout the entire country.

There are many representative firms whose chief instructions to their employes are to do their best for the interests of the business but never to think that they can do this by violating the laws of right conduct.

The people of this country will no longer tamely permit the dollar to be placed above the man. Not all progress to better things is either rapid or easy; in fact such progress is obstructed by the entrenched wrong-doer who will not surrender or evacuate until driven out.

The controlling feature is that the people are setting higher standards for their own daily conduct and, hav-

ing demanded better and higher things from themselves, they are demanding higher and more humane conduct from officials, corporations and business men, large and small. Even the great mercantile corporations have learned that the man who lives recklessly, whatever his capital, is not entitled to a good line of credit.

From now on they will learn, day by day and month by month, that the way of the transgressor is not only hard for the other fellow but truly and really flinty for their own feet.

A thing that is astonishing to us is the fact that so many newspapers, magazines and office holders seem to labor under the delusion that the uprising among the people is caused by a desire to injure somebody, a sort of spirit of destruction and a desire for revenge. Men who have the ability to organize the great commercial institutions of the country ought to be alert enough to discover that the whole revolt comes from within.

Just as sure as fate when a people raise their own standards of daily conduct and determine to practice fair dealing with their fellow men, then they will demand the same standards from others.

When this is once driven home to all the great crooked captains of industry, then they will begin to comprehend that the people will place on the statute books restrictions that will in no wise interfere with the man who is conscientious but will utterly destroy him who is cruel, heartless, a briber or a bribetaker or in any way unfit to deal with or represent the public.

Too long have the people supposed that success meant obtaining money. They now know better; they now place character, integrity and a willingness to help our fellow men as of far greater importance; the community, the people, the state, one and all, need such men and intend to encourage and produce them.

There is the old saying that the spring will rise no higher than its source and another is that the bitter spring will not give forth sweet waters. The public conscience is our national spring; it has been going through a process of elevation and purification. The results that will follow therefrom are absolutely certain.

\* \* \*

#### THE U. S. NAVY UNABLE TO BUY COAL IN ALASKA.

The Buffalo, a cruiser in the U. S. Navy, formerly the Nichteroy of the Brazilian Navy and, prior to that, El Cid, of the Morgan line, running from New York to Galveston, came into Cordova, Alaska, a few days ago with empty bunkers and, naturally, tried to buy some of the high-priced Canadian coal which the authorities at Washington force on the Alaskans and, bless your heart, the captain was met with a point blank refusal. The latest report was that the navy department would order a collier sent from the Puget Sound navy yard with coal for the Buffalo, at Cordova.

If all the extra expense caused by

the mismanagement of the Alaskan coal situation could come out of the pockets of the men responsible for it, you can rest assured the Alaskan coal would be available for public use in short order.

In the meantime, it might be well for our navy department to charter or purchase a few old sailing craft for use on the North Pacific. They would have the merit of being able to move around a little, here and there, without any fuel at all while the other fellows are making up their valuable opinions.

Or, he might even send some oil burning cruisers to that station. Almost anything would be better than the present foolishness.

\* \* \*

#### ANOTHER EDITOR'S VIEWS ON THE RAW DEAL GIVEN TO MINERS.

The average newspaper reader must be aware of the rhetorical fireworks and the display of Utopian righteousness set off by government officials during the past 2 years, anent alleged attempts of the Guggenheims, fake homesteaders, so-called land-jobbers and "interests" to cheat and despoil the government of mineral lands. But the shoe fits equally well the other foot. There has been as much or more of deliberate and decidedly unlawful procedure by government officials to cheat and despoil the humble but honest homesteader and prospector, and the honest "interests" (as some choose to call them) of their lawful and just rights. We use, too, the words cheat and despoil advisedly.

Years ago, many homesteads were located in the arid west by bona fide, though poor, settlers. Among other misfortunes of these well-meaning and well-conducted American pioneers they lacked present-day, expert, geological and prospecting knowledge. Drop by drop, year after year, they have been sweating the blood of youth and life on a once arid waste, wresting from recalcitrant nature an honest and honorably acquired home. Now, applying for patent to their locations, they are brazenly charged with deliberate fraud, criminal intent and land-jobbing. And why? A geologist, seated in his office at Washington, has discovered that coal, phosphate or oil is supposed to exist perhaps 2000 or 5000 feet below the surface, and the lands are hence claimed to be mineral-bearing and not subject to agricultural entry.

Does the land office forget that it has itself refused to permit any mineral locations without real discovery even when oil or coal have actually been encountered a few hundred feet away? Does it forget that time after time the courts have upheld it in this contention? Yet geologists at Washington are permitted to classify and withdraw western alleged mineral lands, when as was the case over much of the phosphate withdrawals, the nearest-known mineral outcrop was 50 to 125 miles distant. On the strength of such "classification" hon-

est and defenseless agricultural entrymen have been affronted by government officials with the charge of criminal intent, fraud and general malfeasance and misfeasance.

Officials have for several years past attempted to intimidate the bona fide settler into accepting a partial patent to surface rights with renunciation of coal, phosphate, oil or other minerals which might lie beneath the surface. Such a form of agricultural patent had not at all been recognized by the homestead or mineral land laws of congress; its validity would have been highly questionable. The unsuspecting patentee, suspending his residence or required labor on the strength of such a patent, would have placed himself in danger of forfeiting all his rights. It is only since June 22, 1910, that congress has permitted separating surface from underground mineral rights and then only in the case of coal land withdrawals, and even when for the most part, location follows after the withdrawals.

Nor has this been the worst feature of the unlawful bullying practices of certain government officers. When lands supposed to contain oil, coal, gas or phosphate, or water-power sites are withdrawn from entry, not only are new locations or relocations of any kind prohibited, but it is asserted by the government officers that the withdrawal serves to "temporarily suspend" lawful locations already made. Of course the downright injustice of such an assertion as to existing locations, violating as it does prior contractual obligations between nation and settler, would never be upheld in any tribunal of law, equity or common sense. Nevertheless the honest prospector, miner or homesteader, bulldozed by the "temporary suspension" order into permitting the assessment work on his claim to lapse would thereby forfeit all his rights. The laws do not recognize any such "temporary suspension" of locations lawfully made. Nor could the innocent claimant resume by a relocation, owing to the existence of the withdrawal. Most assuredly the honest man is between the devil and the deep sea. Is the humble prospector or homesteader expected to know whether the general land office possesses lawful authority for the regulations it imposes?

To cap the climax, the mineral land withdrawals which were effected between 1906, and June 25, 1910, in furtherance of the ultra-conservative propaganda, have themselves been in toto unlawful. The withdrawal orders of President Roosevelt, Secretaries of the Interior Garfield and Ballinger and some of the proclamations issued by President Taft since the act of June 25, 1910—which have absolutely closed to development during the past 5 years areas in the west many times as large as the state of Massachusetts—have been without warrant of law. This will be demonstrated more fully in an article in the near future.

The public awakening against, and

the consequent warnings of, the ultra-conservative propaganda, together with the indications of impending political change in the government, indicate that the footsteps of interior department officials will hereafter be confined to the paths of the law, and that those still in the service who have been responsible for the unlawful withdrawals and piratical hold-up of the west's industrial growth during the past 5 years will be led to other pastures.—Mining World.

## A GOOD MINER AND A GOOD MINE

A one-man mine and mill, the plant treating five tons of ore in twenty-four hours at an expense of less than \$5 per month, is the remarkable proposition owned by C. M. Taylor, of Idaho Springs, Colorado. A picture and description of the plant is given in the Mining Science of Denver, and it all shows what an ingenious man can do with the generous facilities nature is capable of providing, but which are so often withheld.

There is a thirtyfoot water wheel which furnishes the power for hoisting the ore and also the power for running the mill. The owner breaks down his ore, fills his bucket and then climbs out. The bucket is hoisted by a drum which is connected to the main shaft of the water wheel by a friction clutch and controlled by a lever within a few feet of the gal-lows frame.

Without leaving his post the operator dumps the bucket in the ordinary manner by means of a hook and chain. The contents fall directly into the hopper of the ten-stamp mill, the power for which also is supplied by the water wheel, and the ore is fed automatically into the stamps. If waste is hoisted it is dumped to one side. After the ore leaves the stamps it passes over an amalgam plate, then into a Gilpin county bumper.

The milling goes on while Taylor is working underground, also while he sleeps.

## RAILROADS AND FUEL OIL

In service through the Adirondacks in the state of New York, the New York Central railroad has changed its locomotives from coal to oil without trouble. Locomotives designed for burning anthracite coal, in wide fire boxes, do not answer so well, but this type of locomotive is used only on a few eastern roads and may be disregarded in considering country-wide conditions. Anthracite coal is responsible for few fires in any event.

It is in the west, however, that the oil-burning locomotive has received its most severe test, and has proved its worth most conclusively. Julius Kruttschnitt, director of maintenance and operation of the Union Pacific and Southern Pacific railroads, reports that 1171 locomotives on his lines now use oil exclusively, and that four barrels or 168 gallons of fuel oil are equal to a long ton of the best bituminous coal. As the result of 10 years' experience with oil burners these companies have just received

26 new locomotives and have ordered 46 more of the oil-burning type.

The Atchison, Topeka and Santa Fe railroad is now operating 842 oil-burning locomotives and is converting its coal burners as fast as its repair shop can make the change. Coming into comparatively new territory in our northwestern states, we find the Northern Pacific is operating 20 oil burners in the heavily wooded section of Oregon. The Great Northern had so many forest fires along its line last year that it is now converting 115 coal burners into oil burners, and is erecting a storage plant at Everett, Wash., capable of holding 7,000,000 gallons of oil.

## THE SUPREME COURT AND THE RECALL

The President is still making speeches against the recall of the judges, and an aspirant for the Presidential Chair, Woodrow Wilson, is also against the recall of the judiciary. Something is surely wrong with half of the grown people, and you can take your choice. Four California judges and the governor are in favor of the recall and California now has it. If it is true that money in unscrupulous hands buy legislatures and other servants of the people, and the protection of the people is the power of recall, why exclude the judges? If they were an exception, the bribers would be saved a lot of money as they would then only have to turn their attention to the judges. Judges have to be lawyers before they are judges, and if any one, who is acquainted with this particular brand of humanity, can point out where they are more honest than their fellows, then they should be exempt from recall and put in the infallible class. Those who have watched the meanderings of the Supreme Court, where decisions of great moment have been handed in 4 to 5, time after time, will hardly clothe the bench with any superiority over the balance of humanity. They are just plain muton eaters like governors, legislators, and thousands of other office holders, who it is agreed the recall would be good for. The Income Tax was defeated 4 to 5, one of the 5 reversing his own decision of a month before. Not only are judges human, but they don't even know the law, when they give out decisions of 4 to 5. The 4 must be wrong or the 5 must be wrong.—Our Mineral Wealth.

## CITIZENS OF ALASKA TO BEGIN COAL MINING.

CORDOVA, Alaska, May 23.— Unwilling to await the action of the government in operating the Alaska coal lands, nearly 100 citizens of Cordova have left for the Bering river coal fields near Katalla, 25 miles east of here, where they intend to begin mining coal for the markets of this city and other Alaska towns.

Six oil land locations were filed in the recorder's office of Pima County, Arizona, one day last week.

## KRAMER-BARSTOW OIL FIELD

The Following Story takes the Reader on a Graphic Trip through a Now Known Oil Territory which has not yet been Scratched.

Go with me in fancy to San Bernardino, thence northward till we come to the summit of the Cajon Pass. Here the train makes a stop and we get off to make our trip around the edge of a great new oil pool. From Cajon Pass the mountain ranges bear almost due west, the first section being called the Big-horn, the next the Sierra Madre and the third the San Fernando. We have been keeping along the north side of this range all the way and when we reach the western terminus of the San Fernandos we find ourselves due north of the beautiful valley of the same name; then we cross to Saugus and turn up the San Francisco Canyon. The little stream that flows within the canyon bear the same name and apparently tries to occupy the same place as the highway for we have to ford it about sixty times and the driver of a freight wagon whom we met said it was so crooked that there was one place where you had to ford it twice at once. We find the place, by and by, where we get into the middle of the river and then turn sharp around a jutting cliff and come back to the same side of the stream we were on before, only we have passed the cliff.

We are climbing steadily all the while and when we strike Elizabeth Lake we conclude to rest awhile to get our breath. It is a beautiful spot and it was here that some of the Mormons wandered in who were lost in Death Valley in '49; the refugees turned to the north, the very direction we are going and we pursue the same trail over to Fairmont, and have the Antelope Valley before us. We bear a little westward, through Neenach, till we come to the road-house at Gorman's where the windmill bears the notice "In God we trust; all others pay cash."

This brings us to the foot of the Tehachapi Mountains and we now bear northeast along the range, leaving Mojave to our right. It is a good many weary miles till we come to the mountains at Johannesburg and here we stop again for a little rest. When we resume our trip, we change our course almost due south till we reach Fremont's Peak and then we keep steadily at it, going southeast till we reach Barstow. Here we take the cars and in a short run we are again at the top of the Cajon Pass and have gone entirely around the great Mojave oil pool.

The territory we have thus outlined will be prospected and tested for oil from now on, by men from all over the world and especially from our own eastern states. It must not be forgotten that all the eastern oil is paraffine and it has been the dream of almost every operator from the eastern fields to open another great

paraffine territory when the golden days of Bradford, Big Injun and Gordon sands might come again with wells flowing thousands of barrels and oil selling for \$2.00 a barrel at the well!

The foregoing outlines the ambition of every oil man who came originally from the eastern fields and they are surely doing their best to realize their hopes. In the eastern section of the United States there were drilled last year 13,098 wells out of which number there were 2,178 dry holes, 1,314 gas wells and 9,609 oil producers. But the new wells were so light in production that the net loss was 4,243 barrels a day in December over November. To off-set further the gain in new wells, there were 6,558 wells abandoned in the fields east of the Mississippi alone. These wells were down to such a small production that it no longer paid to operate them.

The oil in the Kramer-Barstow field is better than 40 gravity and is pure paraffine base. There are a number of wells drilling, five of them on the anticline which extends for at least a hundred miles without a fault. We like to dwell on that. An anticline, in a new paraffine oil field, in the great Southwest that extends a hundred miles without a break or fault! We can let our imagination run riot for a few minutes and even then we can form no proper estimate of all that this means to the men who produce the oil and to the public which shares in the benefits.

The outcrop is composed of shale which is so impregnated with oil that it can be detected by the odor for quite a distance. The decline of light oil production in the east has caused the production of gasoline to dwindle to about ten million barrels in 1910 and fully one-fourth of this is used in automobiles. The introduction of gasoline engines in mining, pumping, on motor boats and in power plants has caused such a demand for gasoline that the American market has become a desirable field for the foreign product and we have had a cargo actually brought into San Francisco lately, from Sumatra.

The crude oil from the Kramer-Barstow field will yield as much as 20 per cent gasoline and eight per cent paraffine. This new field will make a number of fortunes for the enterprising men who develop it, there will be thousands of dollars a day paid out in wages and the whole Pacific coast will be benefited by having an abundant supply of paraffine oil close at hand.

There is just one fly in the vase-line—as soon as Washington knows of all this prosperity lying at our very doors, there will be, probably, wholesale withdrawal of the lands from entry. Any man or set of men who will open up the Mojave desert and

make it of value to our people ought to have all the assistance and encouragement our state and general government can give.

Our advice would be to "get busy," start development, take up your claims. We all need this field and its output. The oil has been found so that question has been settled. Prof. Bailey's report on the field shows its extent and continuity and we hope to see a good deal accomplished before some official with his system full of the Russian idea of a beneficent government persuades the President to issue a Ukase withdrawing the Mojave desert from the public use and ordering all and sundry to keep off the grass.

### ALPINE CO., CAL.

Captain Peter Curtz of Alpine county, who has been spending the winter months in California, has returned to this section and will leave for his diggings at Loope. Mr. Curtz, during the past two years, has carried on a lot of development work in the old Stella ground. A very large ledge of copper-silver ore has been opened up. It is proposed to further develop the property and also make a raise to the surface from the tunnel face in order to get better air connections. This will take several months.

Captain Curtz has been the mainstay of Alpine county in a mining way for many years, and it is believed that he has a big proposition in the present holdings. Some exceptionally rich specimens have been brought to this city from the property.

Alpine county has had some hard setbacks in a mining way; with modern machinery and smelters at hand this part of the world will soon come to the front. The trouble has been that most of the ore developed has been of a base nature and thus prevented treatment on the ground. With two smelters building in this section and a railroad half-way to the property there is every reason to believe that Alpine will come in for a share of the general mining boom now on throughout Nevada and the border line. There seems to be no question as to the quantity and quality of ore in that section. All that is needed is modern treatment and cheaper haulage.—Carson Appeal.

### RATTLESNAKE SHIPMENT

A shipment of approximately 10 tons of silver-lead ore arrived late Thursday afternoon in Tonopah from Rattlesnake canyon. The shipment, which is consigned to the Western Ore Purchasing Co., at Millers, is the property of the Hot Creek Development Co., at that camp. The sight of the heavily laden wagon passing down Main street was a pleasing one, especially to those who are interested in the many outlying camps situated in the Hot Creek and Kawich ranges. J. M. Fox who is superintendent of the property, is losing no time in proving up the merits of the property, as the shipments now beginning amply prove—Tonopah Miner.



## WIRELESS CAUSED A PREMATURE BLAST.

H. G. Rogers, the representative of the Giant Powder works, while here recently, related a circumstance of rather peculiar nature which happened on the government work on the Columbia river recently.

A number of excavations had been made for the removal of a large body of rock formation. The blast was to be made by battery and the charges were put in position for discharging were attached with no insulation on, and ready for connection with the battery. The blast was to have been set off in the evening, but for some unaccountable reason, the explosion took place soon after the noon hour, killing several of those working nearby and injuring many others.

Mr. Rogers, as an expert in the use of explosives was sent for to determine if possible, the cause of the disaster. After a thorough investigation, without result, he casually inquired if there were any wireless stations in the vicinity and was informed that there was, at the Dalles. He suggested a series of experiments to ascertain if the wireless was responsible for the premature blast. This was done with results that were surprising. Out of one hundred attempts to discharge the blasts by wireless, but one failed, notwithstanding that in several instances the current was set in motion from a point as far distant as San Francisco.

In the future government officials will see to it that all wires connected with charges of powder are insulated before leaving exposed to possible contact with wireless waves.

The experiments were interesting in demonstrating the boundless possibilities of Marconi's wonderful discovery.—Manhattan Mail.

## MOVING TIME.

Charles Baker, a miner, mill man and prospector, who was in Wonder during the boom days, came in Thursday in the wake of a burro train. Mr. Baker has visited many places since leaving Wonder, his trail leading from Porcupine to the City of Mexico. He was not favorably impressed with the Porcupine country as a place to prospect, the conditions being unfavorable for travel.

Mr. Baker is on his way to northern Humboldt county to prospect, having been attracted by the high-grade free gold ore at National. He says that prospectors from the most remote corners of the southern deserts are headed north this spring, and the mountains of the section of country along the southern lines of Idaho and Oregon will be explored for minerals this summer as they never have been before. With the regular army of experienced rock knockers tramping over the hills, it will not be remarkable if a new El Dorado is mentioned in the dispatches before the fur on the wildcats gets good again.—Wonder, New Mining News.

## LETTERS FROM A PROSPECTOR

The Trail and How He Found It.—Places Where Supplies and Water were Obtained. His Impressions.

[Under the above heading will appear from time to time, reports on an extensive prospecting expedition which left San Bernardino early in May. These letters will be true in detail and are written exclusively for the Mining Review by Mr. W. C. Marshall, M. E., who is directing observations. A photograph of the outfit and party, together with a short sketch appeared in the Mining Review of May 13, 1911.—Ed.]

Palm Springs, Cal.

Editor Mining Review:

I take great pleasure in dropping the Mining Review a brief report on our trip of observation and prospecting which is to include the Salton Sink, the range along the western boundary of the great basin of Death Valley and the Sierra Nevadas themselves.

From San Bernardino we went east through Highlands to the junction of Morton and Santa Ana Canyons which is about fourteen miles east of San Bernardino. From this point we followed the Santa Ana River north-east for about eight miles to Bear Creek, out to Bear canyon for about seven miles and then we turned to the east where we crossed the mountains to a point one mile north of Clarke's camp, as shown by Punnett Bros. map of San Bernardino county. From this point we went northwest to Fish camp, about six miles, thence east, and a little north, to Pine Lake which is a fine body of clear mountain water at an elevation of over 10,000 feet and, when we were there there were still large banks of snow on many of the surrounding peaks. At this place we found from seventy-five to a hundred summer cottages but only a watchman and a couple of carpenters on repair work. Up to this time I had found no indication of mineralization and no place where any supplies could be had but plenty of good water; even at the summit, or divide, there is a good spring that is evidently artesian, as it is near the highest point, and I am informed that it flows the year round.

From June 15 to Oct. 30 supplies in the way of canned goods can be had at the store at Pine Lake Camp, and mail reaches that point every two weeks. There are several fine lakes forming a chain some twelve miles in length, including Pine Lake, Boulder, Bear and several others. On the west of Pine Lake, for many miles, is found a heavy growth of yellow pine, many trees from four to six feet in diameter.

Directly north of Bear lake are large gypsumite and fluorite bodies along the base of the mountains, and to the west of Gold mountain.

There are a large number of lode claims located at Gold mountain but none of them has been worked to any great extent. The Double mine on the north shore of Lake Baldwin has the largest amount of work done, amounting to several thousand feet in all; this mine also has a small stamp mill but is only operated during the

summer months. The ore is free milling quartz, running about \$12.00 per ton.

South of Lake Baldwin, about three miles, we came across some old placer diggings that had evidently been worked by some of the '49ers; their old cabin, built of yellow pine logs from 20 to 24 inches in diameter, had fallen down from decay. Facing the cabin door and about 150 feet distant was a stone covered grave of a child of about twelve to fourteen years, judging from the size of the grave.

I found the vein from which the placer gold had come and made a couple of locations on it. From this point we went southwest from fourteen to sixteen miles to the Rose mine; this is a well-developed gold, silver and copper property, some of the shafts reaching a thousand feet in depth with thousands of feet of drifts and crosscuts. This mine has a cyanide mill of one hundred tons capacity and has turned out thousands of tons of ore as evidenced by the large dumps of tailings. For some reason, not generally known, the mine is not operating at the present time and the property is in the care of a watchman. I am sure good profit will yet be made from their tailings.

From the Rose mine we continued southeast again down Rattlesnake canyon about three miles; several strong quartz veins showed along the canyon walls, all well mineralized but, as their dip in the mountain is 48 degrees, the expense of timbering during mine operations would probably be too great for profit as both timber and water is great at this point.

From here we crossed the mountains to Burns canyon and here we found indications of mineral, also a number of old locations but no work done. Here we also found a lone prospector's grave. There is only a small seepage of water from the south side of the canyon, called Burns Springs and here we quenched our own thirst but the burros went dry. From Burns spring we went south to Pipe's where plenty of good spring water is to be had from a spring two and a half miles up Pipe's canyon. At Pipe's is the cabin and corral of a cattleman. Some twelve miles up Pipe's canyon I found some cassiterite but did not look for the deposit, as supplies were running short.

I wish to call attention to the fact that there is no trail running south from Pipe's canyon, as shown by the map, and I doubt if even a man on foot and without a pack could make

his way through to Little Morongo on the south side of the range; but a new road has just been completed by cattlemen which runs southeast and strikes the county road at Morongo Pass three and a half miles west of Warren's Wells.

From Pipe's to Big Morongo canyon a distance of twenty-one miles, there is no water or feed to be had and again from Big Morongo canyon to Palm Springs station, a distance of twenty miles, the prospector will find neither feed nor water.

W. C. Marshall, E. M.

## RECOVERING METALS WITH NITRIC ACID

(By Carl J. Trauerman, M. E.)

### Rankin Process Plant Completed

Work on the Rankin Process mill, now being installed at Lake City, Colorado, is progressing satisfactorily, all the machinery having been installed and the tanks prepared for the reception of custom ores. Mechanical details are being perfected and according to the latest plans of the owners, the first test run will take place early in May.

So much interest is being shown in the outcome of this first commercial mill, that a brief outline of the process would be of general interest to the mining world.

The process is based upon the chemical action of concentrated nitric acid upon the ores, this action dissolving all the metals except gold, platinum, etc.

The sulphides are oxidized into neutral sulphates and in case there is not enough sulphur in the ore for this reaction to take place, sulphuric acid is added with the nitric acid.

The above reactions take place in an iron digester, lined with an acid proof mixture of barium sulphate and sulphur. Air is used as a means of agitation.

So as to dissolve the last traces of the metals, the acid in the digester is kept in excess and the advantage is taken of the solvent action of ferrous sulphate, which may be reduced from the higher state by the addition of metallic iron.

From the digester, the solution of the metals, such as silver, iron, manganese, copper, zinc, etc., is drawn into precipitating tanks, where each is in turn precipitated into a commercial product.

The fumes of No. 2 gas are led from the digester and by means of air and steam, under pressure, are converted into nitric acid to be used over and over. According to H. D. Rankin, 98 per cent of the nitric acid may be recovered at an expenditure of only two horse power of compressed air energy, for the regeneration of one ton of concentrated nitric acid.

The residue from the digester, containing gold, etc. lead sulphate and residue is passed over an amalgamation plate, the gold extracted and then passed over a concentrator, which slimes off the lead sulphate.

All the tanks are lined with absolutely pure refined paraffine purified by a special process, while all acid

is conveyed through specially constructed aluminum pipes.

According to tests made by chemists, ore can be treated by this method at a cost of from \$1.50 to \$2.50 per ton.

The process has been tested in a 5-ton plant and seems to possess great merit.

Denver, Colo., May 9

According to authoritative reports, the Hanna Mining & Milling Co., of which G. H. Martin, of Chicago, is the moving spirit, and which at present controls the Moro mine and mill at Capitol City, in Hinsdale County, is negotiating for the purchase of the Highland Chief group of claims, located at Sheep Mountain. It is planned to begin operations at both the Moro and Highland Chief, either concentrating the ores at the present Moro mill or installing the Rankin Process. As soon as climatic conditions will permit, the Frank Hough mine situated on Engineer Mountain, controlled by A. E. Reynolds, of Denver, will repair the damage wrought by last winter's fire and again begin active shipments to the smelter at Durango. Lessees Kinney and Harkness are pushing developments upon the Sulphuret and Cora groups, near Lake City, and have sorted on their dump ore that will assay about \$60 per ton. They are negotiating for another lease upon one of the mines in the Henson district. Lessees Neil and Olson are well satisfied with the outlook on the Belle of the West property and are busy extracting and sacking ore to be tested in the new Rankin mill. During the winter lessees Watson and Ralph shipped two cars of ore from the Golden Wonder, on Gold Hill, which netted considerably over \$40 per ton. As quickly as legal interferences can be removed, active work will again be prosecuted on this property. Under the active direction of P. C. McCarthy and T. A. O'Donnell of Denver, work

has been resumed at the Hidden Treasure mine on Henson Creek. Sixteen men are being employed to remodel the old shaft and put the concentrating mill in condition for immediate use. S. W. Vickers, who owns the Cleveland group, has been developing his property during the entire winter. His claims comprise a stretch of 4500 feet on the vein. At a distance of 450 feet from the mouth of the upper tunnel the ore averages a width of five feet and assays over \$20 per ton. A recent assay showed 50 ounces of gold and 3,000 ounces of silver per ton, in a stretch four inches wide. The ores of the Cleveland will be tested for the cyanide process in the near future.

### Cyanide for La Plata County

During the winter under the progressive policy of Supt. Anderson, work at the Neglected Mine in La Plata county, has put in sight a large tonnage of ore that will average from \$15 to \$20 per ton. In an old stope a considerable body of ore was blocked out that assayed over 20 ounces of gold per ton. Under the supervision of the well known cyanide engineer John Gross of Denver, exhaustive tests were run, for a period of three months to determine the adaptability of the ore to the cyanide process. As a result of these tests steps are now being taken to construct a 7-mile aerial tramway from the mine to Hermosa, at which place the company is planning to install a mill of a capacity of 125 tons per day. According to tests, it is claimed that the La Plata gold ores can be cyanided as successfully and economically as those of Cripple Creek. Manager Gilmore is ordering supplies and preparing to start up the Tomahawk Mine and Mill, near La Plata city as soon as the snow will permit. James Doyle is figuring on some progressive developments at his properties near East Mancos, during the coming summer.

## INDIANS AND INDIGO

### An Exciting Eleven Days' Chase after Indian Outlaws.—Incident in the Early History of Arizona.

(Written for the Mining Review by Mr. C. B. Genung, Forepaugh, Arizona.)

Part III.

Concluded.

He went so far as to offer to dismount some of his men and send them back to McDowell and mount the citizens on the fresh horses. There were men in our party that would have liked to accept the offer had it not been for the bugle. The name of this officer I do not recall, but the guide was Hi Jolley, one of the men imported to the United States with the camels that were brought to Texas in the early fifties.

When the McDowell officer struck the trail of the Indians where we had left it he took the back track—the trail that we had followed to Tonto Creek, instead of following the Indians. He was afterwards court-martialed for that. Hi Jolley made the complaint, I believe, which

brought him before the court martial. Hi Jolley was a good and careful guide and scout, and died a few years since at Quartzite, Yuma County. In June, 1909, Sharlot M. Hall hunted up his grave and marked it with a granite slab.

Our party slept at the Old Post that night, and we could see signal fires in every direction on the mountains. The next day we started to make McDowell. Townsend spoke to the lieutenant, whom we had all learned to like by this time, and told him to have his men keep close up and not get scattered as there was liable to be Indians trying to cut off any who might lag behind. It was a long rough ride over the Reno mountain, and we were all tired aft-

er the excitement of the chase and our horses were badly fagged and sore-footed. We scattered out on both sides of the road and after we came in sight of McDowell, (which we could see ten or twelve miles away), I was riding on the upper side of the road and Townsend was below the road. I noticed him working his way up toward me and when he got alongside, he said to me: "Suppose they don't give us rations when we get down there," nodding at the post. "What shall we do?"

I replied, "I don't know."

Says he, in an undertone, "We will take the post," and turned to go back to his place in the line of march.

As he started off I said: "All right, Townsend."

I will say here that we had been living off the soldiers' rations after the third day out and had eaten everything they had, the day before, except some mescal that we had found in the Indian camps.

We did not have to take the post, however, as the commanding officer did everything he could for our comfort, gave us good quarters for ourselves and horses and an order for anything that was in the commissary. I believe his name was Major Dudley. We rested at McDowell two days, then started for Prescott, via Black Canyon and Townsend's ranch, where Townsend found his family all safe and well. This woman had been staying at the ranch alone with her small children and no neighbors for several miles. The ranch was more than forty miles from Prescott and right in the heart of the Indian country, but she had dogs and guns. The lady raised a large family, and is living somewhere in this country now.

The Indians killed Townsend sometime after; shot him at long range, but did not dare to go near him to get his horse. The faithful animal stayed with him several days, then went home. They found the body by back-tracking the horse. Townsend had seen signs of a large party of Indians in the country and, having no neighbors to go with him, he went after them single-handed as he had done many times before. In all he killed thirty-five Apaches in the five years that he had lived on the Agua Fria river.

Our party broke up next day at the Bowers ranch, having been gone eleven days and recovered all but fourteen head of the horses and mules stolen. The soldiers went to Camp Verde and those of the citizens that did not belong in the Agua Fria valley returned to Prescott, where we found the citizens organizing a searching party to go out and find and bury us. As they did not know that we had joined issues with the soldiers, they concluded that the Indians had got us into some tight place like the Black Mesa on the East Fork of the Verde and killed us all.

I got to Prescott about ten o'clock in the morning and was preparing to start that day and drive through to Skull Valley, where I had left my wife and baby nearly two weeks before to be gone only two nights, but

my friends got around me and persuaded me to stay until next day as they were preparing an entertainment for me and the balance of the party. That was a day and night of great rejoicing in Prescott, it being the first time that the Indians had been followed, overtaken and severely punished by either citizens or soldiers for their crimes. It was really the beginning of a long-fought battle in which the Indians got the worst of it every time. While we were at McDowell we occupied the quarters of a company of cavalry that had gone to meet General Crook, who had just come to the country and was on a tour of inspection of its geography, which he accomplished by going to every military post before he started his campaign which ended so successfully.

When I had put my team back in Brook & Lind's stable, I walked down across the plaza and some one introduced me to a Mr. John Dun from Virginia City, Nevada. We talked a few minutes and he asked me to come into the store a minute (we were standing in front of Levy Bashford's store).

Dun said: "Mr. Bashford, give me that gun if you please." And Bashford went and brought out a new Winchester rifle,—one of the latest models. Mr. Dun passed the gun to me, and said:

"See if that is any good. If it is, keep it."

I certainly kept it until it was burned with my house and all its contents in Salt River Valley.

That act of Dun must have suggested something, for the citizens of Prescott presented John Townsend with a gun just like it with appropriately engraved plates on the stock, and also presented Lieutenant Morton with a pair of gold-mounted forty-five pistols, properly engraved. I will say that the older officers at Verde had sent Morton out as a lark, not expecting him to accomplish anything, and were having a lot of fun about it at first; but when he was gone longer than he was rationed for they began to get uneasy about "the boy," as they called him when he first left them. When he returned it was a different name he bore.

The night's entertainment consisted, first, of a wine supper, the table being the full length of a new store that Bashford was building. In the middle of the table was a row of wine baskets set end to end the whole length of the table. This wine was Hammonds port, a wine growing town on Keuka lake, N. Y. The first course served was wine, and then Judge Howard made a little speech and winked both eyes. Then we had a course of wine, then a short speech from R. C. McCormick, and another course of wine. We had short speeches and wine until most of the party went wine-ding home. The old Prescott pioneers did do things right when they started.

The next morning, having my load all ready the night before, I started with William H. Smith and Charles Boyce for Skull Valley. Arriving at the Bowers station where there were

several military officers sitting on the porch, I drove up alongside, and as my wife and Mrs. Bowers came down the steps I handed my wife the holsters that I had put the indigo balls in at the second fight, and said to her:

"Here is the indigo, wife, and I had a h—l of a time to get it!"

The next day I got home to Peoples Valley, having been gone nineteen days when it was my intention on leaving home to be away only five days. There I found John Burger suffering badly from some wounds that he had received at the hands of the Apaches on April 1st of that year, when his companion, H. Wycoff, was killed while he and Burger were on their way from Peoples Valley to Wickenburg. Burger had three balls in his right side and was shot through the left thigh, which wound crippled him for life. The wounds were all nearly healed when I left him and he was getting around a little on crutches. When I returned the wounds in his side were badly inflamed and were full of proud flesh. One rib had been shot entirely in two and the ends of the rib were growing together nicely when I left him, but when I got the inflammation down and the proud flesh burned out of the wound, I found that there were little ulcers formed on the ends of the new bone. I cut them off with my pocket knife, and with such attention as I was able to give him Burger was out of bed and quite well in a short time. He was one of the early settlers of Phoenix, and was killed accidentally in his own mill on Humbug Creek. His wife still lives in Phoenix.

Altogether we killed fifty-six Indians, and got all of the stock back but fourteen head, and Mrs. Genung got her indigo.

#### SHOVELING SNOW IN MONTANA.

**LIBBY MONT.**—Fourteen men have been sent up to Snowslide mine to shovel a wagon road through the remaining half a mile of snow that lies about five feet deep on the road leading into Snowshoe. As soon as this road is put through, lumber for new quarters, provisions and supplies are to be rushed in.

A large crew of experienced miners and shift bosses is to report to E. H. Wilson, the purchaser, at Libby within a week. As fast as new quarters are built more miners will be put to work.

The plant of the Blacktail gold mine, that was partially destroyed by a snowslide a year ago last winter, is being rebuilt and operations will be resumed as soon as everything has been repaired.

Supplies, drills, powder and cars were sent up to the new Victor-Empire mine Monday for the work on the 500 feet of additional tunnel.—Mining Record.

The Baldwin Locomotive Works, at Philadelphia, have turned out two oil burning engines for use on the Arizona Eastern and each carrying 3000 gallons of fuel.

## MINING MATTERS

## Late News From Districts Producing Precious Metals.

SPOKANE. — Carbonate Hill property near Wallace, Idaho, is in much better condition than its backers hoped for at this time. The west drift, which is now in 1,000 feet, has been running on the hanging wall side of the vein. In running a cross cut to the north, six feet of excellent zinc ore was passed through. There is a strong gouge on the footwall and the ore has every indication of being continuous. While zinc predominates, there is every probability it will be displaced by lead as depth is attained. An assay of the recently discovered ore shows the following values: Zinc, 48.2 per cent; lead, 4.1 per cent; silver, 2.2 ounces, and gold, .01 ounce.

Stockholders of the Rainbow Mining company, operating in the Coeur d'Alenes, who recently inspected the property, report that the main tunnel on the Rainbow group No. 1 is in 1,100 feet, with a depth at the face of the tunnel of 750 feet. Work on the main drift has been discontinued for the present and the two shifts are taking out ore in a raise at a point 750 feet from the portal of the tunnel where rich ore was encountered. The raise has been driven only 15 feet. It shows, however, a quartz ledge four feet in width with gray copper streaks. An assay showed values of 131 ounces of silver and 38 per cent copper.

Spokane chamber of commerce has endorsed United States Senator Poindexter's Senate bill to open to entry the mineral lands of the Spokane Indian reservation in eastern Washington. Practical mining men generally want the bill passed. The reservation is known to have several tungsten deposits. There is also lead, silver and copper. The Indian bureau is opposed to the opening and has always worked against the passage of any bills in Congress. The Poindexter bill is the fourth introduced since 1908.

James Breen of Spokane, who holds 75 per cent of the stock in the McKinley Mining Company, operating on the north fork of the Kettle river, 34 miles from Grand Forks, B. C., announces that the bond given recently to the British Columbia Copper company is for \$100,000, conditioned upon the continuous development of the property during the next 12 months.

W. E. Zwicky, manager of the Rambler-Cariboo Mining company, whose properties are near McGuigan, B. C. that the new ore shoot, found on the 1,250-foot level, shows from six to eight inches of clean galena. It was cut 60 feet nearer than expected. It is partly developed on the 1,050-foot level, but shows a body of clean galena averaging more than four feet in width for 75 feet. An average of the ore body on the No. 9 level gave returns of 117 ounces and 65 per cent in lead. On the 1,050-foot level the clean ore averages 250 ounces in sil-

ver and 75 per cent lead, and is more than five and a half feet in width part of the way. Mr. Zwicky says also that more than \$3,000,000 worth of ore is in sight.

Jay P. Graves of Spokane, vice-president and general manager of the Granby Consolidated Mining, Smelting & Power company, said on returning from an inspection of the Hidden Creek mine in British Columbia, that the showing is larger than was that of the Granby mine. The development work has proved a large tonnage of satisfactory ore. He added: "The smelter will be on deep water, so that the slag can be got rid of economically. The new tunnel with which we now are tapping the mine at a depth of 800 feet will have its portal about one mile from the site of the ore bunkers at the smelter. The company is employing two diamond drill crews and a large force of miners in drifting and crosscutting the ore bodies."

Kootenai Gold Mines, Ltd., has become the absolute owner of the Granite-Poorman property in the Nelson, (B. C.) district, by the final payment of \$10,000 on the old Duncan United Mines bond.

News of an important strike on the Perrier group, five miles south of Nelson, B. C., is brought by Alfred Crossley, one of the owners. The main vein has been exposed for nearly 3,000 feet, a new lead having been located by means of ground sluicing to the north of the No. 1 shaft, which is located a few feet west of the Great Northern railway track. The sluice is 1,000 feet in length and the lead is visible in five places. The strike shows two feet of well mineralized ore. There are two shafts and three open cuts on the group.

Work is progressing at the Martin mine, near Kaslo, B. C. Ten thousand dollars has been expended on the work, which includes 900 feet of crosscuts, drifts and raises, bunkhouses and other necessary equipment. This mine is in shape to sell, bond or ship when the Kaslo & Slo-can railway starts up again.

## WONDERFUL DISCOVERY OF GOLD

Albert Vaughan came to Kingman early this week and exhibited some chunks of the richest ore ever brought to town. It was in an oxidized iron stained quartz and was shot full of heavy gold all over the surface the fresh breaks showing that the interior was equally good. The find was made by Samuel Eastland, Wm. and Albert Vaughn and Lou Runnals. The vein is situated close to the recent find of D. B. Wright, on the northwest side of Boundary Cone and is said to be entirely in the old andesite. The men have sunk some prospect holes along on the vein and have found good ore along the outcrop. The particular

place from whence the specimens brought to Kingman came has received more attention than any other and it is at this point that a shaft will be sunk to considerable depth. The pay streak is about six inches wide and shows every evidence of permanency.

Mr. Vaughn made arrangements while in town for a bond on the property to J. J. Reddick for the interest of other people. Mr. Reddick and O. D. M. Gaddis went out to the mine and took a look at it Wednesday last and were more than surprised with the showing. They believe it will be one of the richest propositions in that rich section. It is understood that Paul Johns, of Prescott, is now at the property making an examination for people that he represents.—Mohave County, Arizona Miner.

## KING SOLOMON SINKING

Sinking has been resumed at the new shaft at the King Solomon Mine, and will be continued until the one hundred foot level is reached. On the fifty foot level the west drift has reached the boundary of the claim, and the mining of ore has been suspended on that level. As the strike of the vein is away from the west boundary, more extensive workings will be had west of the shaft on the hundred foot level.

Ten tons of ore have been taken out and are available for milling. Much of this material shows free gold. The last milling of four and a half tons netted two hundred and forty dollars per ton on the plates, beside twenty-five dollars in the tailings, making a total recovery of \$1192.50.—Randsburg Miner.

## THE BUCKHORN

The Buckhorn Mines company is making preparations to resume work on its property in Eureka county, which has heretofore attracted considerable attention. For a depth of 150 feet this showed one of the largest low-grade ledges in the state, but a big fault cut it off just below that level, and on account of the severe winter the company closed down. They will now attempt to find the ore beyond the fault.

This company in doing development work for one year has opened up over 212,000 tons of ore, which has an average value of \$11 per ton, and they will build a plant to work this ore regardless of further discoveries, but wish to prospect beyond the fault before deciding what capacity the plant will be. The company is incorporated, but there is no stock on the market.—Goldfield Tribune.

The Rainbow property was discovered about nine years ago and was developed from a prospect mainly through the efforts of W. E. King of Hood river.—San Francisco Chronicle.

## MOHAVE COUNTY, ARIZONA

G. E. Bailey, professor of geology of the University of Southern California, at Los Angeles, was a Kingman visitor this week, going over to Goldroad in Tarr's big automobile, where he looked over the Gold Road mine. In conversation with the Miner editor yesterday he stated that the Gold Road was one of the great properties of the country and that the management was all that mine management could be. The mill he considered one of the most up-to-date plants in existence.

The crosscut from the 550 level of the Tom Reed shaft reached the vein some days ago and cut into a splendid body of ore, the average width of the pay streak being six feet. This streak averages about \$57 in gold, while a large amount of vein matter will bring the whole mass to a high grade milling value.

This week, H. M. Bowen went out to the Jamieson mine, at Layne Springs, and put two men to work clearing out the old drifts and getting the stopes in shape to produce. He brought in with him a large number of samples from different parts of the old works and finds that some of the best ore in the mine was overlooked on account of its drybone character. This is the ore that gave results of about 20 per cent copper and nearly four ounces in gold. It is a talcy looking rock and only shows some black specks that have been proven by assay to be copper. The gold values are carried in the copper.

This week William Stallsmith discovered a vein of ore, near the old Juno mine, at Chloride, that gave results of \$80 and \$40 silver to the ton.

The shaft on the property of D. B. Wright, at Boundary Cone, has reached a depth of fifty feet and shows exceptionally good gold values, in fact far better than at the surface. The shaft is to be extended to 100 feet, where a crosscut will be run to the hanging wall.

Report comes today that the Prosperity adit drift has opened a big body of zinc ore in that property close to the intersection of the Golconda.

Reports coming in from Boundary Cone show that there is much excitement there over the manner in which the recent strikes are showing up. A sample from the bottom of the shaft on the big strike of Vaughn Bros. & Co., gave a result of \$4,700 gold. The owners of this property are sinking two shafts on the vein and the showing is immense. The richest ore taken from the property is now said to be coming from the deepest part of the mine.

John C. Potts, chairman of the board of supervisors of this county, has just returned from a trip to the Atlantic-Pacific mines, near Thumb Butte, in which he is largely interested. He reports that his partner, L. Kimberley, is working on the mines.

T. R. Garnier, who has just returned from Needles, where he had a carload of rich lead ore from the St. Louis mine run through the smelter, reports that his ore gave big results in lead.—Mohave County Miner.

## NEWS NUGGETS

### Concentrates Gathered From Various Properties.

The Lane Investment Company has purchased the Plymouth Consolidated Gold mines at Plymouth, Amador County, Cal.

Additions to two of the zinc smelters now under way will make Bartlesville, Okla., the biggest smelting center of the United States with the exception of Butte, Mont. The total number of men to be employed in the three smelters will be 1,470. There are now more than 1,000 working in the three institutions.

A gold dredge will be in operation on Castle Creek about 20 miles south of Deadwood, S. D., early next month.

The South Eureka, in Amador County, Cal., is paying monthly dividends of 7c a share and this will be increased to 10c shortly.

"Picture rock" is being extracted from the vein in the North Star mine, which is situated on the northeast outskirts of Pike City, Sierra County, Cal. The pay streak is eight to ten inches wide, having increased to that from two inches since its encounter last fall.

A new strike of lead and silver ore has been made on the property of the Arizona & Cleveland company in the Gunnison range.

What was once credited with being one of the finest and most valuable mineral collections in the United States, that which for decades was exhibited in the corridors of the state capitol at Carson City, is now being boxed preparatory to shipping it to Reno, where it will be placed in the Mackay school of mines at the University of Nevada.

Twenty-five men are employed on the property of the Pacific Copper Mining Company at Crown King, Ariz.

Eight mines are now running in the Pioneer-Keysville district, Kern County, Cal. W. H. Stavert is operating the Keysville mine with a five-stamp mill and in the last run of twenty-six tons cleaned up \$104 per ton. H. F. Blakesley of San Bernardino and others of that city are opening up the Lucy mine. They will tap the ledge at a depth of 600 feet with a 1000-foot tunnel.

So little has been known of uranium and vanadium until very recently that the average prospector has passed it over without suspicion of its value.

A considerable amount of ore, averaging 6 per cent copper and about \$6 in gold per ton has been developed by the Cleopatra-Arizona Mining & Milling company on its property near the Bill Williams river, Arizona.

Many improvements have been made in the surface equipment of the Ray Central Copper Mining Company and all equipment has been put in first class condition so that work is proceeding throughout the property with rapid progress.

The Arctic Mining Company, operating fourteen miles from Washing-

ton, in Nevada County, California, is preparing to erect a big mill.

J. P. Hunt is the manager.

The Searchlight Bulletin says:—

"A local mining company this week received a large shipment of candles. When the goods arrived at the local depot the packages did not look just right and one of the boxes was opened, and the astonishment of all concerned may be imagined when the contents were discovered to be small colored candles such as are used to embellish birthday cakes and Christmas trees. Imagine a shift of miners going on duty equipped with a bunch of these "glims."

The Hope mine, near Placerville, is constantly setting new records of its own in the production of gold. Thursday the ten-stamp mill was operated for five hours on gravel from the new ground just opened up, and the result of the cleanup was eighteen ounces of gold, worth \$18.15 per ounce.

With the commencement of spring the Black Hills of South Dakota is showing greater signs of activity than for a number of years past, and every indication seems to prophesy a year of greater accomplishments than usual.

Fine gold-bearing specimens of quartz are being exhibited from the surface strike on the ledge of the Blue Jay group, on Oregon Creek, owned by Rust & Pellagreen of Grass Valley.

A rush has been started to the neighborhood of Geyser about 60 miles south of Ely, Nev., in the Patterson mountains.

The last shipment of gold bullion made by the Goldfield Consolidated weighed 2005 pounds—a ton of almost pure gold!

The Bob Young Mine 14 miles from Barnwell, Nevada, sold to Philadelphia parties last week, for \$150,000.

The copper production of Shasta county Cal., is approximately 3,000,000 pounds per month of which over 2,000,000 pounds is credited to the Mammoth Copper Company.

Three sections of the Miami Copper company's mill are now in operation and the plant will probably be running at full capacity the latter half of the month.

In the report of T. J. Dalzell, Commissioner of mines for Colorado, he says: "Prospecting has almost ceased as an industry, and the state practically been debarred from the chance of any new mining field or district being located and developed. It must be understood that while the forest reserve regulations do not prohibit prospecting work or mining locations, they do, however, make it so difficult or uncertain for the mineral discoverer to secure and retain his locations that the miner has been discouraged from attempting much pioneer work. The prospector is obliged to wait the pleasure of the range rider."



Placer mining on the Raycraft claims in Buckeye district in the Pine Nut Range, near Genoa, Nevada, has been running in full blast for the past several weeks and will continue as long as the water holds out.

Platinum in paying quantities has been struck at the French Hill mine, Spanish Dry Diggins, by the Hydro-Electric Mining Company, and machinery for the extraction of that metal will be put in at once. A ledge of very rich quartz has also been opened on the mine, and the prospects for the company are very bright.—Georgetown Gazette.

Dawson has now a population of less than a thousand, principally Americans. This summer, 20 gold dredges will be working on the creeks around that city and district.

Steady shipments are in progress from several properties in Bartlett Springs, Nevada.

Productions throughout the Placer-ville, Cal., district continue to improve steadily and much activity is shown.

The Sunrise mine in Kelsey district, about six miles south of Georgetown, has been purchased by New York capitalists through William A. Hooton, and now work is actively in progress remodeling the old equipment and installing a modern ten-stamp mill.

It is estimated that the combined cost of the additions and improvements now planned for the Copper Queen and the Calumet and Arizona smelting plants in Douglas, Arizona, will amount to \$1,750,000.

High grade ore is being taken from the Pittsburg mine, situated about two miles east of Searchlight, Nevada.

After a suspension of about a year the Continental Copper Company, owners of the Dakota Calumet property near Sheridan, S. D., will resume operations in a week or 10 days, according to the announcement of Superintendent Overpeck, who is now engaged in getting things lined up for the start.

Quartz containing free gold in paying quantities has been encountered in the Independence mine on Wolfe creek, Sierra county, Cal.

The Nevada-Ontario company, which has a bond on the old Ross property, in Pumpkin hollow, some few miles southeast of Yerington, Nevada, is doing considerable development work, and has a very fair gold showing on the property.

Haileybury, Ont. May 20.—The real rush into the Keekeek district since the breakup has started, and quite a number of prospectors have left Haileybury for the Quebec side to commence their trip to the new gold fields.

The sixteenth mill to be erected in the Cobalt district, that of the Cobalt Lake Mining Company, is progressing rapidly, and the management hopes to see the stamps dropping in August.

For the first half of this month the Dexter Consolidated Leasing company, operating on the northern end of the Union No. 9 of the Dexter properties at Manhattan, Nev., has shipped to the mint 2000 ounces of bui-

lion of an average value of \$14.50 per ounce, or approximately \$29,000. This does not include the precipitates. The ore was run at the War Eagle mill.

A benefit fund for its employes has been established by the Liberty Bell Gold Mining Company which is operating in San Miguel county. The fund is intended to encourage good service and length of service, and to provide a blanket insurance against sickness and accidents.

C. W. Gage and Geo. N. Moody of Durango have taken a lease on some copper properties near Rico in Dolores county. E. F. Burdick recently made a report on the properties. According to old smelter receipts, shipments have been running over 38 per cent copper per ton, the ore being roughly hand sorted.

Several sets of lessees are shipping from the Capital mine in upper Clear Creek county. J. Eade recently sent out 13 tons for which he received a settlement of \$1160. A shipment of 50 tons of smelting ore has just been made by the Bard Creek Mining Company from the camp that was opened up last summer.

Expert metallurgists are engaged on the problem of working out an economical treatment for the low grade zinc carbonate ore at Leadville. Shipments of zinc carbonates, the existence of which in large bodies was not discovered till last year, have already added largely to the Leadville production, and it is believed the increase can be made much larger with improved metallurgy.

The old dredge rebuilt and put in operation late last season by the Colorado Gold Dredging Company in Costilla county, is now working successfully, and a profitable run for April is reported. The gravel is averaging about 15 cents a yard. The success of the enterprise bears out the prediction made in the report of the State Geological Survey, which attributed a former failure entirely to inadequate equipment.

Fitzpatrick & Company, leasing on the old Inter Ocean mine at Sunshine in Boulder county report the rediscovery of a vein that has been lost for five years. The vein is said to be four feet in width and the first car load shipment ran \$50 in gold per ton. The grade of the ore is improving according to latest reports.

Plans to use diamond drills in the heading of the deep drainage tunnel at Cripple Creek are under consideration. It is believed that additional water courses can be located in this way at a minimum cost. The flow from the tunnel is now about 6,000 gallons per minute.

Work is to be started about the first of next week in the Commonwealth mine in the Turquoise district, near Pearce, Ariz. A force will be put to work planning to develop the mine to a point where it can produce 200 tons daily. When it has been demonstrated that this amount can be put out a mill will be erected to take care of.

C. G. Dennis, who is engaged in quick silver mining at Lone, has been to San Francisco lately.

R. S. V. P.

Editor Mining Review:

There are producers of structural and industrial materials residing in your vicinity, who have not responded to a request that was made by the California State Mining Bureau, some time since, to furnish samples of their products to this Bureau to be displayed in the permanent exhibition of such materials that is to be installed in the Ferry Building, San Francisco.

This is due, unquestionably, to oversight alone; for the advertising advantage to every section and to every producer thus brought to the public notice, will be permanent, and without any cost excepting that for the original preparation of the exhibits.

More than 100,000 persons annually visit the State Mining Bureau. With the rapid growth of the city and of the State at large, this number is steadily increasing, so that the advertising will continually become more and more valuable.

A large number of producers of structural and industrial materials in California have already prepared to exhibit and many have sent in exhibits and have co-operated in providing an ornamental installation. It is planned to make the structural exhibit the finest of its kind in the United States. To realize this purpose it is necessary that each and every section of the State shall be fully represented.

Your co-operation is requested in the work of building up California industries, under the favorable conditions provided by this Bureau.

Yours very truly,  
Lewis E. Aubury,  
State Mineralogist.

#### BLOODSTONES IN DEATH VALLEY

Several Salt Lake mining men have a property in Death Valley that contains the genuine blood stone so highly prized for jewelry purposes. The supply of this material heretofore has come exclusively from abroad and specimens submitted, have been pronounced the real article.

There can be no question of the quality. The stone is found within an old crater and where it differs as yet from the foreign article is in the quantity of the blood red color. The imported stone has innumerable blood specks while the Death Valley product has larger blotches of the red in the characteristically beautiful dark green matrix.

On the old trail running from Virginia City, Nevada to Bodie, California, lying within the latter state, about three miles from the line, is the Old Kentuck Mine which has a record of having produced a half million in gold. A. Y. Warner, who has been cyaniding the tailings on the Old Kentuck, started up his plant last week, the snow being all gone. He operated his plant all last summer and expects to make his final clean-up of the dump this fall. The tailings run about \$8.00 per ton.



## PETROLEUM NEWS

### Recent Happenings Among Oil Men. Notes From the Wells.

WASHINGTON.—Attorney-General Wickersham appointed B. D. Townsend as special agent to represent the movement for the testing of the rights concerning the lands patented to the Southern Pacific railroad company. It is claimed that the lands granted to the Southern Pacific contain oil deposits that should not be included in the congressional grants to the railroad. Townsend will co-operate with Francis J. Heney of California.

Geo. C. Calhoun, manager of the National Oil Refining and Manufacturing Co., left Bakersfield, Cal., last week for Seattle, to meet J. J. Steel, a contractor of Sydney and London, to put through the sale of 200,000 tons of asphalt.

The report of the striking of a flowing well in the Lost Hills by the Universal Oil Company was the chief sensation in Bakersfield, one day last week. The well, which is on section 32,26-21, is but a little way north of the Lost Hills townsite, and the whole population of the little city turned out to see the gusher.

The Dominion Oil Company, operating six miles south of McKitttrick, Cal., on section 15, 31-22, at a depth of 700 feet, ran into oil sand Monday night. A strong gas pressure blew the tools up into the casing. After eight hours fishing they succeeded in getting the tools. The well will be brought in in a few days.

#### ASSOCIATED REPORT.

W. S. Porter, vice-president and general manager of the Associated Oil Company made his annual report last week, showing sixty one wells completed during 1910, a large increase in the Company's holdings.

We quote from the report itself: "To the stockholders of Associated Oil Company:

We submit herewith combined annual statement of the Associated Oil company and the following proprietary companies. Associated Transportation company, Associated Supply company and Bakersfield Iron Works, for the year ended December 31, 1910:

The earnings, after deducting all expenses for operations, maintenance and transportation were \$4,108,065.56; less interest on bonds, \$438,558.40; depreciation reserve, reinvested in the business, \$1,215,293.65, making a net gain for the year added to surplus of \$2,454,213.41. Of this amount we set aside for redemption of proper pro rata of outstanding first refunding mortgage bonds, \$578,038.60.

#### OIL IN HUMBOLDT.

Word from Eureka is to the effect that oil indications are considered splendid in the Petrolia section of Humboldt county and that they are sufficiently encouraging to warrant Assemblyman Fred H. Hall of Bakersfield and associates going to some expense in drilling a test well. Hall inspected the field a few days ago and it is stated the Mattole Development Company's holdings in which he is also interested will be the place of drilling the first well. The mattole field is about 40 miles directly south of Eureka.

#### WYOMING OIL WELL

This time Spring Valley, Wyo., has a snorter. Well No. 1 of the Texas-King Oil & Gas company has been shot. Oil and gas were sent 100 feet into the air and the well continued spouting for six minutes. The depth is 785 feet, and it is estimated that a 150-barrel to 200-barrel well has been brought in.

G. N. Stocking of this city, a stockholder in the Texas-King and a director in the Roberts Oil company, received the following telegram from J. J. Trenam:

"Well shot. Oil flew 100 feet into the air for six minutes. Oil flowing over casing. Bankston estimates production first day at 150 to 200 barrels."

This well was driven down 765 feet last year. In the bottom 35 feet of oil sand was penetrated. The flow was 12 to 15 barrels a day of a superior paraffine oil, which sells readily at \$1.60 a barrel. Recently the casing was driven 20 feet deeper, and the shot put in with the above results.

The Spring Valley formation is rather tight, making the loosening up of the oil sands, or shales, at the foot of the pipe quite necessary when a big well is desired. It is thought this No. 1 will now settle down to probably a 50-barrel-a-day producer. All this oil is sent to the Salt Lake refinery, where it is converted into gasoline and lubricating oils.—Mining Record.

#### THE BOSTON VIEW.

It would seem that the effect of the decision on the Standard Oil interests would be one of inconvenience rather than loss. The holders will receive either stock or cash in liquidation of the parent company, and the business will be conducted by the nineteen subsidiary companies in each of which present stockholders will have an interest. There will be nineteen boards of directors but the existing stock is so closely held that the different corporations will be under the control of the same group of men. It is likely that the same purpose will be accomplished even though in a more round about and cumbersome manner. It is quite like-

ly that Congress will meet the danger of collusion between the different sets of directors by attaching a penalty of imprisonment to offenses against the Sherman Law at the discretion of the Court. Such an amendment and a measure providing for federal incorporation would seem to be all that is necessary to settle the question of the trusts once and forever.—Boston Financial News.

We have said before and now say again that if the law will make it mandatory, not optional with the court, to impose a prison sentence, there will be no need of further legislation.

#### NOTES

Lost Hills has a mayor, no less. His name is Bob Cutten and he is a hustling merchant.

W. J. Hamilton, formerly head geologist for the Associated, is now conducting the San Francisco office for the Hammon interests and will have charge of the business management.

Sisquoc, at the head of Cat Canyon, near the territory of Tepusquet, is a new oil town in the Santa Maria, Cal., field.

C. H. Naramore, formerly of the geological department of the Associated Oil company, in California, has been placed in charge of the geological work of the English capitalists represented by W. P. Hammon, and has moved his family to Coalinga for a permanent residence.

Buffalo Bill and associates are entering the oil business. The old frontier scout and showman is looking for new worlds to conquer and has returned to the west to find them. He is interested in mining and now adds oil interests to his holdings. He and associates are stockholders in the Montezuma Oil Company, capitalized at \$1,000,000, and with headquarters in Tucson.

Ten residents of Phoenix, Ariz. are the incorporators of the Phoenix-Interstate company operating in the California Sunset field. The company owns forty acres within a mile of the town of Maricopa, or Monarch, as the railroad station is called. The property is near the center of section 3, 11-14, in the edge of the hills. Several wells are drilling. The third well at depth of 2000 feet is in the live sand. Following are the officers of the company: Dr. H. H. Stone, president; Fen S. Hildreth, vice-president; H. I. Latham, secretary and treasurer; Ralph Cameron, R. L. Bailke, Frank Stewart, George Purdy Bullard, T. P. Nichois, superintendent; F. J. McCarthy, of Maricopa; Mr. Gordon. All are Phoenix people except the superintendent, F. J. McCarthy of Maricopa.

The W. K. Oil company, at Coalinga, Cal., brought in its well No. 7 last week, with a flow between 4000 and 5000 barrels a day.

The experimental oil well started only a short time ago near Moab, Utah, has already encountered a fine flow of exceptionally high grade oil.

The Austrian railways use oil exclusively for fuel.

## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

Gordon Surr of San Bernardino, the well known geologist and mineralogist, has returned from a recent examination of oil properties in Ventura County.

R. S. Baverstock, of Baverstock, Staples & Payne, assayers, returned this week from an examination trip through Nevada.

W. W. Hurt, president and manager of the New York Searchlight Mines Company, will make Searchlight, Nevada, his home hereafter.

Phil Ballard has tapped, by a tunnel in his Soldier Creek claims, near Hailey, Idaho, a body of ore seven feet wide that averages at least \$20 per ton in gold and about 3 per cent in copper.

Jay P. Graves, general manager; F. M. Sylvester, assistant general manager; W. Yolen Williams, consulting engineer for the Granby Con. Mining, Smelting & Power Co.; W. A. Williams, superintendent of the smelter at Grand Forks, B. C., and O. B. Smith Jr., in charge of the mines at Phoenix, B. C., recently visited the Hidden Creek property in northern British Columbia, which the Granby Co. recently acquired.

W. B. Milliken and his brother, F. A. Milliken, both mining engineers, are engaged in opening up the Indiana group of claims at Pioneer, Nevada. They are both enthusiastic over the result of the work accomplished during the last two months.

Olof Wenstrom, is manager for the Cortez Associated Mines Co. in the Jacala district, Hidalgo, Mexico.

George Wingfield has taken an option on the Keane Wonder, in the Grapevine mountains on the eastern edge of Death Valley and the property is being examined by Fred J. Siebert.

J. A. Wood, mining engineer of Kansas City, has been making an examination of the Detroit-Colorado property near Silverton, Colo., for some of the stockholders.

H. Jennings of Washington, D. C., manager for the Conrey Placer Mining Co., Ruby, Mont., went to Meadows, Mont., to start the company's No. 4 dredge, which is claimed to be the largest in the world.

Wm Easton, is president of the Washington Mining Company, operating in Washington Canyon up Reese River, Nevada.

E. J. Short, a mining engineer recently made an examination of the Chicagoff mine on Chicagoff Island, Alaska.

James Hammill, was digging in his garden at Hills Flat, Cal., a few days ago and uncovered rich rock which is supposed to be a continuation of the Peekaboo.

R. V. Campbell is president of the Andy Fitz mine, at Moorese Flat, Nevada County, Cal. A large body of good ore has been opened up lately.

Philo D. Grommon, mining engineer of Golden, Colo., has been ap-

pointed superintendent of the Ophir Gold Mines, Milling and Power Co. of Ophir, Colo.

Max Burgdorf, of Cripple Creek, Col., who lately took a lease on the Flying Cloud, on Bull Hill is about ready to begin shipping.

Chas. R. Topping of Victorville, has located some good ore on the Salt Lake near Cruzero, Cal.

Gus Steffens was showing some fine gold specimens to the people of Bozeman, Montana a few days ago. The find was made in the West Gallatin basin, 75 miles from Bozeman.

Chas. A. O'Connell, has been appointed consulting engineer of the Trethewey mine at Cobalt.

Sam McGraw, president and manager of the Green Mountain Gold and Copper Company in La Sal district, thirty miles south of Cisco, Utah, reports the snow as deeper in the mountains this spring than at any time the last fifteen years.

James M. Porter, engineer for the Standard Silver-Lead Mining Co., Silverton, B. C., recently went to Wallace, Idaho, on professional business.

A. G. Kirby, of Goldfield, Nevada, installed the amalgamation and cyanide plants at the Nova Scotia mine at Peterson Lake, Ontario.

It is reported from National, Nevada, that J. L. Workman has sold the White Rock No. 1 for \$250,000.

E. V. Buckley is manager of the Queen mine in the Nelson, B. C. Country.

Frederick Bradshaw, is superintendent of the Tonopah-Belmont Development Company, at Tonopah, Nevada, and has charge of the preparation of the plans and specifications for the new mill.

John G. Kirchen is manager of the Tonopah Extension Company, Tonopah, Nevada.

William Hogan has resigned as superintendent for the Giroux Con. Mining Co., at Ely, Nev.

Frederick Keffer is the consulting engineer of the British Columbia Copper Company, operating the Napoleon mine, at Orient, Wash.

L. F. Arnold, formerly in charge of mines in the Sultepec district, Mexico, has become the superintendent of the Casa Diablo mine about twenty-four miles northwest of Bishop, California.

C. A. Bailey, formerly of Randsburg Cal., is now the manager of the Central Consolidated mine which is on the south slope of Banner Mountain, near Grass Valley.

Geo. G. Green, of Boston, has purchased the Mohawk mine, near Mammoth, Pinal County, Arizona. The property has a thirty stamp mill and a large body of ore.

William Squance and a crew of miners have started work on the Bullion mine in the Stevens district in the Coeur d'Alenes. The Bullion

has been closed since the forest fires of last summer destroyed all of the buildings and timber on the claims. Besides rebuilding bunk houses and other structures the crew will construct a wagon road to Borax.

J. C. Wetherhead, secretary and manager of the Pandora Mining company, reports that the crosscut tunnel is in 1,175 feet. The property adjoins the Snowstorm mine near Larson, Idaho.

Frederick R. Moore, of Portland, Ore., and associates with a capital of \$500,000 have acquired three claims at Steamboat Mountain, B. C. The new company is known as the Steamboat Consolidated Mines, Ltd., and the claims purchased are the Steamboat Extension, the Dollar claim on McNaught gulch, and the Gladstone claim on Red mountain.

Charles K. Cartwright, for six years superintendent of the Morning mine at Mullan, Idaho, has resigned to take over the management of a number of properties in which he is interested. Fred Bergen, who has been with the Federal company for five years, has been promoted to the superintendency.

L. E. Porter, the expert milling and mining man is sampling ore bodies at Ludlow, Cal.

A. P. Anderson and H. S. Lee, engineers of the United States Smelting and Refining Company, left for the mine yesterday and are now in charge. They have begun their arrangements for men and added equipment and stated that they would begin their operations on a large scale as soon as possible.

### SIERRA MADRE CLUB VISITORS

R. B. Court, Glorioso, Ariz.; Trevor Lorry, San Francisco; T. H. Dudley, Santa Monica, Cal.; E. W. Fullerton, Pasadena, Cal.; Daniel Bosquin, Gold Road, Ariz.; Jesus Almada, Cuitoran, Sin, Mex.; L. A. Ross, Bakersfield, Cal.; W. H. Brookins, Dayton, O.; O. S. Rockford, Dayton, O.; P. T. Jenkins, Washington, D. C.; J. S. Ake-man, San Diego, Cal.; A. C. Conway, Antigo, Wis.; C. F. Woods, Berkeley, Cal.; W. C. Ogden, Fairmont, W. Va. G. V. Lyddane, San Francisco. A. T. Ward, Chicago; Rudolf Beck, Oxnard, Cal.; E. B. Olson, Oxnard, Cal.; J. E. Sloan, Oxnard, Cal.; G. P. Bellah, Oxnard, Cal.; P. D. Sennily, Oxnard, Cal.; Jno. F. Fulkerson, Loomis, Cal.; E. G. Woodford, London, H. S. Jones, Las Vegas, Nev.; Rush T. Sill, Cubacon, Sinaloa, Mexico; Edward Littlewood, San Francisco, California.

Last Thursday evening was Ladies' Night at the Sierra Madre Club; dancing and cards prevailed. The Club is planning a dinner dance for the evening of June ninth.

In the Red Hills district in the northeastern part of White Pine county, Nev., Edward Williams and Ole Johnson, of Ely, have made a strike that runs 4 oz. in gold and 9 oz. in silver and 19 per cent lead. The vein is more than four feet wide and the samples taken show that the average value runs more than \$100 a ton.

## NEW FACTS IN THE NEW OIL TRADE

### Imported Petroleum is a Factor

When a whole cargo of gasoline arrived in San Francisco from the Far East a short time ago it brought to the petroleum interests of this country, and especially of the Pacific Coast, a realization of the fact that an important change in the business had come to pass. While there has been some speculation as to whether this shipment was the beginning of a war on American producers or was due solely to the compulsion of a basic change in commercial conditions, the best opinion seems to be that the latter is the case. The crude petroleum of Borneo and Sumatra are rich in the light hydro-carbons, and it is necessary to extract the naphthas before using the oil for fuel, as, otherwise it cannot be handled safely. Asia offers a good market for illuminating and fuel oils, but cannot absorb the excessive supplies of gasoline incidental to their production. From a world-wide point of view this need cause no alarm. As far as the Pacific coast of the United States is concerned, the native petroleum is deficient in naphthas, and is best adapted for fuel, illuminating and lubricating purposes. An addition to the supply of gasoline and a reduction in its price is of great importance to the automobile, motor boats and other industries; and, as far as this country at large is concerned, will add far more to our prosperity and wealth than high-priced naphthas ever would.

### Gasoline Production

The estimated production of gasoline last year in the United States, was about 10,000,000 barrels, and it is supposed that nearly one-fourth of this was consumed by automobiles alone, without taking into account that used in motor boats and for power generally. The use of gasoline for propelling ocean-going vessels is in its very infancy; and the advancing tendency in its price, which has only recently been checked, threatened the development of the new method of propulsion. Following the lead of Germany, explosion engines of large

size are now being made which consume kerosene and the heavier oils, but at present they do not threaten to displace the gasoline for locomotion purposes, included in which the aeroplane must not be overlooked. Lower prices for oil and naphtha are encouraging makers of explosion engines and are stimulating invention all over the civilized world. Statistics of petroleum exports from this country for the month of march appeared recently in the Reporter, which showed a gratifying activity in the trade, but these preliminary figures did not include the imports. It will come as a surprise to many who are not in close touch with the petroleum trade to learn that imports of mineral oils, including naphthas, into this country are assuming vast proportions under the stimulus of free entry.

### United States and Russian Trade

At present the petroleum trade of the United States with the rest of the world is handicapped by prohibitive duties on oil imported into Russia, Austria-Hungary, Roumania and other countries, which consume, all told, one-fifth of the world's production of petroleum products. Rumors of fresh alignments of foreign capital in the California oil fields come persistently from the Pacific coast. No one seems to know or to be able to find out to whom the Southern Pacific company is trying to sell its holdings in the Associated Oil company. Some insist that the Royal Dutch-Shell Transportation company, which operates chiefly in the East Indies, has acquired an interest in this company, but there seems to be no foundation for this story. Eastern capital, including the Standard Oil Company, is taking an active interest in the California fields. The Standard Oil company is contracting for the output of new wells. Independent English capitalists are investing in California oil lands; but that kind of invasion of the field need cause no alarm, because the Englishmen will look for profitable business and not for trouble.

### Coast Gasoline Trade

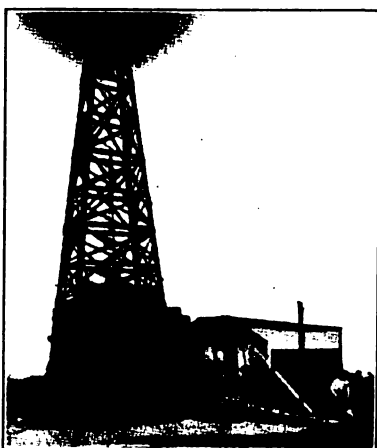
The Royal Dutch-Shell Transportation company has opened offices in

San Francisco and will probably compete keenly for the gasoline trade of the coast by shipping in the surplus naphtha of Borneo and Sumatra. If this concern enters the local field as a producer and refiner of California oil, it will help the industrial interests of the coast. Reductions in the price of illuminating oil the last year were made to stimulate consumption, and create markets for a surplus produced by the increased demand for naphthas. This was not done, as far as can be ascertained, to make war on competitors, but was due to the need for a world-wide readjustment of consumption of the various petroleum products. The result has been to restore to this country its pre-eminence in the world's trade in illuminating oils. With all the talk about the oil fields of Russia, Roumania and the Far East, it is on the western hemisphere that the great discoveries of oil wells have been and are being made. The United States is also the greatest consumer of petroleum products, and it is here that the best trade of this kind is done, and will be done for many years to come. There is no monopoly in the business, and we should welcome the investment of foreign capital in this as well as in other lines of industry. If capital comes to this country in this way, our financiers will not have to worry about listing American securities on foreign exchanges.—Oil, Paint and Drug Reporter.

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## A GREAT OIL POOL\*

Prof G. E. Bailey gives to the Los Angeles Mining Review the following results of his many trips to the desert covering the question of the existence of oil in the region between the Cajon Pass and Fremont's Peak, north and south, and from Mojave to Barstow.

The Eocene rocks that lie at the bottom of Tertiary and underlie the oil formations of the State are exposed in a number of the canyons along the north side of the Sierra Madre range. At Rock Creek the formations show the Eocene fossils and seams of lignite coal. Rocks of this period are also found north and west of Johannesburg in the region around Pilot Peak in the Fremont mountains and in the range running from Indian to Paradise Springs. In other words, rocks of this period are found along the Sierra Madre dipping north. At the west end of the desert they dip east and along the Fremont range they dip south, outlining an immense bowl covering the region from Mojave to the Mojave River.

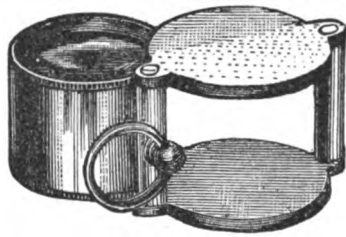
There is a distant anticline extending along the south flank of the Fremont Range that may be traced

\*[Owing to the widespread interest created by the above article, which appeared exclusively in the Mining Review of Saturday last, and an inability to supply further copies of that edition, the article is reprinted herewith in its entirety, as published in the Mining Review of May 20, 1911. We take pleasure in responding in this manner to a multitude of requests which are still being received.—Ed.]

well to the west towards Mojave and to the east to the Mojave River. This anticline lies between the Fremont Range and the Harper Dry Lake where Black formerly had a ranch. The formations along the south edge of this dry lake and from there south to the Kramer well are white shaly formations similar in all their characteristics to those of the upper, middle Miocene, such as are seen in the Coalinga and McKittrick districts, and seem to be the equivalent of the Santa Margarita formation. This belief is strengthened by the fact that

the Kramer well is in formation apparently identical with the well-known Monterey formation of alternating clay and lime material with alkalies well exposed.

A careful study of the surface from the Kramer well to the Cajon Pass shows that it is composed of recent Lake Beds that are similar in character to the series of well known Lake Beds that extend to Death Valley and



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July 1, 2, 3, 4, 5, 6, 19, 20,  
26, 27, 28.

August 3, 4, 5, 14, 15, 16,  
17, 21, 22, 23, 28, 29, 30.

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into Nevada and are generally recognized as of Pliocene age. These beds bluff along the west side of the Mojave River from Victor to Helen. South of Victor the surface is covered by the heavy wash of gravel from the Main Range. These beds lie close to the horizontal but in two or three localities are curved into slight anticlinals. It is probable that these may indicate the existence of sharper anticlines in the underlying middle Miocene formation. A study of these oil bearing formations where they outcrop show heavy folding and it is not probable that such foldings would take place without the formation of parallel folds or anticlines between the Santa Fe railroad on the north and the main range on the south. In fact the strongest indications are found directly west of Helen. Helen is a station on the Santa Fe Railroad in T.8 North Range 4 West S.B.M. The anticline here runs north-west being marked by a ridge that runs along the roads running from Helen to Mojave and Kramer. The main part of the anticline lies along these roads in Tps. 8 N. Range 5 and 6 west S.B.M. There are also indications of a minor parallel anticline between this and the Kramer well. I have been unable, however, to find any indications of anticlines further to the south although they may be there, buried under.

The Kramer Oil Well is just finishing the work of pumping out the water that has been standing in it for nearly a year and I was unable to see the well at its best. They have found a light valuable oil that has a paraffine base. Until the well is fully cleaned it will be impossible to judge its flow. From the material brought up it is evident that the well has been badly gummed by standing idle for so long a time with several hundred feet of water in it.

The situation sums itself up about as follows:—Oil has been found on the desert; it is a light high grade valuable oil containing paraffine. At least one anticline is known with strong indications of the existence of at least two other parallel anticlines. The middle Tertiary formations that extend over the oil fields of the southern part of the San Joaquin Valley, were also laid down on this part of the desert. There is no evidence of faulting or volcanic disturbance but on the contrary the formations have been covered up and sealed against escape of lighter gases and oils. Beyond this very little can be told, except by penetrating the formations with a drill.

#### FIRE PROTECTION AT THE GOLD-FIELD CONSOLIDATED

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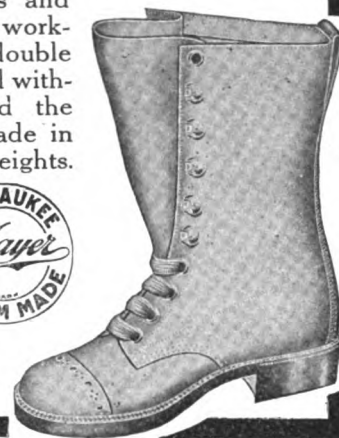
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hions of feet of timber which would make a strenuous fire and thereby do great damage to the mine are in this way afforded ready fire protection, and the safety of the mines from disaster in that direction is assured.

The pipes are tapped at convenient places underground and hose provided for being attached thereto. The wisdom of this preparation can be appreciated when the immensity of some of the stopes is realized, a width of from 30 to 50 feet being common, and running from level to level, with square sets five feet from post to post, and floors about seven feet apart throughout the height of the stopes. As mining progresses, large sections of the square sets are planked up for "back-filling," leaving avenues between for working purposes. With millions of feet of timber thus installed underground, provision for its protection from fire is not unwise. The pressure at the 600 level of the Mohawk is 200 pounds.

Another commendable innovation is the placing of steel gates on the cages for the safety of the men. The gates are made of parallel horizontal bars and extend from the floor of the cages to a height of four feet. They can be easily folded back or removed and are a splendid measure of protection to the men. The gates were installed in compliance with a suggestion of Ed Ryan, state inspector of mines, who has made a similar recommendation to other large mining companies throughout the state.—Goldfield Tribune.

The first shipment of bullion from George's Canyon was received by the Tonopah Banking Corporation last Thursday, consisting of 32 ounces of gold valued at about \$400. This bullion was the result of a trial run of 10 tons of ore through the small two-stamp mill just started up. It is estimated that about 80 per cent of the values in the ore was saved on the plates, from which the bullion just received was gathered, which would show the ore to carry values of over \$50 a ton. This ore came from the Red Ruth property, belonging to Stimler and Marsh, and there is now in the ore bins about 100 more tons of the same character of ore.—Tonopah Miner.



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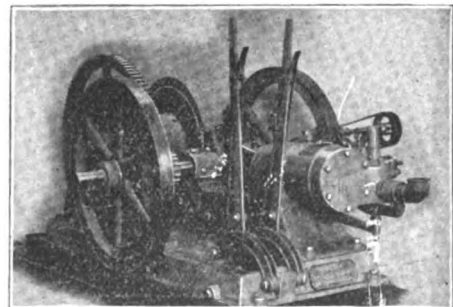
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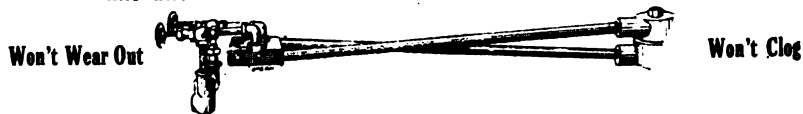
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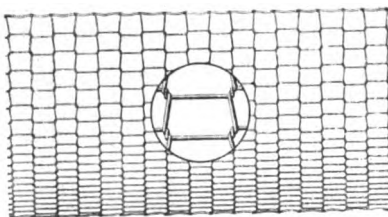


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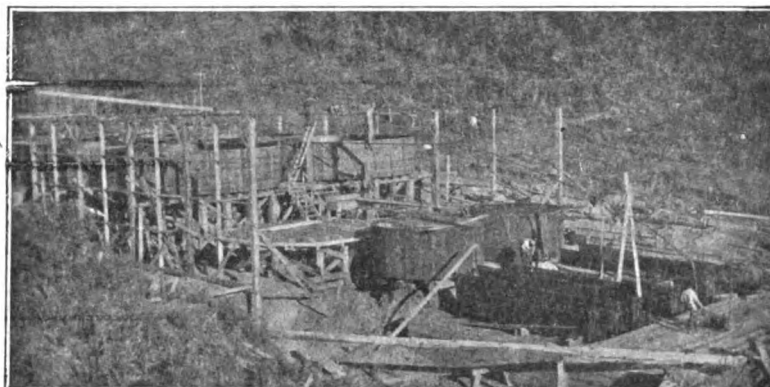
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# Los Angeles Mining Review



Vol. 30, No. 13

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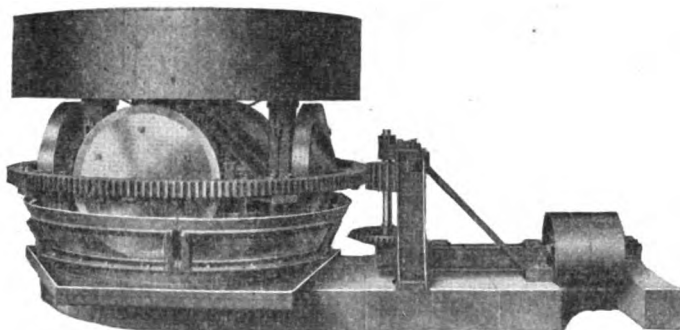


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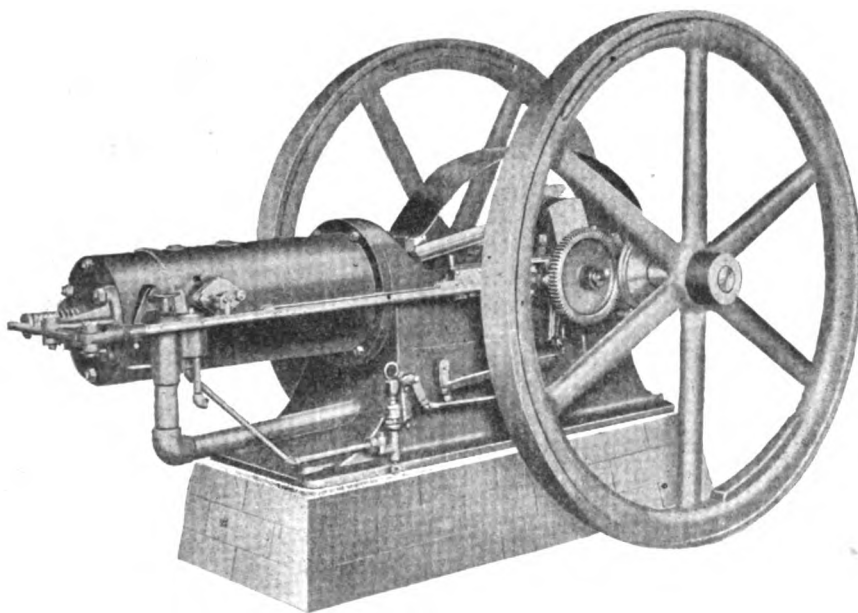
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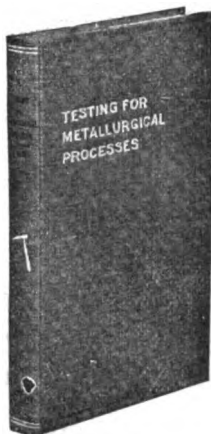
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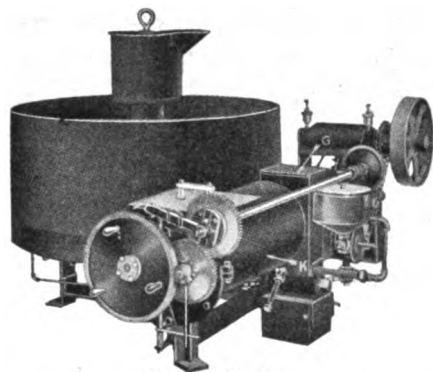
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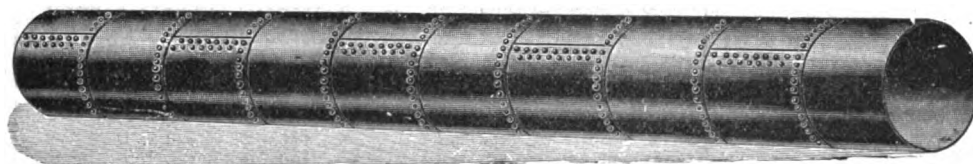
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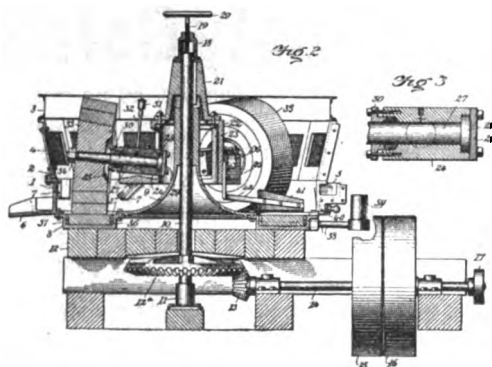
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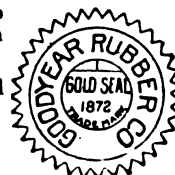
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# Los Angeles Mining Review

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## EDITORIAL

### ANOTHER DESERT VICTIM.

"El Centro, June.—Searchers today found the body of William Burgher on the desert, six miles from his camp. He disappeared two weeks ago and was trailed until yesterday. He had perished from thirst. Burgher, a veteran prospector, had been hunting for thirty-five years for a lost ledge of mica he once came upon when working as a surveyor."

The foregoing appeared in the news despatches the other day and one can not help wondering how this old, experienced desert prospector should fall a prey to the dangers of the very country he knew so well.

If any one had told William Burger only thirty days ago that he ought to be exceedingly careful in his pros-

pecting, he would have laughed at the advice. And yet, he died of thirst.

We have said and we repeat that no man should go prospecting alone, especially on the desert. Surely any man who is fit to be at large ought to be willing to take reasonable precautions to save his own life.

Danger has its attractions and most men like to encounter the hazardous and overcome difficulties. We have no objection to that spirit, in fact, we like it. But the man who starts out into the desert must not think he will have made the undertaking effeminate by having a compass, a big canteen full of water and a partner. On the contrary, these are requisites and by endeavoring to do without either he is very apt to make a wandering trail in the blistering sand; and then in twenty-four hours, he is no longer a prospector but a grinning skeleton that may never be identified.

\* \* \*

### SAVING THE WATER.

All along the Sierras can be found birch, California lilac and deer brush; they are low and bushy and make fine browsing for cattle and deer. They are thoroughly acclimated, they are impervious to the piercing cold, the high altitudes or the deep snows.

If some arrangement could be made by which the forestry service could be induced to propagate and plant these shrubs over the western mountains, in a few years they would furnish ample protection or shade for the snow and thus conserve the moisture in the hills for the summer's use; vast areas of bare and hopeless country would furnish feed for cattle and a forest fire could not run through such material.

Men who have had experience know that snow is melted more rapidly by the wind than by the sun alone. The low-growing forage bushes would furnish ample shade and shut out the wind far more than tall timber.

There would be no need of removing the timber already standing. That should be allowed to remain. But the great barren slopes and mesas could be covered as we have suggested and everybody would gain thereby.

A good many people in the mountain states, especially the miners, have felt and still feel very bitter toward the forest service. Our own view has been and still is that there is much useful work for the rangers to do and that when their energies are directed along desirable lines the service will be universally appreciated and respected.

### AMERICAN MINING CONGRESS ON LEASING.

"Resolved, That in common with citizens of the United States engaged in other industries, we approve the theory and practice of true conservation, which means utilizing and developing with the least possible waste, the natural resources of our country.

We recognize, as men engaged in one of the most important industries of our country, the value of true conservation and its ultimate relations to the mining interests and recommend the enactment of such legislation, both state and national, as will bring about a beneficial development of the mines, the public lands, the public water rights, and the timber contained within our great western country for the best interests of the present and future generations without unnecessary waste.

We condemn, however, as unwise, as opposed to the best interests of the American people, and as wholly unnecessary to the success of any plan of true conservation, legislation or proposed legislation which tends to make the miners and other citizens of the public land states who invest their time, labor and capital in the development of the natural resources contained within such states, lessees of, or tribute payers to the national government.

We believe that every legitimate means should be adopted in the control of public lands to eradicate or lessen the evils of monopoly, but fail to find in any of the remedies suggested by the advocates of the leasing system how this can be accomplished by changing the present laws so as to take from the citizen a clear title and substitute therefor a lease."

It seems to us that the foregoing resolution which was adopted by the American Mining Congress at its last session covers the leasing system quite thoroughly. The fact that the present administration favors such a system should not, in our opinion, carry any weight in the matter. If the mining policy is to depend on the views of the administration at Washington, then we will be in a fine fix, indeed. If there are any men on earth who know what is best and right in this matter, it is the men who do the work and there is no possible way for them to secure even-handed justice unless they stand fast. Trying to patch up a bill that will meet the views of men who advocate

the leasing system and still give the prospector fair play, is a fine opportunity for lawyers but a flat impossibility for miners.

The miners, in our opinion, will oppose any bill from any source, that provides for leasing instead of absolute ownership and if by any accident, such a bill becomes a law, then they will unite for its repeal.

There can be no compromise in such a matter. The men who would compel the oil prospectors to pay a royalty, would place the same burden upon the man in search of metals; if it is once placed on oil and coal, it will follow on gold, copper and everything else that looks good to the man who never mined and never intends to but feels he is gifted with a special fitness to say how mining ought to be done.

For some years the prospector has been hampered and crowded off the forest reserves by regulations established by the forestry bureau and now the head of that bureau tells us he has issued instructions to the rangers not to molest or interfere with the prospectors hereafter. Is it to be supposed for a moment that if some compromise plan had been presented that our people would ever have seen their rights restored?

If men who had made this fight against "the administration" had been willing to compromise or if their opposition had been of the conciliating sort, what would they have accomplished? And the fact that "the administration" has now changed its tactics only confirms our statements, made again and again, that they have been entirely wrong in their conception of their relation and obligation to the miners.

Let us make it very plain that the miner is not begging for something, he is not passing the hat. But he does feel that he should not be deprived of his rights under the law and he further feels that when matters pertaining to his welfare, matters that belong peculiarly to his calling, are to be considered, they should be passed upon by men who know how. Miners have been either right or wrong in contending for their rights on the public domain and what a weak thing it would have been to have abandoned their position in the past. And they are not going to compromise or back down on the leasing system, either.

That is not all. After the next election there will be men in some of the departments in Washington who understand real mining. In the meantime the Mining Review will continue to stand by the miner and contend for all his rights.

## TWO REPORTS ON SAME PROPERTY.

By Francis C. Nicholas.

It is a rather interesting occurrence that two reports should be available for discussion on the same property, one of which is conditionally favorable, the other decidedly adverse. A natural thought follows as to what information a mine owner may want from a mining geologist. I use the designation mining geologist, because the mining engineer who reports on

the quality and value of a mine, rather than on engineering problems relating to mining, is reporting as a geologist, not as an engineer. The mine owner who calls for a geological examination and report on his property has certain objects to be attained in calling for an examination.

If a geologist were sent by a person who thought of purchasing a property, the client would want to know all the defects. The question would be: Do you advise me to buy this property? Such a mission would bring one form of report. Supposing another case. A person or group of persons owning a property in which they have some money tied up might send for a geologist to tell them what they had, and how to make the best of it. My own opinion is that these people do not want an adverse report on their property; they are not asking some one to point out its defects, they are looking for help. At least a great many people are so situated. Money has been spent injudiciously, the mine has not come up to expectations! defects and disappointments have developed. Then with the little money remaining, a mining geologist is called. Can he help them out? In most instances the expert makes every effort to point out all defects, takes a fee for giving information on conditions which were so apparent that the owners did not have to be told them, but nothing is suggested that will help the unfortunate people out of their difficulties. Some times conditions are so bad that the case is hopeless, though many mineral deposits can be made to pay something if operated according to their merits. At any rate, the situation is very different in the case of an examination to ascertain whether a mining venture on which nothing has been spent by the client, is desirable for him to take up. Where people have money invested, they want to know what to do. Sometimes the mine must be shut down to wait better transportation facilities. Sometimes other methods of treatment must be recommended, and sometimes the case is hopeless, and the property must be abandoned. Usually, however, something can be done, and people who are in want one kind of report, and should have a right to ask for it; though people who are considering whether or not to go in, seek something quite different in the report they require of a mining geologist.

The property in question was owned by a group of New York people, who had organized a company and were spending their own money, and were spending it so foolishly that favorable results were impossible. They had purchased machinery, erected buildings, and had a superintendent on the ground. They had been at it for several years, had a considerable amount of tunnelling opened, but at the time of my visit were doing almost everything relating to mining, except opening the property. They were even beginning operations to develop a water power site about 8 miles from the mine, where electrical transmission was to

be used for operating a great mining plant. This property was the Dixie Royal mines, of Dixie, Idaho county, Idaho. I was called to examine it and made a conditionally favorable report. That is, a report which on conservative lines endeavored to show the owners what they could do to save their money, for which there seemed a reasonable opportunity.

A mining engineer was called later, drove 100 ft. of tunnel, found traces of gold only as he went in, but at the point where he stopped obtained 1.5 ozs. of gold per ton. Then he stopped, and reported against the property. In his report he stated that information was given to him that very good assays had been obtained at other parts of the zone in which the test had been made. These he reported of no consequence, and stated that he did not look at or consider them; he had tested one part of the lower exposures of the zone. Results not being favorable, the property was to be condemned, though in his brief report he did refer to placer ground belonging to the company as a possible source of some revenue.

The facts of the case are these: The Dixie district is some distance from a railway. Seventy-eight miles of rough mountain roads must be passed before the town can be reached. A railway is now building, which will pass within 12 miles of this district. Improved transportation facilities are expected to result in active mining developments, and at Dixie the miners are holding dozens of mines, and are awaiting developments. The Dixie Royal, so named by the original discoverers, because of some very high-grade ore which was found when the property was first located, was one of the few mines in operation.

On examining the property I found a zone of irregular mineralization, containing free, finely-divided gold. Apparently the zone was about 75 ft. wide, occupying what might have been more porous stratum in an upturned gneiss of a form developed by crushing. Evidences of mineralizing thermal waters seemed clearly indicated by the altered nature of the zone, and there were also indications of secondary segregates which, originating in a zone of gold-bearing material, were naturally very rich. Assays were taken from samples obtained before my examination, which ran \$1000 per ton. My first care was to search among the segregates within the mineralized zone to ascertain the extent of such material. I was able to report that such material could be had, but in limited quantities. Probably among something over 1,000,000 tons of ore which it was claimed was in sight there, 100 tons would be of this value. In regard to the great tonnage, I was able to report that while apparently it was there, as claimed, the prospect would have to be thoroughly tested and explored before the average values could be ascertained. A careful examination of the whole exposure indicated that there was considerable bodies of ore running \$15 \$25. An assay made by a well-known chemist of New York who selected

from the samples brought east, what he considered a fair average, gave \$34.

In regard to the mineralized zone, I recommended that all thought of a large equipment should be abandoned; that as a fair volume of water power was available, with the ditches almost completed to the mill site, just beside the ore zone, a small mill would be advisable, which would enable the owners to do enough prospect work with very fair chances of making a little money. While this work was going on, I recommended that the whole zone should be carefully tested and an assay map made to tell with assurance what the average value might be, counting all as a quarrying proposition, and if allowing for rich as well as for barren zones, a value of \$4 to \$5 was found, one of the great mines of the country might result from continued exploration and careful equipment.

The company owned also an extensive placer ground, some of which was low and not easily available for hydraulicking, but could be made available by dredging, or by use of hydraulic elevators. The upper part of this placer was in operation by ordinary methods. The former owners went there each spring, when water was abundant, and regularly each year, it is stated, sluiced out enough gold to pay for their summer's work at prospecting. This prospecting was principally on the Dixie Royal ore zone.

My advice in regard to the placer was to use the upper portion each year to hold the whole property. For this purpose there was reasonably enough ground to hold the property and make a little money each spring for at least 5 years. During this time I recommended that the low placer ground should be tested by borings to bed rock, and if the indications were favorable, a dredge or hydraulic elevator was recommended and would probably give good results.

I did not advise vigorous development, but a careful series of experimental operations, pending the building of the railway. I reported also that while the money spent in machinery, salaries, etc., was not judicious, and could not be expected to give any returns, with conditions at the mine such as I found them, still there were many favorable indications, and the owners need not despair of getting back their money, and that there were many indications that a great property might be developed. I considered in fact that the outlook for developing a good property was good, but I recommended cautious, inexpensive exploration work.

The other gentleman, who, as an expert, has greater reason to claim recognition than the writer, looked up the bad points and "smashed" the proposition as with a club. Now, which was the correct position? This is something which mine owners and mining geologists or engineers could very well discuss. There are good arguments for both sides.—Mining World.

Rich gold ore is said to have been found about midway between Gold Road and Needles.

## WHY CONSULT THE ENGINEER?

Harold Lakes.

Ore is where you find it. True it is that many people use this as their only guide. There are several guides that if considered will save many a useless hole in the ground and waste of money. Many mines have been found by mistake or good luck. Many veins are developed successfully because they can't help but make good. If, however, a few of nature's laws are observed, more mines will be developed and fewer wildcat propositions will be floated. I have often heard the prospector and some promoters say: "The mining engineer is a knocker." Why? Because he can often state facts that will overcome the dreams of the people who in time almost believe that all is gold that glitters, especially underground. No man living can see beyond the point of a pick; he can, however, judge all conditions and surmise closely the possible result of the next shot. In this mining is no different from any other business.

If a man starts a store a mile away from the selling district to strike the trade of such a district he will, in all probability, be fooled. Likewise, the engineer expects to be fooled if he starts a crosscut tunnel a mile up the gulch from several mines. He is in the district, but not in the pay district. Yet, how many crosscut tunnels have been floated by scheming promoters. They will show by map how this vein and the other, if continued, will pass through their property and a crosscut tunnel will cut them at immense depths. They have no more argument than the grocer who expects to make a store pay a mile from town. As a rule ore lies in shoots, etc.; or, I might say, zones. This is the pay district. If, however, the surface conditions show ore, then there is reason for believing that the ore might pass through the zone cut by the crosscut tunnel.

Most districts have almost a general rule. What is true of one mine can be expected under similar conditions of another in that district.

Go a hundred miles from these and use the theories of some single district, and see how badly fooled you might be. But a mining man who has traveled and worked in many districts can surmise reasonably well whether a mine has or has not a good chance. Nearly every mine shows a new condition seldom or never seen before. But there are some things that are definite, and where good judgment and experience can almost predict a certain failure or recommend a good gamble.

Persistence has made some of the best mines in the world, following a barren vein for hundreds of feet. But how many mines have been worked and worked, and have eventually failed simply because there was always enough encouragement to lead them on. It hardly looks reasonable to believe that a vein which has been developed for a depth of say 300 ft. is going to make a mine 100, 200 or 300 ft. deeper down or farther

into the hill. To say it will or will not would be a little beyond human knowledge.

Some prospectors believe they have it. They follow a vein with no surface showing, no sign of ore or condition more than a big, hungry vein. Their hope is based on luck, and when the engineer or mining man turns it down he has made a life enemy. In most cases the prospector's faith will not falter, and he will die with the idea that a few feet farther he will get it.

There are mines that have been turned down that have made good. The engineer that turns down such a property will always be jeered by people knowing the case. Nevertheless, this is the exception and not the rule. How many veins have paid with depth that have not paid in the first few hundred feet? How many veins have paid after the ore shoots have been worked out?

In tight, shearage zones in granite, or some other hard rock, where the fractures show from 1 to 4 in. wide, and where there are bunches of good ore, say \$40 to \$200 ore, occurring in bunches of from 100 to 500 lbs., then a barren zone, then another small bunch, and so on. When such a case as this has gone on for hundreds of feet and finally played out in the laterals, and has been worked for, say, 400 ft. below surface, why should you expect to find a large bunch of ore down 300 or 400 ft. farther? It is true such a thing is possible, yet the gamble is that the same conditions will be found. This is an instance of hundreds of cases where money has been raised, always on the hope of the next foot ahead; just enough hope to spur you on. Faith in such a property is easy to find. The true character has been solved. It would be impossible to describe all that is to be taken into consideration for the future of the mine. For instance, what chance has the vein to widen? Will any other vein cross it, and thus cause a chance for a body of ore? Has some cross-fault caused disturbance enough to alter cases, or is the vein always regular in regard to walls? Have the walls been thoroughly prospected?

Many mines in shearage zones have followed a slip, supposing it to be a wall. In later years a shot in the walls opens an ore body stripped for some distance. A nice, clean slip that the rock always breaks to does not always mean a wall. In ground where it is not advisable to shoot into the walls the contents of a drill hole will often give an idea as to the nature of the wall.

There are rules that cover faults, plain fissures, shearage zones, etc. But each mine is a problem by itself every day, and unless these problems are handled skillfully the failure will come, as in any business.

Mining requires good judgment and common sense every day, and, most of all, experience. These three, added to skillful stamping, assay results, surveys, etc., will make mine operations successful.—Mining Science.

## HIDDEN TREASURE.

SAN DIEGO.—Treasure variously estimated at from fifteen million to sixty-five million dollars, which was hidden by the crew of a Chilean cruiser off the coast of Honduras more than a generation ago, has been recovered, according to reports received here, by a party of explorers aboard the steamer Eureka, now headed for this port.

The Eureka is commanded by Captain Burtiss, and was about two weeks ago taken from here on thirty day charter by a party of San Franciscans. Their movements were so cautiously taken and so enshrouded in mystery that it was suspected the steamer was being chartered for a filibustering expedition against Mexico. For this reason it had considerable bother in getting clearance papers, and was carefully watched until it disappeared outside the harbor.

The expedition is said to have been financed by Harry Kreling, of San Francisco. The map showing the location of the buried treasure was in the possession of a former resident of Honduras, who tried for many years to attract capital to finance an expedition in quest of the sunken gold. He was unsuccessful up to the time he met Kreling, several weeks ago. The result was the chartering of the Eureka for a thirty-day cruise.

## ANOTHER FIND.

O. F. Hunt, of Los Angeles, is in Tucson loading up with supplies for a mining camp in the Sierritas, where he has been prospecting for the past six months. Associated with him is Ned Gillindo, of Tucson.

Mr. Hunt reports that he and Gillindo have made a fine strike in Champorathas canyon of the Sierritas. They have gone down eleven feet and have struck a ten foot vein of solid ore. Where first struck, the vein carries mostly lead, but the silver and gold it bears increases with depth. Mr. Hunt states that the assay runs very high, but he does not care just at present to say how high.

The two partners expect to work the property themselves and have already arranged for machinery. They will sink a shaft, erect a hoist, and build a tramway. Mr. Hunt is arranging for the work while he is in Tucson and will take some of the equipment with him when he goes out again next week. They will get out 200 or 300 tons at once.

The fact that the local smelter proposition is developing so rapidly was welcome news to Mr. Hunt, as he expects his property to become a feeder of the local smelter. His strike is only 34 miles from Tucson.

Their mine locations were filed yesterday on two claims located in the Papago mining district.—Arizona Star.

The postmaster at Searchlight, Nevada, has arranged a mineral cabinet in which are displayed samples from new prospects as well as ore from producing properties.

## THE LORING MASSACRE

Tragic Event in Early 70's gets its name from Boston Newspaper Man.

(Written by Mr. C. B. Genung, Forepaugh, Arizona.)

In the fall of 1871 a man named I. M. Bryan, commonly called Crete by his acquaintances, had the contract to haul government freight from Ehrenburg, on the Colorado River, to Ft. Whipple, Camps Wood, Verde, Apache and Ft. McDowell. His business called him to different posts and he generally traveled by stage from one post to another. When there was no stage route he generally used a saddle horse or mule of which he had several good ones. Bryan had an acquaintance with whom he generally took his meals when in Wickenburg, which was a central point for his teams. One day Donna Tomase, as the woman was called (she was a California Spaniard. Her right name was Mrs. Bouns) called Bryan into her house and told him not to ride in the Wickenburg and Ehrenburg stage any more. When questioned, she told him that there was a plan laid to rob the stage; that she had overheard some Mexicans talking in a brush shack behind a saloon near by where she lived, and cautioned him again about going by stage. He took the advice and did his traveling in the saddle from that on. It was not long before the woman's story was confirmed. The stage left Prescott at night on account of Indians, arriving at Wickenburg before daylight on the following morning. On this particular trip there was a woman, known as Mollie Shepard, a man named Kruger, who had been quartermaster's clerk at Whipple, a man named Adams, who had been running a store in Prescott and a newspaper man from Boston named Loring, with three more passengers and the driver. The name of the three passengers and the driver I do not recall. The morning was a little cold and the curtains were all down. At a point about nine miles from Wickenburg toward Ehrenburg, the road crossed a small sandwash which had scrub oakbrush growing on either side. In this wash, hidden by the banks and brush, lay the Mexicans. When the stage was well into the wash, the horses were stopped and the stage riddled with bullets. The driver and two outside passengers were killed on the spot. Adams jumped out of the stage with a 45 Colt's in his hand and shot one of the Mexicans through the shoulder just a little too high to hit his heart, and started to run over a low point. The whole bunch of Mexicans ran after him and finally succeeded in killing him and scalped him. The woman, although badly wounded, jumped out into the sandwash. Kruger following. They ran up the sandwash and kept out of sight until the Mexicans had robbed the six men that had been killed on the stage, and left going toward the small canyon on the Hassavampa about six miles above Wickenburg. They never knew that the woman and Kruger were in the

stage and luckily did not notice their tracks in the sand. Kruger and the woman knew that there was a stage due from Ehrenburg that day, so they kept the road until they met the stage and returned to Wickenburg in it. Miss Shepard was shot across the back, the bullet not going deep enough to touch any bones.

Of course this was supposed by most people to be the work of the Indians, quite a number of which were at that time at Camp Date Creek about twenty-five miles northwest of Wickenburg. The Mexicans had worn moccasins and scalped Adams in order to mislead the public. At the time, I was working from twenty-five to thirty of the Date Creek Indians gathering my crop of corn, beans and potatoes on my ranch in Peebles Valley, twenty-seven miles north of Wickenburg, and I had some men among them that I knew I could trust. As soon as I heard the news I sent two Indians across to Date Creek to learn if those Indians knew anything about the matter. They returned the same day and assured me their people knew nothing about the massacre, but that it must be Tonto Apaches from the eastern country.

In a very few days Bryan came by my place, on his way from Wickenburg to Prescott, and told me the story. Among this band of fifteen Mexicans was one who Mrs. Bouns was slightly acquainted with, and whom she called Parenta. His name being the same as her family name. She got him into her house, filled him up with wine and he told her the whole story. How these men had all stayed at a house out on the road a little west of the town the night before the massacre, and went out to the place before daybreak. The place had been picked out some days before. This young Mexican claimed that he was sick that night and did not accompany the crowd who did the work but told of Adams shooting one of the party and that they had taken the wounded man to the Agua Caliente springs on the Gila River to get well. The officers went from Phoenix and got the fellow with the hole in his shoulder, brought him to Phoenix and he was killed in the jail by a man who still lives in Phoenix. John Burger killed one of them in a corral at the lower station on the Agua Fria near where the S. F. P. & P. R. crosses that stream. The ring-leader, a redheaded native of Gibraltar, named Juachine Barbe, with another of the band got on the war-path and run amuck in Phoenix and Joe Tye and Milt Ward, deputy sheriffs, chased them out of town and killed both of them, and they all got what was coming to them, but one. He got wise and left the country. Bryan was very careful who he told the story to, and it was passed among the right men to attend to such mat-

ters. The scalping of Adams was all right to fool a tenderfoot but we old timers knew that Apaches never scalped, although they frequently mutilated otherwise.

#### BRITTLENESS REMOVED FROM DRILL STEEL

The following letter from the Dean of the Department of Mining and Metallurgy of the University of Idaho, will prove of great interest to miners, as it tells them how to greatly increase the life of their drills:

Moscow, Idaho, May 27, 1911.  
Editor of the Wood River Times,  
Hailey, Idaho.

Dear Sir:—During the recent visit of our students to the Coeur d'Alene mines we found that some were having difficulty with brittle drill shanks. One of our students, Mr. George Rember, of Hailey, on his return brought some of these samples of this brittle steel with him, and has determined brittleness can be removed. As a number of the mines are using the hammer type drill and are all experiencing this difficulty, I thought that perhaps the methods of removing the brittleness might be of interest to your readers.

Yours truly,  
RICHARD S. McCAFFERY.

#### THE PROCESS DISCOVERED BY MR. REMBER.

Drill steel often becomes brittle after short use in what is known as the hammer type of machine drill. The part which becomes brittle and which generally breaks off, is the shank end which fits into the drill chucks. This brittleness is caused by the repeated impact of the hammer on the end of the drill.

The treatment depends upon the principle that if a piece of steel be heated to what is known as the recalcence temperature, the grain will be refined. The heating should not be carried above the temperature of recalcence because the higher the steel is heated above this temperature the larger will be the resulting grain. To determine accurately this recalcence temperature, a piece of steel like that of which the drills are made, is heated to a bright red heat, withdrawn from the forge or furnace, and placed in a dark room or blackened box, and as it cools it is closely watched. The cooling will be fairly regular until a certain temperature is reached when the steel brightens suddenly. This is the temperature of recalcence, and the experiment should be repeated a number of times until this temperature is accurately known to the eyes. This recalcence temperature should be noted in the dark room or black box, and also in the daylight so that there is no mistake about it. In case there be any difficulty in determining it, it can be gotten in another way.

Take a piece of steel and heat it slowly as above directed and while it is heating try it with a common horseshoe magnet. The cold steel will be attracted by the magnet, it will be attracted by the magnet during the tempering range of temperatures, and it will be attracted by the mag-

net when it is a very dull red. It loses its magnetism suddenly at the temperature of recalcence, so this property of magnetism may be used as indicated, to determine when the steel has reached the proper temperature.

Now, having the temperature of recalcence well in mind, the brittle shanks of drills should be heated, until they reach this temperature. The heating should be done carefully as it is not desirable to go much above the recalcence but at the same time no result will be obtained if the steel is not brought up to this temperature. As soon as the steel has been heated to reach recalcence, it is withdrawn from the forge or furnace and is either annealed or tempered as desired but the brittleness will be entirely removed.—Hailey Idaho Times.

#### GOLD IN THE APPALACHIANS.

In the early days of American history the Appalachian Mountains were noted for their deposits of gold—in fact very little was known of gold anywhere else on the North American continent, according to Bulletin 293 of the United States Geological Survey, entitled "Reconnaissance of Some Gold and Tin Deposits of the Southern Appalachians," by L. C. Graton.

When the early Spanish explorers came to America they were shown by the Indians rich nuggets and ornaments of gold which came from the southern Appalachian region. Later, in the seventeenth century, the Spaniards mined for gold in Georgia. During the eighteenth century very little attention was given to mining anywhere in the Appalachians, although it was supposed by some that gold was found in North Carolina before the Revolutionary war.

Just at the close of that century placer gold was discovered in Cabarrus County, N. C., and after that prospecting was carried on with considerable vigor. The first reported production from South Carolina mines was in 1829 and the gold was said to be worth \$3,500. From that time until the civil war mining was an important industry in the region, and although the rich fields of California lured many away from these deposits of lower grade, the indirect result of the California excitement was a stimulation of mining activity in the East. During the war and for several years after little gold mining was done in this section, but in the seventies, eighties, and nineties the condition of the industry improved. At the present time gold mining in the central portion of the Carolinas is not flourishing on account of the decreasing supply of free-milling ore and inability to extract the gold from the lower-grade sulphide ore at a profit. Production will probably continue, nevertheless, for many years.

#### A Producer of Much Wealth.

Waldemar Lindgren, in his "Notes on the Dahlonega Mines," published as a portion of Bulletin 293, states that the total production of gold and silver in Georgia, from the discovery of gold near Dahlonega in 1828 to 1900, was between sixteen and seven-

teen million dollars, and of this amount the largest portion was produced by the mines of Lumpkin County, in which Dahlonega is situated. The total production of gold in the Appalachian States from 1899 to 1900 is considered to be \$47,000,000. For the last few years the total annual production has been about \$300,000, while the production of Georgia has varied from \$60,000 to \$130,000, the former figure being recorded in 1903. The value of gold and silver mined in Georgia in 1910 was about \$26,000.

It is an interesting historical fact that the earlier stamp mills of the Rockies and the Sierra Nevada were modeled after the successful mills first set up and perfected in the Southern States. The best gold miners of the country, at that time, were also those of the Southern States, and the success in mining and milling gold in the Far West in these earlier days is largely to be credited to these pioneers from the South.

A copy of Bulletin 293 may be obtained on application to the Director of the Geological Survey, Washington, D. C.

#### GOOD MILLING.

The Austin Manhattan company made an ore shipment to the smelter this week consisting of 200 sacks of concentrates from the mill and 500 sacks of high grade from the Jack Pot mine.

In addition to the above, a ton and a half of concentrates from the Larson plant was included, which will run around \$375 per ton. The Larson plant was constructed to handle the tailings. It is run by a 4 h. p. gasoline engine which operates a jig and a reciprocal action table. The little plant handles from 6 to 8 tons per day.

The plant operated by H. H. Smith has been increased in capacity and is an object lesson in methods of saving values from the slimes and mill dust.—Austin, Nev., Reveille.

#### STRIKE SHOWS 28 OZS. OF GOLD.

James Hibbs, one of the best known prospectors of this region, is up from Railroad Springs and brings news of a rumored strike by the Yunker brothers in Parker gulch, between Railroad and Cedar Springs. The property is located about 1½ miles west of Railroad Springs.

In a tunnel that has been driven 25 feet, a large body of ore that is said to run from 20 to 28 ounces of gold per ton has been opened. Two small shipments have been made, one to Salt Lake City and another to Los Angeles, and development will be pushed as rapidly as possible. A large iron-capped dyke runs through the country, and it is in connection with this that the ore is found.—Goldfield Tribune.

John B. Hobson, of Victoria, B. C., took a trip to California early in April. He intends, shortly after his return to British Columbia, to proceed to Quesnel Forks to commence the season's hydraulicking on his placer gold mine on Spanish Creek, Quesnel mining division.



## MINING IN ARGENTINA.

(Contributed by Juan Campbell, Marayes, San Juan, Argentina, S. A.)

This country has big possibilities for American prospectors. The Cordilleras de los Andes is the name applied to the southern portion of the earth's backbone which is called in Mexico the Sierra Madres and in California the Sierra Nevadas. This giant range spreads its branches over that portion of Argentina extending from the Straits of Magellan on the south to the Bolivian Plateau on the North, a distance of three thousand miles. All climates are found, but from the middle provinces northward the region is arid and the climate is dry. The population has turned to irrigation and fruits, vines, corn and alfalfa give splendid crops. It reminds one very much of Arizona but in the southern part of Argentina, in Patagonia, the climate is more like that of northern Colorado. Mining has not been developed to any great extent so far, although gold, copper, silver and petroleum are seen outcropping in a number of places. Mining legislation is very liberal and protects the man of small resources. Assessment work done yearly is the single condition to hold indefinitely a claim. No taxes of any kind on mines are levied by the government.

The native people are not inclined to mining. Their industries are cattle raising and agriculture. Argen-

tina is the best customer of the United States for agricultural machinery and is its strongest competitor in the world's market in live stock and corn.

A drawback for this country has been its lack of coal but recent discoveries of petroleum in Chubut on the seashore will change this condition of dependence of this big country for its fuel.

Inland, at the foot of the Andes, can be found many natural springs of petroleum and in the northern province of Jujuy, a lake of pitch is known which is called Laguna de la Brea.

Sound mining propositions from this country are easily placed in London and Englishmen are strong investors in railroad, banking, shipping and loans in this country; but Londoners like to get developed mines or at least sound promising mining prospects. There is certainly a good field here for experienced prospectors, men that know how to develop a mine. All he needs is a small start financially, ability to use his money with judgment, and he will also need a working knowledge of Spanish.

A man may have bad luck anywhere, of course, but I think the chances for good luck are greater in a new field.

## A NEW MINE FROM AN OLD ONE.

For some time past very little has been said or heard about the old Pine Grove section of this district, about 25 miles south of Yerington. However, for the past three years or so, Messrs. Smith and Del Rey, who secured the control of the old Wilson mine, have been extending the big crosscut tunnel into the hill under the old workings of the property, where over \$5,000,000 in bullion was taken out in early days.

The tunnel is now in about 4,200 ft. and is getting close to the mineralized zone. The tunnel will tap the ledge or body of ore at a depth of about 800 feet from the surface on a perpendicular line or considerably deeper on the dip of the ledge. This ledge, or body, of ore is about 300 feet in width and its trend is in an easterly and westerly direction. The tunnel is running southerly to crosscut the ledge. The hanging wall is a diorite and the foot wall a porphyry. The old workings of the mine extend only to a depth of about 300 feet below the surface, so it will be seen that the tunnel will tap this ledge some 500 feet lower than any of the old workings. Some water is being encountered in the tunnel and the ground above will all be drained so that it will be inexpensive to operate.

A couple of thorough samplings have been given the mine down to the depth of the old workings, and with the richest streaks and veins in the big dyke worked out, the matrix of the ledge shows an aver-

age assay value of \$6.50 cents per ton. The present owners of the property are arranging to erect a small mill, probably 10 stamps, at the old town of Pine Grove, and demonstrate what can be done with this \$6.50 ore. The grading for this mill is now under way. It is the intention of the company, however, if the demonstrations prove satisfactory, to raise from the big tunnel to the lower workings of the mine, cave the whole ledge for its entire width and shoot it through the tunnel to a big plant to be erected at, or near, the mouth of the tunnel.

In the tunnel small veins of fair-grade gold ore have been encountered and at one point a vein of copper of considerable width and carrying 3 to 4 per cent in the red metal was cut.

There is no reason to believe that a property which has produced \$5,000,000 in gold down to the 300-foot level will not produce as much more—maybe many times as much more—below that point when the ground is unwatered and the lower grades of ore are systematically treated by the up-to-date processes now in vogue for treating ores. And this is just what those in control of the property are going to do.—Yerington, Nev., Times.

## THE TOM REED

At the Tom Reed the main shaft has reached a depth of 650 feet, where a crosscut has been run to the vein. Owing to the great flow of water encountered when the casing of the vein was broken no attempt has

been made to open the property on the level until a big pump has been installed. A station has been cut in the 550 level, where the water is now under control, and it was expected that the vein would be reached yesterday. The winze from the 350 level has been carried to this depth and it is stated that great ore has been encountered under the old ore shoot. It is from above this level that all the ore is being taken at the present time, the average of which is said to be above \$50 to the ton. The ore body throughout the rich zone runs from five to seven feet, while there is an ore body of lower grade that runs above fifteen feet in width.

It is probable that this ore body will soon be extracted and milled, as the mine can be better protected by removing the ore and filling the mine to hold the walls in place. A drift has been run from the 350 level 1400 feet west, where it connects with the 250 level of a new shaft. A great part of this ground shows good ore and the shaft at this point is now being carried down to connect with other projected levels. To the east from the same level a drift has been carried 300 feet. These drifts are on the Tom Reed and Ben Harrison claims, the main properties of the group.

The mill stands below the head frame of the main shaft and is one of the most complete gold mills in the west. Its crushing machinery is composed of number five Gates crushers immediately below the ore bins, and a Dodge crusher in the mill for secondary work. The crushed ore is taken to the mill on a belt conveyor and dumped into the ore bins, whence it is automatically fed into the batteries. From the moment that the ore comes from the mine its way to the tailings dump is entirely automatic. The mill is fitted with four five-stamp batteries, with 1050 pounds stamps, having a crushing capacity of six tons each. From the batteries the pulp passes through the tube mills to the pachucas, where they are agitated by an air current. These pachucas have a capacity of forty-five tons each, there being four tanks 38x10 feet. A Butters filter is used to filter the mass, and the solution with its gold laden burden is run into the precipitating room, where it is relieved of its gold. The whole process is entirely automatic and the recovery of gold is close to the limit.

The mine and mill is under the superintendence of S. S. Jones, who has been with the property since it passed into the hands of the Tom Reed Gold Mines Company, and it is to his intelligent direction that this property owes its enviable position among the gold producing mines of the country. B. F. Lunceford is assistant superintendent, having charge of the milling and cyaniding department. That the mine is a producer we have to refer to the fact that the last month's run of the mill, partly with ten and twenty stamps, gave a bullion output of \$101,000. During the past year the management of the company has been in the hands of



Charles Grimes, president of the company, who has brought about many betterments that tend to greater efficiency in and about the property. It is expected that before his present term as president of the company expires he will have still further increased the output of the property and added to its milling capacity.—Mohave County Miner.

## THE PINE NUT.

With three shifts of men at work driving the shaft to the 200-foot level, and with a force of men operating the Lane mill and concentrators, the Pine Nut Mining company's property situated eight miles from Gardnerville, Nev., is a busy place these days.

The object of sinking the shaft to the 200 level is not for the purpose of proving the ground, but for the purpose of encountering the sulphide zone where the ore will be easier handled than the surface rock. The surface ore contains numerous metals that so far have prevented successful gold extraction. With the advent of encountering clear ore in the sulphides, by milling together the entire body of ore will be easily worked, according to the opinion of mine experts.

J. F. Treaner, who has had many years' experience as a mill operator, has taken charge of the mill at the Pine Nut mine and is working out a method to save the values contained in the surface ores. It is understood that in Mexico Mr. Treaner took charge of a milling proposition very similar to the Pine Nut and was successful after many failures had been made by others. — Yerington Times.

## THE WORLD'S TIN.

(From Consul Alfred A. Winslow, Valparaiso, Chile.)

According to figures just published here there was a reduction of about 2.5 per cent in the world's production of tin during 1910, with quite a heavy loss for the Straits Settlements and a gain for all the other tin-producing sections, save Australia and Cornwall. The United States consumes more tin than any other country, having used 35 per cent of the consumption for 1908, about 37 per cent for 1909, and approximately 40 per cent for 1910.

There seems to be a steady decline from year to year in the production of tin in Malacca and Straits Settlements, and a large increase in Bolivia, since the production of the latter country in 1902 was only 8,909 tons, against 21,500 tons for 1910. Much is expected for this industry in Bolivia in the near future.

## REINDEER COPPER

Reindeer Copper and Gold Mining and Milling Company announces the winze has been sunk to a depth of 100 feet, and that as soon as it is down 150 feet the company will cross-cut for the vein. Light hoisting machinery is being installed to facilitate the sinking of the winze.

# MINING MATTERS

## Late News From Districts Producing Precious Metals.

GOLDFIELD, Nev., June—Litigation which has been pending for a long time past between the Consolidated Mines company and its constituent companies on the one hand and D. Mackenzie and the Frances-Mohawk company on the other hand will reach a final settlement shortly as a result of a hearing now being conducted before three Nevada judges. An agreement was entered into recently between counsel for the litigants to try the cases before three judges sitting en banc, in lieu of a series of jury trials. The judges who are hearing the evidence in the various cases are Somers of Goldfield, Arr of Reno and Taber of Elko. The greater part of the testimony is of a technical and expert character, the witnesses being chiefly engineers and employees of the litigants, past or present.

The Consolidated mill is maintaining a treatment of about 940 tons daily and shipments of bullion of large value continue to be sent to the United States mint at San Francisco. One of the recent shipments, the result of a single melt in the company's refinery, consisted of nine bars, 900 fine, valued at \$310,000. The bars are brought by automobile, heavily guarded, to the local office of Wells Fargo & Co., and are shipped out under the care of special shotgun messengers. While the company's net earnings for May are estimated at a figure considerably lower than those of the two preceding months, the tonnage treated was the largest in the history of the company and the profits were well above the amount required to maintain dividend payments at the present rate of 50 cents per share.

Recent reports from the mine workings state that important developments have resulted from work on the 600-foot level at a point between the Clermont and Laguna main workings where a large body of ore of excellent grade has been exposed. This is doubtless the downward extension of the orebody developed first by lessees on and near the 400-foot level in the Bulldog Fraction, purchased some time ago by the Consolidated from the Red Top Extension company. This is in a part of the Red Top vein, which has its apex on the Red Top claim of the Consolidated. It is stated that development on the 1200-foot level of the Grizzly Bear workings, the deepest in the district, has been most satisfactory, the quartz body in these drifts being wider and of greater strength than on the 1000-foot level of the Clermont and one drift being in good ore for 200 feet.

The management of the Florence Goldfield has determined lately to cut a station at the 800-level of the main shaft. Sinking has been in progress continuously and the shaft is nearing the 850-foot point, and will be sunk without cessation to the

1000-foot level. Another station will be cut at 900 feet from which the veins and known ore-shoots at a distance from the shaft will be explored. Ore of excellent grade is now being taken from new workings on the 500-foot level, east of the shaft, and later development is in progress on the 650-foot level, known as the ninth level. Drifts are being extended to get under the orebodies which have yielded large quantities of rich ore on upper levels. The best ore sent to the mill is still coming from the Reilly vein, at the northern extremity of the Florence claim. The mill is saving everything above \$5 per ton and making a good record in economy of operation and net extraction.

As promised by President T. G. Lockhart, the Jumbo Extension company has begun active development on its Paloverde claim, adjoining the Clermont and Laguna claims of the Consolidated and the St. Ives and Velvet claims of the Merger Mines company. In this work the Jumbo Extension company is starting to extend the south drift from the 1070-foot, two-compartment shaft of the Annex lease, covering the central part of the Paloverde claim, and will have the advantage of a large amount of development above and of a complete mining plant. The Annex lease has been shipping ore of good grade which is exposed on three levels, the 760, 800 and 850, and a station has been cut on the 600 level, near which point the shaft entered the vein. The Jumbo Extension company is now in excellent shape financially, having recently received the sum of \$195,000 in cash in payment for its one-half share of the ore in the Vinegerone claim, sold to the Consolidated. The directors recently declared a dividend of 10 cents per share and after this dividend is paid the company will have a cash balance of over \$100,000.

Operations on the Yellow Tiger have been temporarily suspended and the manager is in Denver for the purpose, it is said, of purchasing additional machinery and equipment in order to resume shortly on a broader scale of operation and with a compressor and machine drills. A large vein, containing ore of good milling grade, was opened on the 700-foot level of the Yellow Tiger but additional pumping facilities are needed to handle the heavy flow of water. The Sandstorm-Kendall Consolidated is developing from the old Kendall shaft and has exposed seams of pay ore. Lessees on the Sandstorm have shipped some rich ore from near the surface. Teams are hauling ore of good grade from the property of the Goldfield Belmont company to the sampler of the Western Ore Purchasing company. This property is controlled by the Tonopah Belmont people and lessees have shipped a considerable amount of \$100 ore from

above the 150 level while assays taken from a winze below the 150 level ran as high as \$1400 per ton.

#### ALASKAN NEWS.

(Special Correspondence.)

SEATTLE, Wash., June 15, 1911.—The annual exodus of the Sourdoughs to Alaska has begun. Last Sunday the steamship Victoria left for the North with over 700 passengers and a full cargo of freight. She is the first of the big passenger boats to start for Nome and was followed by the big steel freighters Latouche, Seward and Edith, each one of which was heavily laden with the usual supplies.

Notable in the cargoes was the large amount of modern dredging machinery and quartz mill supplies and parts, indicating that the season just opening will witness many improved methods and new conditions in mining for gold in Alaska.

The Nome season opens in June and closes in November, owing to the fact that Bering Sea is not navigable during the winter on account of ice.

All of Southwestern Alaska and Southeastern Alaska are open the year round and boats continually make the round trip. There is no novelty, therefore, in any of the steamship departures except the first sailing for Nome, and certainly the aspect of the docks last Sunday indicated the greatest interest in the country of the North, for fully 5,000 persons were on the waterfront waving farewell to those on board the Victoria, as she sailed silently out of Elliott bay.

Operations in the hills about Valdez will be slow this season or delayed until July 1st. on account of heavy snow. Several of the prospects nearer to that port, which have already been looked over by mining engineers, have been pronounced good properties and they bid fair to become producers in the near future.

The Cliff Mine at Valdez has further developed its new strike and the company is much enthused over the result. The output for the year is expected to be far greater than last year, when the total amount of gold taken out in seven months was over \$200,000.

Considerable interest has been aroused at Cordova, Seward and Valdez, the three big outfitting towns on Prince William Sound, owing to the fact that S. Pearson's Sons, of London, have transferred their entire field staff, of some 15 mining engineers, from Mexico to Alaska. They have gone carefully into the country back of Seward and back of Cordova. They have taken an option on about 25 claims in the Lake McKinley District and have also made a tentative agreement to take over the Alaska Northern Railroad, if the country back of Seward proves satisfactory.

L. A. Levensaler, the new superintendent of the Mother Lode property in the Chitina copper district, has returned to Alaska, accompanied by H. A. Keller, a mining engineer of New York. The Mother Lode Copper Mines Company is located across the mountain from the famous Bonanza

Mine and has recently been bought by New York capitalists, and the same will be developed and worked. Some samples running as high as 78 per cent have been taken from this property.

J. F. B. Erdlets, Jr., mining engineer of New York, is spending the summer in Alaska.

The Geological Survey officials who are working on the various geological maps of Alaska, have returned to that field for the summer campaign.

H. E. Ellis, of the Ellis Imperial Mining Company, Valdez, is installing a small two drill air compressor to facilitate development. The company has considerable \$15 ore.

The American Mining Congress will start chapters at Cordova, Seward, Valdez and Kennecott.

The United States Mining, Smelting & Refining Company have sent their experts into Alaska for the purpose of making the initial exploration of the country in search of profitable mineral occurrences.

With the Pearson Syndicate transferring all of its Mexican and American staff to Alaska, and the United States opening an office in Seattle, competition is keener this year, for the several older companies operating in the territory, than ever before noted, but as the old adage "Competition is the life of trade", holds good even in the far North, the Alaskans generally are welcoming the invasion of the big syndicates.

#### CLAIM JUMPING.

Intensely exciting scenes are being enacted in Cajon Pass where local men are guarding rich lime deposits with rifles, against the plotting of San Francisco capitalists, led by a man named Dolbear. The local men have so far held the whip handle.

Artis Kennedy, J. W. Curtis (not the attorney) and a widow residing at Long Beach, own the lime deposits, share and share alike. Some time ago they were approached by the San Francisco interests with an offer of purchase. Dolbear wanted to take an option on the property, and this privilege was granted him, the local people putting in escrow a deed to the property with the San Bernardino National bank.

Kennedy imagined he was dealing with men who were after a square deal and who would be willing to treat him squarely in the negotiations, but he was undeceived in time to prevent the Dolbear interests springing a coup on him. Seated in the lobby of the Stewart hotel Dolbear and Kennedy were discussing the option, when Dolbear is alleged to have suddenly surprised Kennedy with the statement that Dolbear did not have to buy the claims, but that they would be jumped.

Kennedy was not slow in acting. He investigated, only to discover that a party of men in Dolbear's employ, had left the Lyman livery stable for a drive to the lime claims. Kennedy and two companions were soon in quick pursuit. They did not seek to meet the would-be claim-jumpers, but to pass them, and after a hard

race this was successfully done, Kennedy and his men reaching the claims several hours before the Dolbear party arrived.

The first inkling the Dolbear men received of the presence of Kennedy on the property was when Kennedy called out to the men to halt, as they were slowly picking their way through the brush, crossing to a point on the claims where they expected to erect a location monument. The party hailed refused to comply at first, whereat Kennedy, with leveled rifle, warned the intruders that further advance meant death.

"We're here as employees to drive a tunnel on this property, and by heavens we're going to complete our job," was the response of the ring-leader. The challenge brought the unflinching reply from Kennedy that if the Dolbear men advanced further he would get several of them before they could get him and his two companions, and again he raised his rifle and took aim.

The attitude of the man behind the gun was too much for the claim jumpers, who withdrew, and went into camp some distance down the canyon. Word was sent in to the Dolbear interests of the turn of affairs, and Dolbear wired Kennedy asking him to come to town and settle their differences amicably.

Kennedy was too shrewd to be caught in such fashion. He wired his attorneys, Curtis & McNabb, asking instructions and was told to maintain possession of the property at all hazards. He therefore left his trusted companions on the ground, with instructions to shoot to kill, should the Dolbear men attempt an advance, and he reached town yesterday to consult his lawyers.

It is said that the men who wanted to secure the property offered to pay Kennedy generously, if he would withdraw in their favor, without protecting the interests of his mining associates, but he refused, sending back word that all three would have to be dealt with fairly or there was nothing doing regarding the sale of the property.

It is also said that Dolbear informed Kennedy that he had better make no resistance as the Standard Oil company was really the big interest behind the effort to secure the property, and the Standard would crush him or any one else. Despite the existence of a temporary armistice bloodshed is feared, as Kennedy is determined to prevent any underhand work on the part of his rivals. —S. B. Sun.

#### A PROSPECTOR IN THE SNOW.

Blackened from head to foot, with feet frozen and swollen out of all semblance to human members, and with his body a mass of cuts and bruises, shoeless, hatless and coatless, J. E. Connor, a San Francisco machinist, staggered into the offices of the Sequoia Forest, in Kern County, one night last week and gave himself up to J. L. Burton, the superintendent, with the admission that he was the man who set the fire which

## NEWS NUGGETS

### Concentrates Gathered From Various Properties.

destroyed the timber of Little Kern early in the week.

After he had been fed and clothed and his hurts cared for, he told a story which almost passes belief and yet which has since been verified in its main details.

Connor left his wife and family in San Francisco late last week to go to Big Kern where he has some gold mining claims, upon which he expected to work this summer. He was ignorant of the quantity of snow and the tardy season this year, or he would never have attempted the trip. He packed afoot with food and a roll of bedding. When he reached Little Kern and found the banks full, he removed his shoes and hat and wrapping them in his coat, placed the bundle, with his grub pack on his head and started to wade the river.

The next Connor can remember is coming to, several hours later, lying on a big rock at the foot of Little Kern Falls. As he was then fifteen miles from camp and as he remembered a grub cache which had been left the summer before on Big Kern, he determined to push on to his mine, it being only six miles away, half the distance of the return trip.

When he reached the cache he found it open and empty. Then, surrounded on every side by huge snow drifts, without matches and with no shoes, hat nor coat, he was face to face with a tramp of twenty-two miles, or death from freezing and starvation. He walked back to the Little Kern, which he managed to swim, with the aid of logs and poles.

At the very verge of exhaustion and freezing, he discovered he remains of a campfire. With painful labor he finally fanned the embers into flame and built a huge fire on an old stump. He lay in its warmth all night. The next morning he was too stiff and weak to put the blaze out and he went away and left it. He admits that this is the fire which started the forest blaze.

His troubles were not over, for on his return he fell headlong into the Tule River Canyon, a drop of nearly 900 feet, skinned his body from head to foot, cut an ugly gash in the back of his head, and was bruised and bumped in a score of places. Finally, after three days of walking barefooted in the snow, he arrived at Hot Springs, having tasted not a mouthful of food in all that time.

Burton says that an investigation of the crossing of the Little Kern proves that his story is true as regards his experiences there, as is shown by the tracks. The supervisor also says that in all probability Connor will be required to tell his story under oath to be used as the basis of an official report of the fire. There is very little probability that he will be punished.—Randsburg Miner.

Options have been secured on approximately 3,000 acres of land near Columbia, Cal., and prospecting work is to be undertaken to determine the gold content of the gravel deposits below water level. This includes Shaw's Flat and Springfield, only four miles from Sonora, and known in their day as the richest gold diggings in the world.

North of Kingman, Ariz., in what is called the Big Bend of the Colorado, the washes that lie 2000 ft. above the river bed will have water running in them when the June floods are on in the river below. Everyone in that country knows about this phenomenon but the reason for it has not been explained.

The Big Bend country, comprising that immense section through which the Columbia takes its course north and east of Revelstoke, B. C., is experiencing a revival of interest in mining, through the discovery by trappers of rich placer deposits which were evidently overlooked by the placer miners of early days. It is probable that extensive work will be carried on throughout this district during the coming summer.

The regular quarterly dividends of the Utah Copper and the Nevada Consolidated companies were declared last week by the directors, the former calling for 75 cents a share, and the Nevada 37½ cents a share. In the case of the Utah Copper, this dividend amounts to \$1,171,987, bringing the total dividends to date to \$9,136,565. The Nevada Consolidated will pay \$749,380, bringing its total to \$5,081,371. This brings the dividends of the two original porphyry propositions up to the handsome sum of \$14,217,936, and both these dividends are payable on June 30.

The Tuscarora-Nevada Mines company, of Tuscarora, Nevada, William Farish, Jr., manager, will eventually add a large milling plant to its equipment.

According to advices from Tucson, at the next session of the Arizona legislature, it is expected that an endeavor will be made to secure from that body an appropriation for the erection of a new building at the University of Arizona for the benefit of the department of mining and metallurgy to keep pace with the growth and needs of those departments.

The Morning Democrat of Baker City, Oregon, says the Seven Devils never looked more prosperous.

In 1873 Mackay and Fair of Virginia City and Flood and O'Brien of San Francisco purchased two claims subsequently known as the Consolidated Virginia. The price paid for the claims is said to have been \$80,000. About a year later the yield from these two claims amounted to \$1,500,000 per month and the company paid a monthly dividend of \$10 per share.

The Shively mine, in the Bishop, Cal., district, discovered last October which has since its discovery shipped \$35,000 in lead-silver ore as a grass-root proposition, and which started the present mining revival in that district, was leased and bonded last week to Frank Keith, formerly general manager of the great Tonopah

mine, and Mr. Kerr, also of Tonopah, for the sum of \$50,000.

The Hymalulu, near Mystic, S. D., claims to turn out a higher grade of gold than any other mine in the Black Hills country.

Tools, when not in use, should be protected from rust by a thin coating of oil. Any good non-drying oil will do for this purpose, but a mineral oil is better, as it will not become rancid. Kerosene oil should be avoided, as sulphuric acid is used in purifying the oil and will cause the tool to rust faster than when no oil is used.

A proud mother of Los Angeles is visiting four stalwart sons in Nevada, all miners.

The White Elephant and Little Eye mine, both in the Castle Dome district, Yuma county, Arizona, have been bonded to New York parties for \$150,000.

The San Diego News now has a well edited department of Mining and Oil, under the direction of Heman C. Cooke.

The War Eagle mill, at Manhattan, Nevada, was crushing ore last week that showed better than \$350 a ton on the clean-up.

Representatives of the Pearson interests have been buying good quartz mines in the vicinity of Cordova, Alaska.

The old Comstock, of Virginia City, Nevada, is producing about \$35,000 worth of ore a week.

Shipments of ore are being made regularly from Patagonia, Arizona, to the smelters at Douglas and El Paso.

At Fairbanks, Alaska, a gold strike is reported on Indian Creek, also on Long Creek. A stampede has started.

Copper at 8 cents or less is the new record in production made by the Old Dominion company of Globe. Many economies have been introduced of late, with a result that expenses have been greatly reduced, until the company ranks with the cheapest producers known.

The Pacific Tank and Pipe Company, of Los Angeles, has published an illustrated booklet on the use of wooden pipe and its many advantages. The booklet contains valuable information for Engineers, Municipalities and users of Pipe for Irrigation and Water Works, and will be mailed free to anyone desiring the same.

An eastern mining man says that there is plenty of money for new mines and that there are a dozen or fifteen rich mining syndicates which are prepared to examine and purchase properties already in course of development.

Aluminum is steadily winning its way into favor for use for electrical purposes, and in different branches of the engineering and metal-working industries of the United Kingdom. As evidence of this, it may be mentioned that the British Aluminum company, Ltd., has lately entered into

a contract for the supply of 90 miles of aluminum transmission lines, to be installed in the Klondyke.

Placer gold has been found along the Frisco, in Arizona, and its tributaries for years. It has made its appearance as far down the Gila as the mouth of Bonita Creek. Not long ago a pocket of placer gold, consisting of small nuggets, was discovered by the Keppler brothers on the banks of the river about four miles above Clifton. Mexican placer miners for years have made a living along the Frisco and its tributary canyons.

The Anaconda Copper Mining company expects to have the second mine in the Butte district hoisting ore by compressed air instead of steam in about one month. This mine will be the Diamond, and the engine is now being fitted with the new cylinder for the purpose. It was closed down a few days ago, after it had been fully demonstrated that hoisting by air at the Mountain View mine was a complete success.

Copper shareholders who have occasion to use the telephone will be gratified to learn that the American Telephone company, through its subsidiary enterprise last year, installed 1,162,186 miles of new telephone service, all of which consumed approximately 95,000,000 pounds of copper, and that the total mileage of wire which this mammoth organization uses amounts to 11,642,212 miles, which must have required close to 1,000,000,000 pounds of copper to meet the original requirements of such an extensive installation.

The announcement is made that during the month of April the Consolidated Mining and Smelting company's smelter at Trail, B. C., smelted 32,150 tons of ore. The value of the output for April was \$374,000, of which 45 per cent of the value was in gold. In 10 months of the current year the smelter has produced about \$3,707,000 gross value of metals.

At a meeting of the Board of Directors of the Montana-Tonopah Mining Co., held recently in Philadelphia, a dividend of 6 cents per share was declared, payable June 30th to stockholders of record on June 15th. This calls for the distribution of about \$60,000, making the total amount of dividends declared by that company \$270,000.

The lessees working in the Ocean Wave on Battle Mountain, Cripple Creek, Colo., operating through an 85-foot shaft, are shipping three cars a week of two-ounce ore.

Another quartz mill will be in operation in Humboldt county, Nev., in a few days. This new mill is located at Unionville and the stamps will commence pounding out from quartz about the last of this month.

Grant's Pass, Ore.—Another wonder strike was made a few days ago in the district adjacent to the Baby Foot section, and has given fresh impetus to the excitement caused by the several rich discoveries in that part of Oregon. The late find was made on the Black Bear claim, owned by Henry Brazile and John Shade, both old-time miners and prospectors, and is located between Selma and the Hig-

ging mine. The late strike promises to be fully as rich as that made a few weeks since on the Golden Dream. An option was immediately taken upon the property by Dr. J. Y. Reddy, who was in the district at the time.

#### DRILLING FOR ORE.

Oscar H. Reinholt, newly-appointed mining engineer in the United States bureau of mines, has just returned from a field trip to the gold belt of Eastern San Diego county. There he examined in particular the Universal mine, formerly known as the Nobles mine, which for 23 years has been worked in a desultory way. The property is now to be developed in a systematic manner under the management of Thomas A. Wetzel, trained at the Colorado School of Mines and experienced in America from Alaska to Argentina.

In an article on that section of this state for the Mining World of Chicago Mr. Reinholt calls attention to the fact that Southern California was, in the eighteenth century, the scene of the first mining in the Golden State. Nevertheless, that part of the state which lies south of Tehachapi is far behind the rest in the development of its vast mineral wealth.

Mr. Reinholt believes if this and other neglected sections of California should be accorded proper consideration through more effective publicity and systematic pre-explorations, the Golden State would soon regain its former prestige as a mineral producer. Although the annual rate of production is now nearly the same as the maximum of 50 years ago, yet the percentage which it makes of the national output has fallen from more than 40 to less than 5.

#### Systematic Exploration

By "systematic explorations," Mr. Reinholt refers to scientific methods practically applied. Careful surface examinations should be made first by a competent geologist. Then, if conditions warrant, test borings, by means of core drills, should follow wherever possible and practicable.

Mr. Reinholt has promoted this kind of exploration in California. It is a most effective safeguard against "wildcatting" and against the common folly of sinking shafts and erecting mining and reduction plants before there is any assurance of ore. During 1906, Mr. Reinholt, as the contracting engineer, bored 25 test-holes with diamond drills on what is now the property of the Riverside Portland Cement company, 60 miles from Los Angeles. In consequence of his geological investigations there that company was organized. It is making cement of a remarkably uniform grade and is employing at present about 250 men.

Later on, and in the same way, Mr. Reinholt explored quarries near San Francisco and copper lands in Northern California, including the eastern copper belt of Shasta county. About three years ago he re-explored the Iron Mountain mine of the Mountain Copper company, Ltd., of London.

At that mine a total of 10 lineal

miles of core drilling had been done previously, with the result that California for a time became the fourth state in copper production.

In this connection it may be stated that the government of Canada, a number of years ago, purchased a diamond drill to help develop her latent resources. That government now owns several such outfits which are loaned, under certain restrictions and state supervision, to deserving private operators. As a result, in part, the products of the Canadian mineral industry have nearly trebled in value.

The United States geological survey is this year about to inaugurate diamond core drilling in the West in the search for potash salts so as to give our country relief from the extortions of the German potash syndicate. It would indeed prove a wise plan, it is said, for California to follow the federal example, and better still to emulate Canada by adopting this method of state aid to small but honest and sincere operators, eventually placing this great commonwealth on its former splendid footing in the realm of mining.—L. A. Express.

#### GOLD AND OPALS.

A. Q. Murrieta, B. A. Wilker, and E. L. Corley, owners of valuable mining ground located near the El Tigre mine, arrived in Douglas yesterday. They brought with them samples of ore which run high in gold values, it is stated.

Mr. Murrieta is an old resident of this district and was the original locator of the property. He afterwards interested Mr. Wilkes and Dr. Corley in the property, the two last named being residents of St. Louis.

Development work will be pushed on this property in the near future and it is expected to prove to be a very valuable mine. Mr. Murrieta brought with him to Douglas a quantity of Mexican opals, which he secured further in the interior. Some of the stones are very beautiful and of much value. Mr. Murrieta did not reveal the location of the country where these stones were secured. Messrs. Wilkes and Corley left for St. Louis, where they are prominent in business and professional circles, last evening.—Douglas, Arizona, Dispatch.

#### U. S. NAVY FOR SALE.

Charles Bolman, interested in the U. S. Navy mine, in Coper Basin, returned to his camp yesterday and states that George Miesse, who holds the option for its purchase, is in the east, and will take the property over as soon as he returns, which is expected in a few days. Mr. Miesse recently examined the old workings, and is pleased at the showing. He is making the selection of special machinery to treat the ores which carry large values in zinc and silver and other minerals of nominal value. Dave Biles, of this city is also interested in the property. The intention is to establish a permanent camp and to operate on a large scale, treating the output at the works.—Prescott, Arizona, Journal-Miner.

## PETROLEUM NEWS

### Recent Happenings Among Oil Men. Notes From the Wells.

George D. Roberts returned this morning from San Francisco, where he had been for the past week on business connected with an injunction against the Stockholders Oil company, which has been pending for the past year in Judge Van Nostrum's court. The decision of the San Francisco jurist was to dismiss the injunction of the Associated Oil company, the inter-pleader in the case of the Standard Oil company.

The case arose over the payment for oil by the Associated to the Stockholders, and was started at the instance of the Standard Oil company, the latter being the owner in fee of the land leased by the Stockholders on a one-fifth royalty. The Standard has been in the courts against the Stockholders company for the past three years, and Roberts of the Stockholders has won every point in each case.

The Stockholders has a contract to deliver all of the production with the exception of the royalty oil, to the Associated, and the Standard, about the middle of last year, notified the Associated that it would be held responsible for any payments for such oil made to the Stockholders. The Associated, therefore, enjoined the Stockholders from bringing suit and entered the case as an inter-pleader, enjoining the Stockholders or any person to whom claims might be assigned, from bringing suit. A question of jurisdiction was brought up, and the hearing was finally held before Judge Van Nostrum last December. The dismissal of the injunction proceedings last Friday is the result of this hearing six months ago.

During the time since the proceedings were started last August no payments have been made to the Stockholders for oil delivered, and it was a hard line for the company to make both ends meet in producing the oil to make good on the contract.

The ten acres held by lease by the Stockholders was acquired from the Hanford Oil company, which owned section 28, 19-15. The lease was for ten years with the privilege of a ten-year renewal. The Hanford company afterward sold to the Twenty-eight Oil company, the latter to the Independence Oil company and that company later to the Standard. All of these companies sold their rights to the Standard, with the exception of the Stockholders, and this company drilled six wells under the royalty lease. In 1909 the Standard claimed that the Stockholders had not made application for renewal of the lease, but it was shown that such application had been made in 1902, two years after the first lease had been made, to all of the three companies having any equities in the land. The Standard later tried to throw the Stockholders into the hands of a receiver, and failing, brought suit to enjoin the Stockholders from operating the land. This being futile a suit

to quiet title was brought and won by the Stockholders.

This suit to quiet title is now on appeal by the Standard, a decision having been rendered against the Standard in the Fresno courts. The appeal is now on the calendar of the Supreme Court.

The Stockholders property consists of ten acres in the heart of section 28, 19-15, and they have six producing wells. The production amounts to about 12,000 barrels per month.—Coalinga Oil Record.

### THE ORIGIN OF HYDROCARBONS. MAGNETIC DISTURBANCES GREAT IN OIL REGIONS.

No problem in geology appears more complex than that of the origin of the numerous natural hydrocarbons—*asphalt, ozokerite, petroleum, and natural gas*. In fact, geologists are at variance in their theories as to the manner in which these are produced. A great number of the more important hydrocarbons found in petroleum can be produced artificially from organic substances, such as coal, wood, and fish oil, while identical or closely allied hydrocarbons result from the interaction of inorganic substances, such as cast iron and chlorhydric acid. In many places petroleum is closely associated with fossiliferous strata; but hydrocarbons exist also in meteorites and in volcanic gases and they are even obtainable from some igneous rocks.

In Bulletin 401 of the United States Geological Survey, entitled "Relations between Local Magnetic Disturbances and the Genesis of Petroleum," by George F. Becker, the condition of knowledge with reference to the origin of petroleum and other bituminous substances is revived. Some oils, says Mr. Becker, are undoubtedly organic and some are beyond question inorganic. They may have been derived from carbonaceous matter of vegetable or animal origin, and they may have been derived from carbides of iron or other metals. It is also barely possible that the hydrocarbons exist as such in the mass of the earth. **Relation of Magnetic Attraction and Oil.**

While studying the subject, Mr. Becker was led to inquire whether any relation could be detected between the behaviour of the compass needle and the distribution of hydrocarbons. Not much could be expected from a comparison of these phenomena, for magnetite exerts an attraction on the needle whether this ore occurs in solid masses or is disseminated in massive rocks; moreover, many volcanic rocks possess polarity. In glancing over a map of the magnetic declination in the United States Mr. Becker found that the irregularities of the curves of equal declination of the compass were strongly marked in the principal oil regions. The most marked agreement is found through the great Appalachian oil

field, which is the area of greatest variation in declination. In California, also, strong declinations accompany the chain of hydrocarbon deposits.

These observations are to some extent also supported by conditions in the Caucasus, where great magnetic disturbances exist. While the theory of the inorganic origin of the hydrocarbons as exploited by various scientists is not proved by this study, yet the contention that great oil deposits are generated from iron carbides is strongly borne out by a study of the map of magnetic disturbances in the United States. The map shows that petroleum is intimately associated with magnetic disturbances similar to those arising from the neighborhood of substances possessing sensible magnetic properties, such as iron, nickel, cobalt, and magnetite.

A copy of this report may be obtained on application to the Director of the Geological Survey at Washington.

### OIL COMING TO FORE.

Oil-burning locomotives are not new, and they have always been successful. There has, of course, been that peculiar prejudice in favor of coal as a fuel which arises from the disinclination of the older mechanical superintendents to try anything new; but the use of oil has outlived the men who did not wish to try it.

It has demonstrated in actual service that it is safer than coal, as far as fire risks are concerned. An oil-burning locomotive scatters no sparks or hot cinders to set fire to adjacent property. It destroys no timber lands, no fields or ripe grain, no farmers' barns and hay stacks. The time has already come when owners of timber lands, including the Government of the United States and the State of New York, are insisting on the exclusion of the spark-throwing locomotive that burns coal from the remaining stretches of pine forests still to be found in this country.

Only last year great conflagrations swept the forest reserves in California, Montana, Washington, Oregon, Minnesota, the Adirondack region of New York and other valuable timber lands; and in almost every case the fire started near a railroad track and was attributed to sparks from locomotives. The calendars of the courts in the West and in Canada are filled with suits for damages by farmers against railroads arising out of fires traced to sparks from locomotives. It is claimed that oil, even at the highest prices of former years, would be cheaper than coal in all agricultural and forest sections when the fire damage is taken into account.

The largest consumers of coal in the Rocky Mountains and Pacific Coast States are the smelters. The Ray Consolidated Company's smelter at Ray, Arizona, will use sixty thousand barrels a month. More important still is the decision of the Nevada Consolidated Mining Company to use California oil in place of coal at its Steptoe plant. This smelter is perhaps the largest copper plant in the world.

In the annual report of the Nevada



Consolidated Company, just published, it is said that in November, 1910, an investigation was begun with a view of determining the advisability of using California oil as a fuel in place of coal at the Steptoe plant. The result of this investigation warranted the Board of Directors in authorizing the substitution of oil for coal. The work of providing storage oil burners was undertaken during the first portion of this quarter, and on March 9 the necessary changes had been completed on Reverberatory No. 4. The results thus far have justified all expectations, and a material saving is already being effected by the use of oil. All furnaces will be operating with oil about July 1.

This brings to the front one of the chief advantages oil possesses over most bituminous and lignite coals. Fuel oil does not deteriorate when stored, but such coals as are used in the West slack badly and much of their value is thereby lost. It is also less expensive to handle oil than coal. This applies to railroads as well as smelters.—Oil and Paint Reporter.

#### OIL NOTES.

H. H. McPhaul left Yuma, Arizona, last week for the Verde valley, in Yavapai county, where he will locate a number of oil claims for Yuma citizens.

Mina, Nevada, insists that a new oil field has been found twenty-five miles to the east of that town.

San Diego County, California, is opening up several promising oil fields and drilling is under way at Otay, and Encinitas.

The Sterling Development Company is ready to drill for oil on its holding in southeastern Pinal County, Arizona.

Col. W. F. Cody, more generally known as Buffalo Bill, is an active member of the Montezuma Oil Company which was preparing to drill at Agua Caliente, Arizona, but is reported to have sold out.

The navy department will shortly appoint a board of naval officers to inspect various localities on the Pacific coast for the purpose of determining sites for naval fuel oil depots, in view of the adoption of oil as a fuel for the navy, not only in small craft but in the largest battleships.

It is probable that steps will be shortly taken for the construction of a highway from the Midway oil fields to Santa Barbara, the route to closely follow the pipe line of the Guaranty Oil company.

Developing plans for invading the Pacific coast and fighting the Standard Oil company at home, the Shell-Royal Dutch companies have purchased a water front tract several acres in extent at Richmond Beach, just north of Seattle, and plan to establish an oil distributing station there for the northwest, according to representatives of these companies.

It is reported that the Waters Pierce Oil Company is going to enlarge its Tampico paraffin plant to four or five times its present capacity. This raises the natural question why they should do this in a country which produces low-gravity oil with an asphalt base.

#### AN ARIZONA OIL COMPANY

When the stock of a new oil company is over subscribed before any work is done or even machinery obtained, that company would seem to be an anomaly. Yet such is the case in Tucson. The company is the Catalina Development company, composed of Tucson people entirely, and with the number of shares limited that any one member may obtain. All the way through this company has seemed to be anomalous. Only enough stock would be marketed to meet a certain amount of development work. No shareholder could have more than two shares—\$200 was the limit for one man to invest. The prospective buyers were not told that they had a sure thing and would be certain to make a killing. On the contrary they were told that it was a gamble. They might find oil and they might not. They were to look upon the affair as a matter of civic pride. If an oil field were found it would be the making of Tucson, and add largely to its business and importance. All citizens and property owners would share in the profits, but naturally the contributors of the not over \$200 each would be the greatest beneficiaries.

Frank Craycroft left for the coast last night to obtain the well drilling machinery necessary for the sinking of wells by the Catalina company, of which he is one of the directors. This will be shipped on at once, and on its arrival development work will be started immediately. Then it will be determined whether this field is really oil bearing, as indications make it appear to be.

Last week this Catalina company refused to sell more stock. The desired amount was subscribed, and the peculiar feature is that not an officer, director or stockholder will admit that they feel certain of drilling a spouter, or that they are anything more than doubtful about results.—Tucson Star.

The Pyramid Oil Company's well on the 1600 acre tract at the 3050 foot point went into a gas stratum which contained one of the strongest flows of gas that has yet been found in the Buena Vista Hills section of the Midway field. In spite of the fact that the company has taken every precaution to prevent a blowout on this well, the flow of gas came so strong that its roar could be heard for two or three miles. The company has installed on this well a blowout-preventer which will hold back any flow of gas or oil that may possibly be encountered.

Plans have been perfected for the sinking of a well for oil on the Rancho Niquel, west of El Toro, Orange county, and should a strike be made, a new oil field will be opened. An oil lease on the ranch, which was secured by E. G. Dehm and associates, San Diego, has been transferred to the South Fullerton Oil Company, organized recently with a capital stock of \$1,500,000.

#### A SMALL MINE PAYS.

W. D. Campbell, one of the pioneer ranchers and mining men of the coun-

ty, will produce some more gold this year at his small mill twenty-five miles north of Ely.

During this spring Mr. Campbell has been working the Alvin mine from which he has taken a considerable amount of ore that he will soon put through the 5-stamp prospecting mill at the ranch. Two years ago the property was worked and quite a lot of ore was extracted and milled. Though the capacity of the mill is very small when working on such hard ore as is found in the Alvin, Mr. Campbell states he cleaned up as much as \$125 in amalgam from the plates some times from a single day's run of less than five tons. The production during the short period the mine and mill were worked at that time was about \$2,300.

The rich ore was discovered by a miner named Bourne, the same man who is credited with being the discoverer of Jarbidge and owner in the principal property of that district.—Ely Nevada Expositor.

#### SALE OF GOLD ROAD.

From an authentic source we learn this week that the control of the famous Gold Road Mining & Exploration company has gone over to the United States Mining, Smelting and Refining company, and that the new corporation officials will take charge within the next ten days.

The price for which the company passes its title is approximately \$1,700,000. While there are many outstanding shares of the corporation that will not be affected by the transfer it is understood that all offerings of stock will be taken by the new company.

The sale of the Gold Road mines to the United States people means big things to the gold belt of this country, as it gives to the district the unqualified approval of engineers of world renowned fame, and this after months of observation and close investigation. The general impression is that betterments to the amount of more than a million dollars will be put in at the mines and the mill increased to triple its present capacity.

For months this sale has been hanging fire, on account, it is alleged, of the refusal of the European shareholders to let go for the price offered them. Some time ago William Baily, head of the American stockholders, went to Europe with a buying order from the company and it is understood that through his efforts the controlling shares were bought.

The United States company is one of the largest mining and smelting corporations in the world and its coming into this field on so large a basis means much for the mining future of the county.—Mohave County Miner.

M. V. Andre, Jr., has just graduated at the Colorado School of Mines and started at once for his home in Guanajuato, Mexico. The Gazette of that city welcomes him in a burst of enthusiasm because he is a fine ball player. Thus is plainly shown the advantages of an education.



## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

Paul Schultz has made a good strike in Wild Rose Canyon, north of Telescope Peak, on the west side of Death Valley.

L. C. Wardill, of the Big Grizzly, was in Merced, Cal., last week.

James Willard is mining at Gold Creek, Nevada, and making a stake. Gold Creek is near Jarbridge, one of the new Nevada gold camps.

Ed Moulton has found vanadium on his claim north of Georgetown, N. M.

Corbett and Wyman have struck a fine body of zinc carbonate in their Helen group of mines in the Victoria range, Grant county, New Mexico.

S. E. Briggs, of Idaho, owner of the McAlpine mine at Coulterville, Cal., recently visited the property.

A. E. Hurley is general manager of the Penn-Arizona mines at Walker, Arizona.

E. V. Dodge is superintendent of the Cabrillo Mining Company, Noria State of Sonora, Mexico.

A. Schroeder and W. A. Smith, miners from Colorado, are prospecting in Mariposa county, Cal.

Alfred Paul, of Douglas, Arizona, recently examined mining property in the Burro mountains, north of Lordsburg, N. M.

What's in a name? The Bluejay mine is located at Flyaway, California, and is under bond to P. G. Gow. Wm. Taylor is manager of the mine.

Albert Austin and son Lawrence, who are operating the Sunshing pocket mine on Whitlick, six miles northwest of Mariposa, California, have, during the last week, taken out over \$2000.

M. Gillespie, manager of the Darby Mining and Reduction company, at Lovelock, Nevada, was in San Francisco recently.

Frank T. Maguire, R. Mein, Wm. Mein and J. R. Nichols, who are interested in the old Fremont grant, in Mariposa County, Cal., have examined the property recently.

John Higgenbotham has returned from San Francisco to Carbo, Mexico, near which place he has extensive mining interests.

Donald Ferguson, of Goldfield, general manager of the Ohio mine, on Rebel creek, in Humboldt county, Nevada, says they have enough \$17 ore blocked out to keep the new 20-stamp mill running for years.

John W. Cowley, W. N. Fisher and H. F. Sanborn, of Boston, spent part of the past week looking over the Amalgamated Nevada Mines properties, at Ely, Nev., in which they are financially interested, and making an inspection of other holdings they have in that district.

Boylan and Hopkins are working on an outcrop not far from Goffs, Cal. The outcrop is about seventy-five ft. wide and can be traced for two or three miles. Ore taken any place within the outcrop horns well, besides there are many rich gold stringers.

They will sink a shaft and expect to strike the main ore body within a few hundred feet. Sid Dennis, of Fenner, is interested with them.

H. L. Johnson has bonded his famous gold mine, the Tightner, at Alleghany, Cal., to J. M. O'Brien, of San Francisco. It is known that Johnson a few months ago refused to give George Wingfield and other Navadans an option on the property at a price of \$2,500,000. Four or five years ago Johnson gave other parties a bond on the property for \$2000, and after examining it they refused to buy. Within a few months, being compelled to work it himself, Johnson has taken out ore valued at \$500,000.

Alex. Smith, foreman of the Tonopah Extension mine, left last week for Canada, where he will spend the greater portion of a two or three months' vacation. After visiting his parents, Mr. Smith will spend some time looking over the famous Canadian silver camp of Cobalt and the gold camp of Porcupine.

J. F. Callbreath, secretary of the American Mining Congress, with headquarters in Denver, is now on his way to Alaska organizing chapters and extending the influence of the congress in general. The Oregon chapter has been formed and the Seattle section of the Alaska chapter will soon be in working order. Mr. Callbreath will stop at Cordova, Valdez and Seward on his way up, and at Juneau and Ketchikan returning, at which places he will hold meetings with the mine operators. He will be two weeks in the north, and probably will stop off in Salt Lake for a conference with President Dern on his return in about three weeks.

E. Jacobs, the well known writer on mining matters, and secretary of the Western Branch of the Canadian Mining Institute, speaks highly of the Rossland camp which he visited recently.

W. J. McCormick, until recently superintendent of the Casados mine in the Hostotipaquillo district has gone to Prescott, Arizona, to take a position with the Arizona-Ophir Mining Co.

D. R. Law is general manager of the Pioche-Coalition Mines company, Pioche, Nevada.

Sidney Jennings, vice president of the United States Smelting and Refining Co., is now in Europe negotiating for the control of the Gold Roads gold property in Arizona, for which the company is said to have offered \$1,250,000.

E. B. Shuck has been appointed manager for the Horst-Powell Copper Co., near Wardner, Idaho.

H. H. Retter has resigned his position with the Minas del Tajo at Rosario, Sin., and gone to Provo, Utah.

Lyon Smith has accepted the position of mill superintendent for the

Tonopah-Liberty Mining Co., at Tonopah, Nevada.

W. A. Knol, mining engineer of Rotterdam, Holland, recently visited the Tonopah and Goldfield districts in Nevada.

John Curran is pushing development on his gold claims near Walker, Arizona.

Donald F. Irwin has resigned his position with the Vulture Mines Co., at Wickenburg, Arizona, and is now in Pasadena, Calif.

E. C. Coffin is superintendent of the Lower Mammoth, at Eureka, Utah.

H. R. Holbrook, formerly with the Balakala Consolidated Copper Co., has accepted the position of chief chemist for the Mexican-American Smelting & Refining Co. at Guaymas, Mexico.

David Lawrence, who has been mining in Honduras, is now at San Antonio, Lower California.

Herbert J. Stiebel has been appointed assistant to Roy H. Allen, manager of the Sierra Plata property in the Minas Nuevas district of Chihuahua.

J. M. Blood, formerly manager for the Nineteen Ten Mining Co., near Winnemucca, Nev., is in Idaho.

Geo. W. Whittaker is interested in the Big Bug district, Yavapai county, Arizona, and reports a mining revival.

A. E. Comer, of McCabe, Arizona, says that district is looking up.

Dr. B. A. Wilkes and E. L. Kirtley, of St. Louis, have been on a visit to Mexico, inspecting mining property in which they are interested.

Walter J. Nichols has been elected president of the Spokane Mining Exchange. H. T. Irvine is vice-president and C. T. Mallette is secretary and treasurer.

D. C. Beach, this week, discovered some very rich silver ore on the Hard Luck claim, in the Reservation country, northwest of Walker Lake, Nevada.

J. D. Knotts, a mining man having large interest in the Guadalupe y Calvo district, arrived in Mexico last week, from Lucas, Iowa, en route to his properties. Mr. Knotts comes of a family of mining people who have large interests all over Durango.

Max Mooney, who for the past year or more has been chief chemist and assayer for the National Mines company at National, Nevada, has resigned his position and taken the field looking up mining properties for a combination of large capitalists.

Parties have installed a large dry washer at the site of what was known as the old Dave Buell mill, just west of Humboldt, Nevada, and are washing a lot of tailings there. The machine is run by a gasoline engine and is capable of handling a considerable tonnage.

The Buell mill was in operation about thirty years ago and the ore reduced there was taken from mines on Winnemucca mountain and from Central district. It is said that the tailings show good values both in gold and silver.

# BIRTH OF THE HYDRAULIC GIANT.

(By A. H. Martin in Mining World.)

The inception of the hydraulic giant dates from 1852, but a dozen camps claim the honor of birthplace. The most authentic accounts, however, record the initial operation of the giant in either Nevada or Placer counties, California. Early in 1852 E. E. Mattison, operating at Yankee Jim's placer camp, about 3 miles west of the present village of Forest Hill, conceived and placed in commission an apparatus that was destined to graduate into the historic giant. The mine had been opened in a small ravine, and the cost of shoveling and comparative distance from water presented considerable difficulty to the workers. Mattison constructed a flume from one of the neighboring creeks to the mine, the flume being led down the hillside until it attained a point approximately 40 ft. above the placer. A barrel was provided to receive the water, which was permitted to escape by means of a hose of rawhide. The nozzle was a tin pipe, shaped like an ordinary horn, with an inch opening at the point of discharge. The invention received much attention from the neighboring miners and a great crowd of the hardy pioneers were on hand when the water was turned on. Although of such simple construction, the stream of water smote the gravel with considerable force and immediately demonstrated its superiority over the old system of working.

About the same time, in fact so close that the priority of the two applications of the principle remains questioned to this day, a miner at Nevada City commenced hydraulicking. His hose was made of green beef hides, held together with copper rivets. Into this rude contrivance he inserted a nozzle made by hollowing out two pieces of wood until they fitted perfectly. The wood was held in place by hoops of iron, which were in turn solidly fastened to the rawhide hose. The hose was connected with a flume laid down a convenient hillside, and the force of water directed against a 15-ft. bank of gravel. To the surprise of the spectators the bank of earth and gravel readily disintegrated under the jet of water, and within a few weeks a score of rude hydraulic contrivances were in action in the district. It was not long before the rawhide hose was succeeded by tubes composed of sail-canvas, strips 22 ins. wide being fashioned into hose of about 6-in. diameter. The wooden nozzle was also replaced by a copper shank and nozzle, the discharge end of the latter ranging from 1 3/4 to 2 ins. in diameter. The canvas was woven very heavy and as the pressure increased, as more powerful streams of water were employed, a second hose was placed around the first and the whole reinforced with heavy rope netting. It was not long before even this hose proved unable to withstand the terrific strain involved in the work, and it became the practice to place sheet-iron ferules over the hose to keep it from

bursting. With this innovation the apparatus proved unusually satisfactory, and for many years this class of hose was extremely popular. But as larger deposits came to be worked and the water pressure was increased it was found necessary to replace the hose entirely with galvanized iron pipe. The diameter of this pipe was generally 7 ins. with a piece of strong hose attached to the nozzle, thus giving the pipe some flexibility. As the years advanced still larger pipes came into favor, with hose attached to lugs on one side, thus giving considerable freedom in applying the water to certain portions of the deposit. The invention of the "goose-neck" enabled the operator to sweep his claim in a circle, but it was not until the invention of the "giant" in 1866 by Craig that the hydraulic device attained its greatest success and application. Other inventors followed in Craig's footsteps, but the name he had given the device remained, and his invention was considered practically ideal.

With the bringing of the "giants" into action, hydraulic mining in California entered upon a new era. In the years following its inception the annual production of California ranged from \$40,000,000 to \$75,000,000, with the counties on the east side of the Sacramento valley the principal producers. Up to 1883, when hydraulicking was forced to cease by the anti-debris factions, the gravel deposits of California produced fully \$1,000,000,000 in gold. With the enforcement of the legislation against hydraulicking the great industry was immediately paralyzed. Hundreds of companies that had invested fortunes in the hydraulicking mines suddenly found themselves facing ruin, not because of the poverty of their properties—but because the iron hand of the law forbid them to work what was rightfully theirs. The hydraulic miners had made the state, had carried the name of California to the uttermost ends of the earth, until it was synonymous with El Dorado, but their operations interfered with the peace and prosperity of the farmer—and the miner was sacrificed. Probably nowhere in the annals of the mineral kingdom can there be found a tale mantled with the grim veil of tragedy as that which shrouds the end of the California hydraulic mining industry.

True, the industry is permitted to flourish in a few sections in the extreme northern portions of the state, where the granger is not subjected to any annoyance by his miner brother, but in the central counties, where the industry flourished in all its primeval grandeur, the music of the giant is no more. What few and isolated companies still pursue the method have been compelled to construct immense dams of concrete or masonry, to impound their tailings so that not even a trace may wander to neighboring streams. Under such circumstances it is impossible for any but the richest mines to be profitably operated, as aside from the initial cost, the maintenance of such dams looms large in the expense account of the operator.

The giant was brought into being by the exhaustion of the surface gravels and the necessity of working the deeper deposits. Its place has been taken in many instances by the dredge, but in the mountainous districts hundreds of mines still remain idle. Their location precludes successful operations with dredges, and their gravel is not of sufficient high grade to warrant the erection and maintenance of costly restraining dams.

Previous to the application of the hydraulic principles to the placers the California gold deposits were worked by numerous methods. The Mexicans and Chileans introduced the batea, and the American gold miners, brought in the rocker. The latter appliance proved the most popular and successful and was soon in general use. Then followed the diverting of the rivers into wing-dams by cut-channels, permitting the recovery of large quantities of gold from the river beds. In 1851 the building of flumes to assist in diverting the rivers from their course were introduced, and by this means still larger areas of the river beds were brought within the productive zone. About this time Joseph McGillivray commenced drift mining, a practice that was destined to attain great popularity. The banks of gravel were mined by elevating water by means of water-wheels, enabling the higher deposits to be mined by the long-toms. If the deposits lay in ravines the overburden was laboriously stripped off with the pick and shovel before the water could be brought in by the long-tom. In 1852 the first application of ground-sluicing began, and it proved but a step from this form of mining to hydraulicking.

Thus it is seen that the mighty giant, the emblem of California for so many years, had the usual humble beginning that attends most of the important inventions. And the great forward step from the giant and the sluice-box is found in the magnificent 15-cu. ft. dredges that have been recently installed in some of the older placer districts in the state of the Argonauts.

## A GRAVEYARD SHIFT.

Quite a little interest has been created around town in the proposed new cemetery and the disposition of the old one. Manager Kirchen, of the Tonopah Extension, in speaking with a Bonanza representative, has given some data that will be of interest.

The Extension not long ago purchased some 8000 feet of new ground adjoining its holdings beyond the cemetery and the management is now planning for a new shaft to extract ore that has been located in that section of the property without having to tram so far under ground. The location of the shaft has not been decided upon, but it will be somewhere near the present burying ground and to keep the plot from spreading, the Extension has offered some new grounds, has had them surveyed and has tendered deeds to the county for a plot 310 by 375 feet, a plot to the Miners' Union 100 by 200 feet, plots to the Odd Fellows, Masons, Elks and

Eagles 100 feet square. The location is about three-quarters of a mile below the depot and is on high ground or flats, between the cyanide flows of the Montana and the Extension and at an elevation where the cemetery will not be subject to the cyanide slimes. The soil is about 20 feet deep and there will be no necessity of blasting, as there is at present when digging a grave in the local cemetery.

The present burial ground has been used through the courtesy of the Extension people and at the present time the company has no intention of disturbing the bodies that are buried there, but should the company at any future time require the ground they reserve the right to remove the bodies to the new plot.

Under the new arrangement the different fraternal orders, societies and the county will have a deed to their plots and are thus guaranteed a permanent cemetery. Originally it was understood with the company that if the ground now occupied by the present cemetery was ever desired by the Extension that the bodies would be removed and the Extension, in providing a new plot and giving a deed for the same is showing a very liberal spirit on the part of the company.—Tonopah Bonanza.

H. O. Granberg and associates, operating the Royal Flush group of mines, are placing orders with Denver merchants for the first concentrating mill to be built in Routt county, Colorado. The first consignment of machinery is made and work will immediately begin on the plant, which will be 100 tons daily capacity.

Two hundred and fifty men are employed in the various departments of the Clara Consolidated, at Swansea, Arizona.

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It is interesting to note that the Insignia for the Investiture of the Prince of Wales at Carnarvon, which consists of a coronet and verge of gold, which will be a staff 2 ft. 8 ins. in length, and the ring will be made from Welsh gold obtained in the adjoining county of Merioneth, and is being provided by the mine owners and miners interested in the gold mining industry.

It is, perhaps, not generally known outside mining circles that there are about one hundred men engaged in gold mining in Wales, although there are only two or three mines in operation. At the Gwyn mine there are 40 head of stamps worked by water-power. A mine called Prince Edward mine, which is seven or eight miles distant from the other mine, and near Trawsfynydd, is between 2,000 and 3,000 ft. above sea level. There is no machinery yet on this mine, but as the mine is now being fairly well opened out machinery will be erected shortly.—London Mining Journal.

**MINING NOTES.**

We notice that a number of Americans remained in the Parral, Mexico district, during the revolution: E. J. Downing and Frank Reichman, of the Veta Colorada; Roy H. Allen, of the Sierra Plata; T. H. Gracy and T. G. Hawkins, of the Alvarado; Harry Cooper, of the Santiago; J. R. and H. C. Wilson, Benjamin Baker and M. W. LaFayette, of the Guadalupe y Calvo district; David B. Gemmill, of the West Mexican Mines Company.

From Patagonia, Arizona, comes news of an oil strike. Near Papago Springs settlers struck oil at a depth of seventy feet. Two drilling outfits have been brought in and there is reported to be considerable activity and excitement, with many claims now being filed.

The Sprague company's dredge, near Pierce, Idaho, commenced active operations last week with a full crew, running three shifts.

Panama is sometimes called "the land of steam shovels," but it is an interesting fact that last year in St. Louis county, Minnesota, these huge machines removed a yardage of strip-

ping material and ore equal to the total excavation required for the "big ditch."

A plant to work Fullers earth is to be established near Barstow, Cal.

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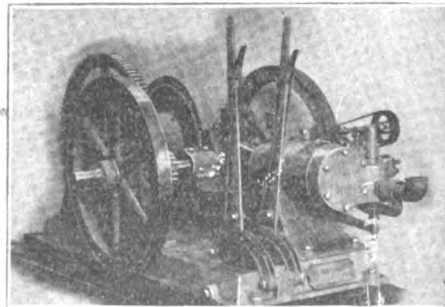
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He financed Bryan's personal campaign and gave him \$50,000 to help pay expenses.

At St. Louis at the Bi-Metallic convention the Nevada delegation were about broke. They were discussing the financial situation, sitting around a table at a hotel. Lane overheard and as he passed he carefully tossed a big, fat pocketbook over into the group and remarked:

"Help yourselves, gentlemen," and walked on.

The writer untied the strap of the wallet and it was filled with \$100 green backs. Each man took what he wanted, and in about ten minutes

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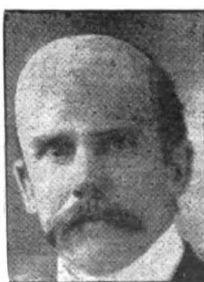
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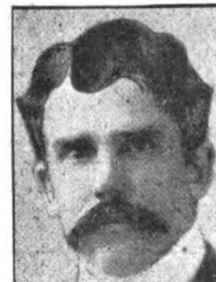
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also a blacksmith shop and a powder house.

Moonlight Mining company has awarded contracts for driving 1,000 feet of tunnel on its property in the Coeur d'Alene district. The company, which is composed of Duluth and Wallace people, recently leased the Trade Dollar tunnel, now in 2,000 feet, and will drive on this extension to cut its ore body at a depth of 600 feet. The property is equipped with a compressor plant and has a good water power on George gulch. Two or three shifts soon will be at work. Eugene R. Day is president of the company.

Experts report that the physical condition of the mines in the Coeur d'Alene district never was better than at the present time. The Bunker Hill & Sullivan, Federal, Hercules, Hecla, Caledonia and Stewart are steadily increasing their output.

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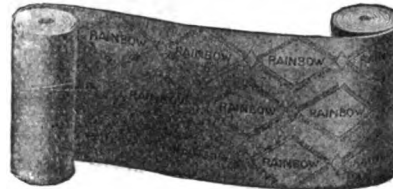
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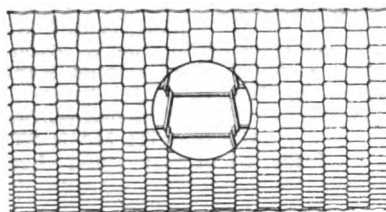


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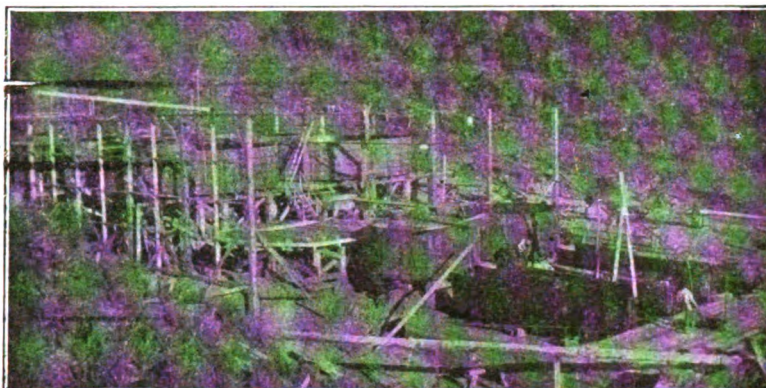
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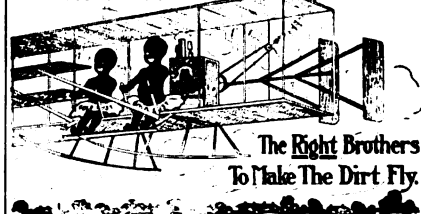
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Vol. 30, No. 15

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## CONTENTS

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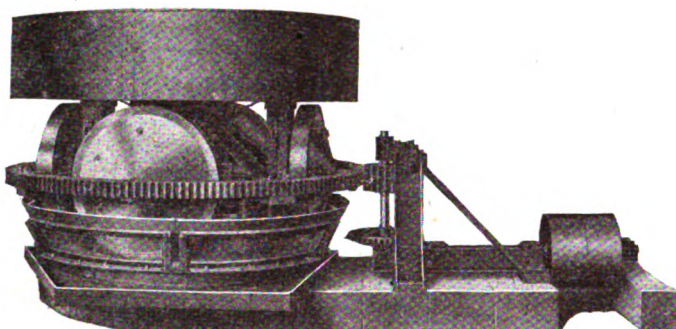
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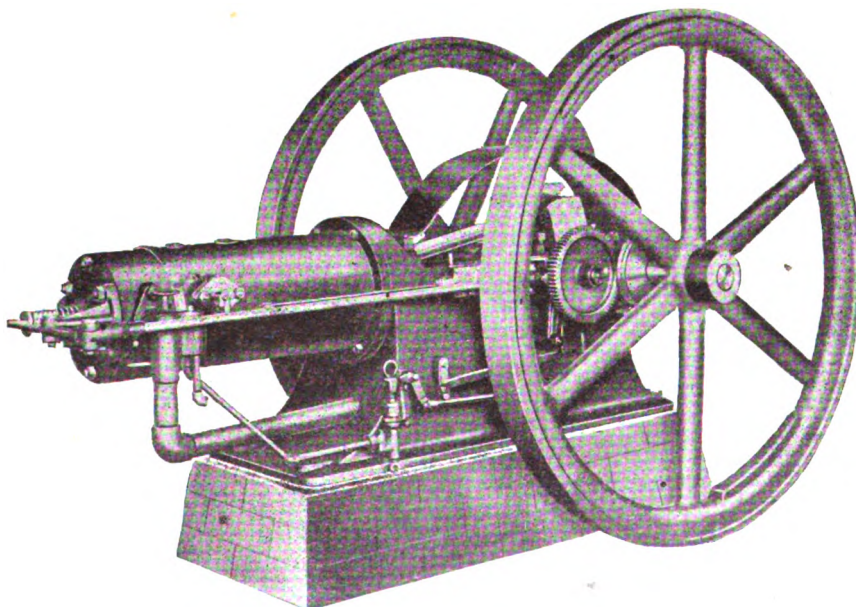
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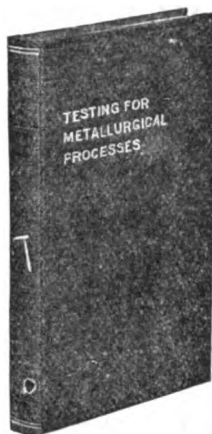


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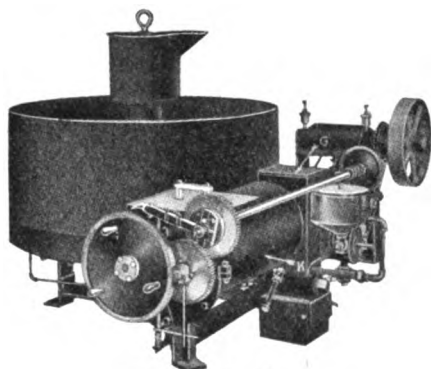
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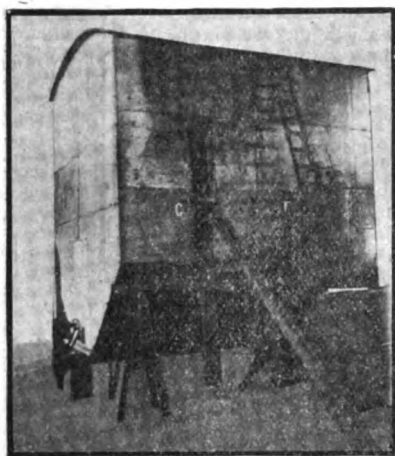
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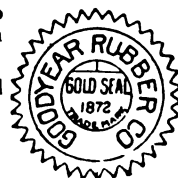
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# Los Angeles Mining Review

Vol. 30, No. 15.

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Los Angeles, California, July 1, 1911.

## EDITORIAL

### PUBLICITY AND THE PUBLIC DOMAIN.

Perhaps in no one thing has the public mind changed more than in the question of publicity in regard to the affairs of corporations. And the little that has been laid bare has only made the people more determined to know the whole truth. If we had known how much sugar the American Refining Company was selling we could have come pretty near to knowing how much they ought to have paid in duty. No one but the thieves will ever know how much that company stole from the government by its fraudulent scales. And to think that the president of that company practically wrote the sugar tariff in all our tariff bills since the trust was formed! And another ben-

eficiary of the thievery had the effrontery to say to a congressional committee the other day, that the president of the sugar trust was too big a man to stoop to any such thing! He actually had the nerve to try to create the impression that a system of stealing that produced millions would be entirely unknown to the men who took the money; that those men, the men who managed the business and declared the dividends did not know the source of the dividends! The public is just now learning that the same trust owns all the beet sugar plants in the country and how we have been urged to help these weak and growing concerns to get started. We now know that the directors of the sugar trust gave the president ten millions in stock.

We notice, too, that every officer of a corporation who appears before the committee is accompanied by his lawyer to help him keep watch over his replies. Any man who means to accept the obligations of his oath, without any mental reservation or equivocation, to tell the truth, the whole truth and nothing but the truth, does not need any lawyer's assistance in the remotest degree. Every man who comes before the committee with his counsel does so with a consciousness of guilt and knowing that if he would freely reveal all he knows he would confess himself to be a violator of the law. The other day, the lawyer who thus sat beside his client appealed to the sense of justice of the committee not to compel the witness to answer. It was not justice he wanted at all.

And what a difference it would have made in the organization of the U. S. Steel Company and its management, if the public could have known in the beginning what the "broken down gambler" and "garrulous old man," have lately told us! Does anyone for a moment suppose the Standard Oil Company can continue to debauch our officials after we take charge of the business to prevent bribery and rebating? And does anyone for a moment suppose they will ever quit their crooked and contemptible methods until absolute and entire publicity is given? We have had some little experience with the railroads and express companies and insurance companies—but the list of such dishonest and dishonorable concerns is about as long as a directory of corporations would be. It is all shameful and would be very disheartening if it were not that we are fast removing their friends and paid agents from the congress of the United States and that there will be no

turning back until they are taken over and conducted for the public benefit and not to our injury.

What has all this to do with mining? Very much. The men who are hired to look after public business and who are hired for no other purpose, might learn their lesson, too. A little while ago a homesteader's letter, seeking information, was forwarded to a congressman for attention and he sent it to the land office with a request that the questions be answered so far as they were proper! Do you catch the idea? That the public who hire and pay these clerks can only get such information as the clerks think proper or see fit to give. The clerk is to be the sole judge as to whether the employer is entitled to information or not.

It will help us in a way to get the correct understanding of the situation if we will stop to study conditions in Washington. Just consider the fact that, with a few unimportant exceptions, the entire population of that city consists of two classes — those who hold office and those who are trying to get in. Try to conceive of a hundred thousand officeholders with two hundred thousand right on the spot seeking jobs and several hundred thousand more who are writing to every congressman and bureau chief trying in every possible way to get in. Please understand that our own view is that every American citizen has a perfect right to try to get such work, but can you appreciate the pitiful arrogance of the fellow who has the job and how he becomes inflated with his own importance?—and all because he has been hired to work for us. And there are others who are looking for the same opportunity. Do any of you remember how Dick Bright, when he had been given a job in the House of Representatives, telegraphed home to his friends in Indiana that he was a "bigger man than old Grant?" We simply recall this to show how a man when he secures an office after the fierce contest that he has to make to get it, may easily lose his sense of proportion and think he is a good deal "bigger" than the man who does not hold an office of any kind. It easily follows that he does not look upon himself as an employee who must give good and faithful service but as a very superior sort of a person whose duty as well as whose pleasure it is to decide what the rest of us may or may not do.

A miner can go into a national forest office and ask for the printed regulations concerning prospecting on the forest reserve and he will

be told there is nothing of that kind printed but he will be sent to the land office for further information, and there he will be told there is nothing but the general mining law and thus he is left to his own devices. He can procure a copy of such regulations by writing to the Secretary of the Interior at Washington, but why is he put off at the local office? Why do they not hand out, at once, the very thing he needs and asks for? Why the evasion and concealment? And why is he told there are no printed regulations? This can only arise from a mistaken sense of superiority and the feeling that it is not necessary to furnish information to everybody who comes along.

Is it any wonder the public grows resentful and doubts the value of such service? The poor geese may find their own particular bureau abolished some day and then what? Surely we can get along without a bureau that renders no visible service and if they conceal their value so carefully and thoroughly, how are we to know that they are earning their pay?

This spirit of evasion is not confined to the clerks in the outlying offices, by any means. Some months ago, proceedings before a congressional committee brought out the fact that everybody connected with the entire case had concealed some papers, had dated other papers back so as to give a wrong impression as to the time they were presented and acted upon and, in plain English, they—no we will refrain.

Again, but a few days ago a voucher in the State Department was unearthed that represented \$1600 more than had been paid out. There are, at least, three or four men in the department who can tell all about it and they brazenly pretend they do not know and lost receipts are mysteriously found lying on the floor near the desk of the man who does not know where it came from. The Secretary resented being questioned closely. Has he forgotten that he became Secretary of State by a subterfuge? Does he suppose, or the man who appointed him, that the people can ever have entire confidence in men who do such things?

If a man who takes up a homestead should, for the convenience of the new settlers coming in, carry some lumber or groceries and sell them, he will find that the land office will refuse to give him a title to his land when the five years are up, notwithstanding the fact that he has lived on the land and farmed it the entire period. The excuse is that he has conducted a business on the land. But there is nothing in the printed regulations sent out by the Interior Department to put a man on his guard nor do the laws mention any such thing as being fatal to acquiring the homestead. Now who was the man with the superior mind who first evolved that idea? Where is the authority for it and why not print it so the settler may know? And will some one in the Interior Department who knows better than the settlers what they ought to do and what is for their benefit, tell them how they are to get a store started in their

neighborhood? Must they, for five long years, send out for everything they need, piece meal? And if no one can transact any business on his homestead, how are these farmers to sell their butter and eggs and poultry and vegetables and grain? Must each individual become a shipper of his own products, regardless of the quantity he produces or the inconvenience to him? Does the statesman (?) who evolved the idea know that farmers need to trade their products for groceries and hardware and even lumber? And that a store would be of more benefit and help than any other one thing?

Now, bad and senseless as the rule is, why conceal it? Why not place it honestly and properly in the printed regulations?

We have heard of a forest ranger who actually asked the prospector to show his permission to prospect on the reserve and ordered him off because he could produce none.

Now we are coming to bed-rock in this matter. The people want, first of all, publicity and square conduct from their public men, whatsoever the title of the man. He may be called a clerk, or first assistant or secretary or president, we care not what. He is working for the public and the people pay his wages. He must not forget. The next thing is that there must be no more secrecy and evasion and concealment; no more hidden and unprinted "regulations" to interfere with and hamper our miners and settlers.

\* \* \*

#### GOLD IN THE PHILIPPINES.

During the three centuries of Spanish occupation, very little mining, as we now conceive of it, was carried on. Thousands of Chinese, Filipinos, and Moros have made wages through desultory panning for gold; the semi-wild Igorots of northern Luzon have mined and smelted copper and made crude implements; and one Filipino woman has operated for a number of years crude blast furnaces for smelting iron, from which equally crude ploughshares are made and used by the natives in central Luzon.

Just prior to the insurrection of 1896, several large mining enterprises had just been undertaken with Spanish and English capital and engineers. The chief of these was the Philippine Mineral Syndicate. However, these were nipped in the bud by the opening of hostilities. It seems that practically the only mining works which came to any fruition were the numerous arrastres set up and operated in Ambos Camarines by Spaniards from Mexico.

The year 1905 practically marked the beginning of production in the Islands under the American regime, that of gold amounting to 35,000 pesos (17,500 dollars United States currency.)

Gold.—This metal has been found in some quantity in nearly every part of the Archipelago. It was mined in a crude way as long as we have any records. There are ancient workings on the Islands of Masbate which probably were made by Chinese years before the coming of the Spaniards.

Magellan heard reports of gold in the Camarines when he reached the Islands in 1521. Gold holds the first place for it is the easiest to mine, and does not depend upon a market.

The three principal districts where gold mining is now being carried on are Ambos Camarines, Benquet, and Masbate.

In the first-named district, near Paracale, mining is largely confined to panning, although vigorous development on the lodes is in progress. The country rocks are largely scistose diorites, gneissic granite, and slaty shales. These formations are very similar to those found on the Islands of the Karimoun Archipelago near Java. The veins, as far as we now know them, are of only moderate width, but very rich; pockets running as high as one or two thousand dollars (United States currency) a ton have been encountered.

#### FROM A READER.

Editor Mining Review:  
Los Angeles, Cal.

Dear Sir:—

I was in Prescott last week and of course about the first thing I did was to go and visit the Pioneers' Home. What a beautiful place it is! Oh, I do wish you could see it! What a contrast to California where they let their pioneers who have not been fortunate enough to provide themselves a home for their declining years go to the poorhouse. It is not the fault of the people of California, for they are most liberal. The trouble lies in the fact that California has no Jim Doran to do such work.

And most wonderful thing to relate is that there is a nice well defined gold bearing quartz ledge cropping just to the surface and not more than fifty yards from the back porch of the Home. Doran told me confidentially that he had to hide the picks and shovels to keep the old prospectors from digging the hill down.

Honestly there are more than a score of white heads whose faces are just covered with smiles in that house on the hill. I do wish the general public could appreciate that place as I do. But you understand that there is not one person in a million who appreciates a drink of water. Only the one who has gone without water until his tongue is swollen does appreciate so simple a thing; but he who has been so unfortunate as to thus learn the value of a drink of water will never take a drink of water when thirsty without offering thanks. The same way with the people who occupy the Home on the hill. They appreciate a home! There has been written a whole lot about Home Sweet Home, etc., but no other state has provided a place like the "Pioneers' Home in Arizona."

C. B. Genung.

(During the above visit Major Doran tried to get Mr. Genung's consent to take charge of the Home, saying he was too young to be tied down that way. Mr. Genung insisted that he was also too young. They are both too young. One is just four days younger than the other.—Editor)



## AN ORE SHIP.

That modern industry recognizes no arbitrary or patriotic limits of nationality is vividly illustrated by the new steamer, the Tellus, which is the largest vessel ever built abroad for carrying mineral products on the Atlantic. The Tellus is owned in Norway, was designed and built in England, carried a maiden cargo of Swedish iron ores to the port of Philadelphia, and is chartered for nine years by the Nova Scotia Steel & Coal company to transport ores from its well-known submarine mines at Wabana, Newfoundland.

The Tellus recently made her maiden trip from Narvik, Norway, carrying 11,000 tons of Swedish iron ores from the Kiuna-Luossavaara fields, assigned to the Warwick Iron & Steel Co., Pottstown, Pa. Incidentally the ship christened with her first cargo the new modern ore pier of the Philadelphia & Reading Railway company at the Port Richmond wharves, Philadelphia. The Tellus has a carrying capacity of 13,000 tons of iron ore, the area of its four holds aggregating 556,045 cubic feet. One 32 x 30 and four 30 x 30-foot large hatchways facilitate loading and unloading. Derrick hoists at each hatchway unload the ores and are operated by eleven steam winches.

The Tellus is built of steel, is 445 feet long, 60-foot beam, and has a molded depth of 31.5 feet. The engines are triple expansion, developing a 51-inch stroke, and 3000 h.p. A bunker capacity of 1257 tons of coal supplies nine furnaces for three marine boilers. The Tellus attains a 12-knot speed.

The new ship was designed especially for iron-ore transportation. It will carry Newfoundland ores to the states, or across the Atlantic to Europe, as occasion demands.

## GOOD PROSPECTING IN ARIZONA.

That the copper and gold country tributary to the Arizona & California railroad in Arizona has made wonderful strides in legitimate mining in the last three years and that many capitalists and mining men are seeking investments there, appears from the statements of Jake Schwab, who arrived from his mines in the Alamo district of Yuma county, yesterday.

"During past years the entire desert and mountain region east of the Colorado were almost depopulated every summer on account of the heat, but this year the contrary is the case," said Mr. Schwab.

"While it is true that many prospectors are leaving for the higher altitudes, many companies having established camps, are continuing operations through the hot months. Some of the companies have very promising showings and have equipped their camps with all available comforts for their employees, to induce them to continue at work. Prospectors and miners are following this example and are continuing their exploration also.

Arsenical sulphides worth \$50 per pound have just been encountered in the Standard mine four miles north of Downleville, Cal.

## MOUNTAIN-TOP PLACERS

## The Discovery and Christening of Rush Hill.—"Nigger Ben" But a Dream.

(Written for the Mining Review by Mr. C. B. Genung, Forepaugh, Ariz.)

The "Nigger Ben" mine never existed only in the minds of the early day prospectors of Arizona. In the winter of 1862-3, a Yavapai Indian who had known Nigger Ben at Ft. Yuma and La Paz told the negro that he could show him gold like they were getting at the old La Paz diggings; so Ben induced the Indian, who was known as Charley, to take him to the place. They followed the Colorado River bottom from La Paz to a point near where the reservation buildings now stand and then crossed to Williams Fork via Black Tank. Then up Williams Fork to the Santa Maria and up that stream about thirty miles; then out on the north side of the Santa Maria a short distance. The Indian stopped and sat down near a large white quartz blowout which very much resembled a large white quartz ledge that runs through the LaPaz placer mines. Ben at once began to prospect around the blowout and in the nearby gulches but found no gold. After he had satisfied himself that there was no gold there, he returned to LaPaz leaving the Indian with his people who were living at the time at a spring about one-half mile from the blowout.

The following spring Ben was one of a party of eight who followed the same trail a part of the way, then turned to the east and struck what is known as Date Creek. From Date Creek they traveled in a southeasterly direction until they struck what is known as Martinez Creek. There they found a little gold in the gulches and an old squaw who with her buck had traveled all the way from LaPaz with the party pointed to the east when they showed her the gold and said "mucho" and made them understand that it was not far. The party did not find anything that would justify working, so moved on six or seven miles to another creek that had running water. The day they got to the latter creek, A. H. Peeples killed an antelope and the creek is still known as Antelope Creek. Here the party found considerable gold and were working with pans and rockers. In the party there were two Mexicans, one named Berardo, the other Avera Pajeharo. They had learned that there were some Mexicans working in a gulch about three miles from Antelope Creek and one day walked around to the foot of a high rough mountain to see what their neighbors were doing. They found quite a number of men at work with about the same results as they were getting on their side of the mountain. When they concluded to start home they climbed over the top of the mountain instead of going back around the foot of it the way they had come. On top of the mountain they found several good sized nuggets and took them to camp and showed them to

the balance of the party. The next morning the party all went to the top of the mountain but two who were left behind to keep camp. The top of the mountain was quite smooth and two of the six were chosen to measure off eight claims and mark them by numbers. The other four men went to digging and at night they had \$2,765.00 to divide among the eight. When the old Indians saw the gold that the two Mexicans had found they pulled out for the river again.

This was very properly named Rich Hill.

Now I will go back to Nigger Ben again. When he had his claim worked pretty well out, it being one of the eight, he sold to a white man and went away. The next year he got the same Indian, Charley, and went into the Santa Maria country, starting as before from LaPaz. The Indian took him to the same place and Ben prospected for several days both for placers and ledges, but found nothing only some white rock that he took with him and went to Weaver. That was the name given to the camp on the opposite side of Rich Hill from Antelope Creek. When Ben left the Indian he told him that he would come back and bring him, the Indian a red shirt and good blanket, but he never returned. Even the negro broke faith with the Indian. The Indian did the same as others have done when they have gone to show gold. When he got sight of the ground that had gold in it he stopped. It was several miles away and has been worked out years ago. The diggings were called the Santa Maria Placeritas.

I never met Nigger Ben after he sold out on Rich Hill, but in 1896 I concluded to get the Indians to show me the gold that Charley told Ben about. Through inquiry I learned that a brother of Charley's was living at O'Neill's Ranch near old Camp Date Creek so I went and stayed all night at his camp and he promised to go with me to the place where his brother took Ben. It was a stormy day that we left the Indian camp and we had to get shelter in a sort of a cave, as I did not wish to go to any house, neither Indian or white. The next day was fair and we got to the white blowout early. There had been a lot of trenching all around the blowout and a lot of rock broken, but I could find no gold, but when my Indian showed me from the places where his brother stopped, the old Placeritas, I felt satisfied that that was the place that he brought Ben to see. Still I was not sure and as my Indian (his name among Crook's soldiers was Captain Snooks,) told me that his brother Charley lived at Palomas on the Gila River, I started to go and see him. When I got to Harrisburg I learned that the smallpox had driven the Indians to the

mountains and that Charley was at the Harqua Hala mine. I went there and found him and he told that the negro did not get any gold unless it was found in some rock that he carried away when he went to Weaver and never returned. I am giving this as the Indian's side of the story, and I can vouch for the truth of it, as the old Indians did not tell me any lies about anything. They were very superstitious about showing white men gold and sometimes I think they have good cause to be, for Captain Snooks lived only a short time after he made the trip with me; another one who went with me and showed me where he had found gold while I was working the Indians building the Wickenburg and Kirkland Valley road joined Crook's scouts and was kicked to death by a cavalry horse at Camp Verde. Still another whom I had employed to learn of the Lost Frenchman mine in Yuma Co., went on a visit to some Indians near Camp Verde and was killed in a row. Then the little squaw Chachie who took Ramone Valencia to the Harqua Hala only lived a short time after making that trip.

I write this story for the benefit of the prospectors as there are still some men who think that the negro got gold in the country, and might still hunt for the "Nigger Ben" mine.

#### THE INFLUENCE OF GULCHES AND DEPRESSIONS.

By William H. Storms.

Can any one "see into the ground" beyond the limits of mine development? This is a question often debated, and one in which the negative side always has the advantage, but one can note the occurrences at the surface, and sometimes form a shrewd conclusion as to what may be expected within a short distance of the surface. There are many who have thought they could see far into the ground, and accordingly confidently planned an elaborate expenditure of money upon such belief, only to be sadly disappointed, for what had been so earnestly hoped for failed of materialization. They were unlike the old California miner, who, after spending several thousand dollars in the development of a vein, suddenly closed down and discharged all hands. When asked if he had found what he expected, replied that he had, but that he "didn't expect much."

Although I, like most others, have little faith in the ability of one man to see farther into the ground than another, still, I believe that a close observer, in the course of years accumulates many facts having a bearing on the occurrence of ore shoots in veins, and that the information thus gathered may be intelligently applied, with a reasonable degree of safety, in the inspection of mines, and generally in the development of veins. Engineers are guided very largely in forming their opinions of the value of mining property by what they call their judgment, which is merely another name for intuition, a sort of sub-consciousness of what may reason-

ably be expected under existing conditions. A vein may have a good, strong outcrop, and a good grade of ore as far as development has gone, and yet present certain physical conditions which will cause the engineer to condemn the property.

I have had opportunity to make examination of a great many mines in the mining states of the west, in Mexico and elsewhere, and have learned many things which I consider of value concerning mineral veins. In the pursuit of such studies one also usually learns many "things that are not so", such, for instance, as the idea entertained by many, that "veins grow larger and richer in depth."

Among the characteristics of veins that I have given careful study is the effect upon them of gulches or depressions that cross their strike. As a result of this observation I have noticed that in a very large number of cases ore shoots rarely cross the gulch or depression at the surface. Do not misunderstand this statement. I do not say that an ore shoot in a vein having, let us say, a north-south strike, upon reaching an east-west gulch, or depression, will not cross the gulch at any depth, but that its continuity will be disturbed at the surface. In depth, however, the ore shoot may pass underneath the gulch in its trend along the vein. In contemplation of this theory, the gulch, or depression, may mark the line of a fault, or it may be the result of nothing more than a mere flexure of the rocks, with no displacement whatever. What I mean is, that if an ore shoot is found outcropping at the surface, and a gulch or depression crosses the vein, then, if the ore shoot has continued as far as the gulch, it will stop there, and not cross it at the surface, although it may do so in depth. This contention assumes that the gulch or depression crosses the vein at an angle as great, at least, as 30°. Gulches running nearly parallel with the vein have a less marked influence on the vein. Also, understand that the vein may continue, even though the ore does not. In some instances (a notable one in the San Juan mountains of Colorado) the vein, and the ore as well, continues without interruption across the gulch, but the ore is of much lower grade than on either side of the gulch. On the Mother Lode of California there is scarcely any exception to this theory. I do not know of even one, though I am willing to admit the possibility of there being such. So commonly is the condition described, found in those mines, as to entitle it to be considered a rule.

In other mining regions than the Mother Lode, what of this theory? The Homestake lode of the Black Hills furnishes an example. The ore shoots of the Father De Smet, one of the Homestake group, do not cross Deadwood gulch on the north, nor does the Homestake ore shoot cross Gold Run (at the surface) on the south, though in its downward southerly trend it crosses this gulch at the depth of several hundred feet. In Arizona the Gold Road mine, which has an outcrop several hundred feet in length, comes

to an end (at the surface) upon reaching a gulch. As a rule, the ore shoots of the Comstock lode at Virginia City, Nev., which occurred at the surface, were found on the spurs coming down from Mt. Davidson, and not in the gulches which cross the great lode. At many other places—on the deserts of California, Arizona, Nevada and Utah, the same thing may be observed. This condition is not confined by any means to veins in a particular kind of rock, but is seen alike in granite, schist, slate, rhyolite, the andesites, greenstones, and the numerous other varieties. In some instances, the fact that that ore shoots stop upon reaching gulches is so evident as to attract the attention of even a casual observer. I had occasion to make examination of a mine on the Mojave desert in California some time since, where a rich shoot of ore suddenly gave out upon reaching a region of disturbance, but about 100 ft. away, on the foot-wall side, was found what was supposed to be a parallel vein of good ore, which continued for some distance. Upon investigation I found that the region of disturbance referred to was immediately underneath a shallow gulch, and that the parallel vein was simply a continuation of the same fissure system as the first, which had been offset, as it were, by a cross-fracturing of the country rock. There was not an actual faulting of the vein, but merely a flexure of the rock which was rhyolite, with some transverse crushing, and the formation of a little ore. At this mine also, I found, several hundred feet distant from the place just described, a third ore shoot which was limited at each end by a gulch which crossed the strike of the vein.

About 10 years ago I inspected a large mine on the Mother Lode of California that had been extensively developed, yet which had had little or no success as a dividend payer. Six years ago a new ore shoot was discovered in this mine by crosscutting, and the new development proceeded rapidly, until after 5 years it had become one of the most important and valuable mines in California. Upon being shown an excellent photograph of this property, I remarked that the old mine had at last "made good", though I knew nothing of its present condition from personal inspection. "but", I continued, "that new shoot of ore probably begins here and ends there," indicating two points on the photograph, which I thought to limit the extent of the ore shoot. My friend, who was well acquainted with the property, was considerably surprised, and remarked, "I don't know how you can tell that if you have not seen it, or some one has not described it to you, but you are right, the ore shoot does lie within those points, almost exactly." I told him I had neither seen it nor had it described to me, but that I reached the conclusion from an inspection of the photograph. As I believe that depressions on the surface, due to natural causes, are merely the physical expressions of the geological conditions underneath, I felt reasonably sure of the position of this

new ore shoot. Later, I had the opportunity to inspect this mine and found things just about as I had anticipated.

I have known of many tunnels, started in gulches, to reach veins beyond, but in very few of these was ore found, at or near the surface, underneath the gulch. Miners run tunnels in such places because the vein can be more quickly reached from such points than if the tunnel be started on a spur of the hill. Of course, a tunnel driven into the slope of a well-rounded hill will reach no ore if no ore was ever deposited there, but as between the gulch and the spur, the latter offers the better chances for success, if the prospector has to "go it blind."

That this theory will apply to every class of metal-bearing deposit, I do not maintain, nor believe, for it is my opinion, that bedded deposits, such as those occurring at Leadville, and in the Terry Peak region in the Black Hills, are a class forming an exception. Ore deposits in limestone, in quartzite, sandstone and shale, each are of this class, and as far as my observation has gone, no such rule as here suggested can be safely applied to them. However, in crystalline schists, slates and massive rocks generally, ore shoots are found to terminate upon reaching a gulch or depression (at the surface), in so many instances as to lead me to the conclusion that it may be looked upon as, if not a rule, at least something to be expected. It is my belief that in the greater number of exceptions to this, that it will be found that the gulch or depression is due to some other cause than that of a disturbance of the rocks. Super-imposed erosion, for instance, may result in the formation of a gulch which bears no relation whatever to the geological structure of the rocks. Gulches due to glacial action, too, are quite independent of structural conditions. Many examples of this may be seen in the San Juan mountains of Colorado.—Mining World.

## RICH STRIKE IN GERMANY.

Harry Schoonover, superintendent of the Lodi Mines company, was in Mina recently, on business. Mr. Schoonover says that the mining outlook for that section is very flattering. The Lodi Mines company are getting their apparatus pretty well straightened out and in good shape, and now preparing to sink a new double compartment shaft on the Illinois claim, which has been producing shipping ore for the past thirty-five years.

The company also has a force of miners at work on the old Germany mine across the valley, which they purchased about a year ago. This property carries heavily in lead values, which were very necessary to the successful operation of their smelter plant, as while the Illinois was a heavy producer of rich ores, the values were principally in silver and gold. A short time ago a new strike was made on the Germany. The vein was five feet in width and carrying 28 percent in lead values. Mr. Schoonover says that two and a half feet of this

ore is almost pure lead, and is the richest strike of that metal ever made in that section. The company is now arranging to again "blow in" the smelter, as it was partly owing to a shortage of lead or fluxing ore that it was compelled to close down.

Besides the Lodi Mines, Mr. Schoonover states that Salt Lake parties are pushing development work on a group of claims and uncovering good values gold and silver in the same section. Robert Todd also has a force at work developing the Gold Park property which is showing up good values. From the present outlook there will be great activity in the Lodi section before the summer is over, as new blood and new capital are coming in.—Western Nevada Miner.

## PARKER DISTRICT.

The smelter returns on a recent shipment of twenty-five tons of ore from the Bradley & Morgan property to the El Paso smelter were received the past week. According to the settlement sheet the ore netted the owners \$954.13, above all charges. The average value per ton was \$38.63. This is an exceptionally good average, as there was no particular effort made to sort the ore at the time of shipment.

The Post received word yesterday from Scott Price of the P. & D. Grass Root Mines in the Old Woman mountains, to the effect that the physical conditions of the property never looked better than at the present time. Four feet of pay ore opened up in the east drift is furnishing sufficient tonnage to keep two four-horse outfits busy hauling the product to Milligan for shipment to the Needles smelter. A carload shipment is now about ready to go out, and it is the intention of the owners to make regular shipments in the future. Garner Bros. of San Bernardino recently purchased the interest of Bert Day in this property.

Wickenburg confidently expects to have a smelter before the end of next winter, according to J. A. Bozarth, a business man of that place. The smelter is to be built by the Monarch Mining Company, which owns the Monarch mine, eight miles east of Wickenburg.

It is absolutely necessary that the Monarch company build a smelter, if its mine is to be a paying proposition. For some time the company has been discussing the advisability of putting up a plant, but it has been uncertain whether the smelter should be placed at the mine or at the town of Wickenburg. Now it is understood, the company has decided that it will be cheaper to freight its ore to Wickenburg than to freight coke and supplies to the mine.

## DON'T GO TO PERU ON CHANCES.

In a recent conversation the American consular agent at Cerro de Parco informed me that while the mines could almost always use experienced American miners who were willing and anxious to work, the ordinary, inexperienced pick-and-shovel man could not begin to live upon the daily wages for which they can secure Peru-

vian natives for this class of labor. This has been repeatedly verified in the cases of sailors and general wanderers that have landed at this port and worked their way up into the mines of Cerro de Pasco, Casapalco, Morococho, etc., only to find themselves 100 to 180 miles away from Callao and without means of returning.

In sounding a warning of this kind it is felt a service will be done the mining companies and the class of people referred to. Retrenchment rather than expansion is the order of the day here in almost all lines, and people are being released instead of being employed. As a general rule it is considered distinctly inadvisable for any one, in mercantile, mining, educational, clerical, or other lines of work to come to this expensive country without having secured in advance a guaranteed position from a responsible concern here. Further, it must be remembered that nearly all of the mines are situated at very high altitudes, ranging from 6,000 to 16,000 feet. Not only should one be equipped for severe cold and dampness, but no one should undertake even to visit most of these mines without having been examined by a competent physician in the United States as to the condition of his heart and pronounced fit to withstand such altitudes; otherwise severe physical dangers are incurred.—Consul General Robertson, Callao.

## NEW DIGGINGS.

Mancos, Colo., A big rush is on from Mancos and other towns in this section of the state to the scene of the rich discoveries made during the past two weeks. The lucky men are Edward Leckenby, Harry Owens and Samuel Miceli.

Leckenby and Owens a few days ago uncovered bonanza ore in the workings of a property there that had been idle for many years and which was entirely overlooked by the then owners. This ore assayed well up in the thousands of dollars per ton. When broken up and crushed and panned rutsy gold and gold nuggets as large as wheat grains are disclosed.

The discovery made by Miceli promises to be equally rich. The panning of ore he found shows large quantities of rusty gold and one nugget was found as large as a bean.

The rush to the district is on in full blast and there is much excitement in Mancos, where nearly everyone is planning to go to the diggings to locate new ground or acquire claims that were taken up years ago and later abandoned after little work had been done on them. At the present rate there will be 200 prospectors in the district within the next 10 days.

Oldtime mining men have always maintained that the West Mancos district would some day come to the front. It looks now as if that time had arrived.

They are also making good strikes over the hill in the East Mancos district, a short distance from the new diggings.

The rich ore in the Standard in Sailor ravine, in Sierra County, California, continues to hold on.

## THE NORTHWEST FROM A MINING VIEWPOINT.

Camps of a Great Mining Section Seen at Close Range.  
Many Plans for the Future Now Under Way.—Outlook is Bright.

[By Sidney Norman, formerly editor of the Mining Review.]

Sidney Norman, formerly editor of the Mining Review and Second Vice-President of the Sierra Madre Club, who has spent the past three months in the North West, will take up his permanent residence in that part of the world, leaving here some time next week. He has become identified with the Norman Hotels, Ltd., controlled by his uncles, Ben and W. S. Norman, owning the leading hotels at Tacoma, Spokane and other similar places throughout the Northwest. During his recent trip Mr. Norman negotiated the sale of a half interest in the Portland, Ore., from the Norman Hotels to the Day Brothers, owners of the Hercules Mine at Burke, Idaho, on a basis of \$1,230,000. He will remove his family to Spokane for the present, but expects to eventually take up permanent residence at the Tacoma Hotel, Tacoma.

Speaking of mining conditions in the North, Mr. Norman says:

"My observations of the past three months convince me that the prognostications expressed so many times in these columns regarding a sharp revival of mining during 1911 are rapidly being fulfilled.

"One of the most cheering signs is the big inquiry for Alaska copper properties, doubtless caused by the slight improvement in the metal market. While actual mining operations are not yet extensive, practically all the large concerns are carefully examining the promising districts and I look for the consummation of several important deals during the summer and fall months.

"The banner camp of the Northwest, in fact the greatest silver-lead camp in the world—the Coeur d'Alene—still continues to contribute almost 50 per cent of the total lead output of the United States and several new shippers of magnitude have been added to the list within the past few months. Prominent among these are the Caledonia and Stewart, near Wardner, the Marsh at Burke, the Monarch in Paragon Gulch and the Jack Waite in the extreme northern limits of the district. The Hercules at Burke, which, in my opinion is the greatest silver-lead mine ever discovered, when all physical conditions are considered, is preparing to run an 8000-ft. adit from the townsite of Burke to tap the ore body at a vertical depth of 800 feet below Level No. 4, which is 1550 ft. vertically from the apex of the vein. On this level the main ore-shoot is 700 feet long, of an average width of possibly 25 feet, with perhaps 33 per cent of the entire mass clean ore that will run between \$80 and \$90 a ton. The balance of the ore will concentrate 6 to 1 and I understand that the new 600-ton mill at Wallace is saving over 90 per cent of the values—a record hitherto unachieved in the district. Within the past three months an entirely new

ore shoot has been discovered about 700 feet to the east of the main ore body on No. 4 level. When I was last in Burke this shoot had been drifted upon for 300 feet, showing an average width of about 6 feet. There is a widespread demand for lead just at this time and all the large smelting concerns are closely watching developments. The International Smelting Co., controlled by the Cole-Ryan syndicate, has secured contracts of 2,500 tons a month from the Hecla and Monarch mines and will pile up the shipments until lead stacks have been completed at Tooele, Utah. There is also some talk of the erection of lead stacks at Anaconda.

Conditions in the silver-lead Slovan district, British Columbia, have shown remarkable improvement within the past few months. The Standard at Silverton on Slovan Lake, owned by John A. Finch and Geo. Aylard, is developing into one of the really big mines of the Northwest and will largely increase shipments as soon as its new concentrator has been completed. The Rambler-Cariboo at McGuigan has recently found a body of very high grade galena on the 1200 ft. level and expects to trace it down to the 1450 ft. level within the next few weeks. The old mill, destroyed in the forest fires of last year, will be replaced by a new plant directly a site has been decided upon. The abandonment of the Kaslo-Slovan railroad by the Great Northern Railroad Company has complicated the transportation problem in the immediate vicinity, but the road has now been acquired by the citizens of Kaslo and will doubtless be placed in operation within a short time. If these plans fall the Canadian Pacific has agreed to extend its tracks from Three Forks.

"The Republic gold district in Ferry County, Washington, is making wonderful strides and bids fair to resume the importance it promised in the boom days of over ten years ago. Strangely enough, Spokane, the natural supply point for the district, seems skeptical of the camp and necessary capital is coming from elsewhere. The Lone Pine, Knob Hill, Quiln Republic and several other properties are making regular shipments, the total for May being 74 cars. During that month several cars from the Knob Hill averaged 3.60 ounces to the ton. Were such results being achieved in any other part of the country they would long ago have caused an old-time rush. As it is there is not a vacant house in town and properties are being quickly picked up by strong interests that realize the extent of the opportunities. The North Washington Power & Reduction Co. is completing the first unit of its new plant, embodying the patents of Mr. L. C. Trent of Los Angeles. Its success will usher in an era

of prosperity that should last for many years.

"Summed up, the conditions throughout the Northwest, from a mining viewpoint, are excellent. Spokane is again realizing the fact that mining interests constitute one of the greatest civic assets; Seattle is making renewed efforts to sequester to itself the great output of Alaska and even Portland is joining in the effort to draw wealth to herself through the miners' efforts. An era of mining development is fairly under way and this time I believe there will be less dishonesty in promotion and more chance for the general public to secure fair return for its investment."

## BURIED GOLD.

The announcement that San Diego treasure-seekers have found the hoard of gold reputed to have been cached by the crew of a Chilean cruiser on the Honduras coast a generation ago will stimulate the search for buried treasure everywhere, from Nova Scotia, where Captain Kidd's spoils yet remain to be located, to the Spanish main, says the New York World. And doubtless a new attempt will be made to find Lafitte's plunder on the gulf coast. Meanwhile news is awaited of the success of the Brazilian party of scientists and government officials who set out to discover the golden treasure hidden on the island of Trinidad.

The doubts of the sceptics must be set at rest by the find of the San Diego searchers, even though subsequent developments may largely discount the report that the treasure is worth anywhere "from \$15,000,000 to \$65,000,000." But in fact just enough buried treasure is disinterred from time to time to show that the quest has more substance to it than the traditional pot of gold at the end of the rainbow.

Did not the owner of an old manor-house in the isle of Jersey find urns full of "spade" guineas and other treasure in the ruins of the ancient structure some time ago? The first estimates put the value of the treasure at \$1,250,000. At almost the same time the sea on the Suffolk coast washed up from the sand old gold, silver and bronze coins and jewelry of Saxon times. In Florida a dog chasing a rabbit unearthed a mail-robber's hoard of \$4000 in a hollow pine log. An old lounge in East Boston disgorged a package of \$2495 in English and American gold pieces. And shall the find of 1000 pounds of honey in the garret of an old house in Lee, Mass., be omitted from the record?

In the face of such proof of the existence of concealed treasure it is idle to expect that the efforts of the imaginative will flag in the search for it.

## TRAILS.

There are one hundred and thirty-five men building roads and trails in the Kaslo district, British Columbia. There is a pretty good hint here for our forest service and we do not believe its most inveterate enemy could find fault with a campaign of trail and road building.

## LOST ON THE DESERT

S. T. McGrath, who left Bisbee last week accompanied by his brother, J. W. McGrath, enroute to the Salt River valley near Phoenix, has disappeared and up to yesterday he had not been located.

The McGrath brother left here last week on a prospecting trip, driving overland in a team and wagon, intending to settle in the Salt River valley section. At Five Points, where they had camped, one of their horses got away and S. T. McGrath went in the direction of Tempe, looking for the strayed animal.

His brother, J. W. expected his brother to return to camp Tuesday, evening, but nothing had been seen or heard of the missing brother yesterday. J. W. McGrath succeeded in finding the missing animal near Phoenix Wednesday. He fears that his brother was thrown from the animal he was riding when he left camp and killed, though no news had been heard of any such accident.

The McGrath brothers were miners in Bisbee. They were witnesses in a Los Angeles dynamiting case about six months ago, going to that city to testify and then returning to Bisbee. They have no relatives in Bisbee so far as known.—Bisbee Review.

## ONE MORE.

Alfred Williams, a well known miner of southern Inyo county, Cal., has fallen a victim to some accident or incident entirely out of the usual, as the country in which he disappeared is a pleasure park compared to others which he has prospected over and over. He left Coso Springs ten days ago on his burro to examine a group of claims. He was to have returned in a few days, and when he failed to do so Domingo Etcharren and another man took up his trail. About twenty miles out they found the burro minus the saddle, and later found the saddle in a deep canyon, but failed to discover any trace of Williams. As he took supplies enough for but a few days' stay, it is believed that he perished. For the past fifteen years he has prospected mainly in the Panamint district, ranging from Wild Rose to Wingate Pass, his most important finds having been in Tuba, Jail and Pleasant canyons. He was a man of good education and address, and between 55 and 60 years old.

Month of May, 1911.

Report SKIDOO MINES CO.  
Amt. Company Ore Milled, 1190 Tons.  
Amt. Leasers Ore Milled, 114 Tons.  
Time lost ..... 8 19-24 days.  
Value Bullion Produced.....\$17,851.40  
Value Cyanide Produced..... 5,459.89  
Royalties and Custom Milling ..... 1,272.87

Total Receipts .....\$24,583.66

Cost Development \$1,148.35  
" Operation ... 7,820.38 8,968.73

Net profits for month..\$15,614.93

GEO. MACK, Treas.

## MINING MATTERS

### Late News From Districts Producing Precious Metals.

The Pittman hydraulic is now giving up greater values than at any time since the commencement of the work on the Round Mountain Mining company's surface.

The warm weather has caused the snow in the mountains to melt, consequently the supply of water is greater than at any time.

The management is now giving the "percentage workers" an opportunity to sluice their gravel, which is about one month in advance of the time agreed upon by Mr. Pittman. The result of the sluicing of the Armstrong gravel has caused all the other boys who have gravel piled up to become anxious for their turn. The Armstrong block of ground gave up gravel which averaged \$21 per yard. This block, however, is considered on exceptionally rich one.

### A LINK IN THE GOLD CHAIN.

Eureka, Utah.—The pipe to replace the air line between the compressor plant and the hoist of the Gold Chain company has been unloaded and Superintendent Wetterstrom states that he will probably have the new line laid within the next 10 days. A three-inch pipe line now connects the compressor with the mine, and owing to the fact that a larger hoist is to be installed a five-inch pipe line will be put in.

Another small four-drill compressor, which is now at the Gold Chain mine, will be moved down the hill and used in connection with the compressor that is now supplying air for the Gold Chain and Oponhongo mines, and this will increase the capacity of the plant so that there will be ample power for the operation of the new hoist and the machine drills for both these mines.

The new hoisting equipment for the Gold Chain is now en route to Tintic and it should arrive here within the next few days. A wagon road has already been constructed so that the machinery can be readily hauled up to the mine and the work of putting in a railroad spur will start at once.

### RAWHIDE.

It is learned from a recent visitor to the old camp of Rawhide that the camp is somewhat on the improve.

The Black Eagle property, located out Regent way, has been running ore through the old National mill for some weeks past, the ore averaging about \$8 per ton. It is reported that this property has a 20-foot ledge of \$30 rock on the lowest level and that George Wingfield is having the property examined with a view of taking it over if satisfactory.

Channing, Shaffer, Margrave and Fanning, who have the old Mint lease and the Grutt fraction are doing considerable work and have attained a depth of 500 feet. At this depth they have a six-foot ledge of ore that will average about \$24 per

ton. They are busy putting this ore on the dump and expect to have a mill running on it very soon.

The Coalition mill has just had a cyanide plant added to it and the tanks were charged for the first time this week with ore worked from the old lease dumps on the property.

The deal for the Bethania claims, owned by McLeod, Bovard and West, of Yerington, is hanging fire a little, but parties are expected here from the east very soon to do business one way or the other. These claims have merit and the price to be paid for them is reasonable considering the showing and location of the ground.

The Hydro-Electric power line, starting from Bodie, passes within a short distance of the camp—near the old Murphy place, down the canyon—and in all probability this line will have a branch into Rawhide soon, so that power will be much cheaper than that now furnished by gasoline.

Altogether the conditions in the camp seem to be much brighter than for many months past. —Yerington Nev. Times.

### OREGON MINING.

The biggest surface mining project under way in southern Oregon is the development and equipment of the properties of the Waldo Consolidated company, which lately took over several of the hydraulic mines in Josephine county. Colonel Frank M. Leland is in charge. The consolidation consists of the Logan, Deep Gravel, Osgood, Frye Gulch and Frainey mines, all operating from two to three giants, besides elevators and separators; a total of 5,000 acres being embraced within the limits of the company's holdings. The company owns practically all the water and rights on Applegate river.

The Utah-Nevada Mining company, which recently purchased the Alta and Flintlock groups of placer mines near Kerby, is doing considerable development on the properties. These are among the oldest surface mines in southern Josephine county, and have been operated only by the crude methods of placering. Manager Wilson states that his company will install new pipe lines, deepen the ditches, put in larger monitors, and otherwise increase the capacity of the mines. There are also several quartz ledges on the groups purchased, and these are being developed and equipped by the new owners. A stamp mill of 40-ton daily capacity is being placed on the best-developed ledge, and will be used in a prospective way till the mines are sufficiently developed for a bigger plant. A saw mill is also being erected on the claims and will be used to cut lumber for both placer and quartz mining operations.

A small stamp mill has been placed on the Gold Note mine, of the Grave Creek district, owned by the Gold Note Mining company, of which H. B.



Hendricks of Grants Pass is manager. Mr. Hendricks and his associates have had the Gold Note under development for the past three years, and the property is now making a fine showing. It is located near the famous Greenback and its vein contains the same character of ore as that found in the big property. Over 1,000 feet of underground work has been done.

John Robertson now has a stamp mill erected and in operation on the Black Bear mine of Galice district. He has been faithfully at work on the Black Bear for several years, and was recently rewarded by the striking of a fine body of rich ore. A portion of this will be shipped, but the greater quantity will be given treatment through the new mill. The Black Bear is located about two miles from the main Galice camp.

The new mill and tramway are now in place on the Oriole mine of Galice district. This property is splendidly developed, being opened by four adit tunnels, all giving access to working ore. For the past two years the management has been shipping all its ore, but in the future the entire output will be reduced in the mill. No. 4 tunnel is the main working level, and taps the ore body to a depth of 600 feet. From this tunnel the ore will be conveyed by gravity tram to the mill. The worth of the ore, as proved by shipments to the Tacoma smelter, ranges from \$100 to \$400 to a ton.

The Oscar Creek Consolidated Mining company is the name of the new corporation which recently acquired a number of placer properties on Oscar creek, 10 miles south of Grants Pass. The group consists of a number of mines that were formerly operated by individuals, among them being the Oscar Gulch, Jewel and Carson. The principals in the new company are A. H. Gunnell, L. L. Jewel and Charles Burkhalter, all of Grants Pass. The company is equipping the mines for operation on a much larger scale.—Mining Record.

#### FRISCO PLACER MINING CO. TEST RUN COMPLETE SUCCESS.

The long looked for test run of the plant of the Frisco Placer Mining Company was made last week. The result was a success even beyond the expectations of the company. The plant installed, with a few slight alterations, will be placed in steady operation within a month or six weeks.

At the conclusion of the test run, which consisted of 40 yards of gold bearing dirt, the basin under the second trommel was examined and there before the eye, plainly visible, was a yellow mass, intermingled with the black sand. Superintendent Murray wore a glad smile at the conclusion of the run. The exact figures of the result of the test run have not been given out but it is sufficient to say that the plant when in full operation can be depended upon to save not less than 80 per cent of the values and it is even estimated as high as 90 per cent.

J. O. Baylor of Clifton was present at the finish of the test run and expressed himself in the highest terms as to the values received from the

limited amount of gravel run through, stating in his opinion there was over \$300 dollars of the precious metal in the lower basin alone. The basin under the second trommel recovered nearly all the values.

At present a system of power cable scrapers is being put in. These comprise four scrapers attached to a cable carrier, which will carry the gravel direct to the machine and trommels, thus doing away with the wheelbarrows and shovels, and much lessen the cost of handling the dirt.

Mr. Lennox one of the original owners was in town Tuesday and stated that he had options on ground along the west river front for sixteen miles. Some two years ago A. D. Lennox and E. G. Cook went to work on their ground in a primitive way, and worked along steadily, making enough to pay their way and their hired help. Some four months ago J. M. Erickson became interested with them and proposed a great deal larger plant, with the result that C. B. Nonnamaker and W. C. Crawford, together with Mr. Erickson and others, have furnished the necessary capital to put the property on its present basis.

With this era of gold production in the district will come many similar plants and the employment of hundreds of men, which means much for Clifton, its merchants and craftsmen. One success of this kind is a guarantee that others can do likewise.

Clifton was first started as a mining camp, way back in the 70s, but king copper bobbed up with tremendous power and the yellow metal was lost sight of.

It is understood that the group of claims, upon which the plant is in operation, is under option to eastern capitalists, who became interested through the representations of Mr. Murray who visited the holdings of the company several weeks ago at which time he thoroughly sampled the property and returned two weeks ago to personally superintend the first test run.—Clifton, Ariz., Copper Era.

#### GOLD MOUNTAIN.

George M. Hunter, who is up from Gold Mountain, reports that electricians are now at work repairing the damage to the transformers to the Bonnie Clare mill, which was put out of commission several days ago by being struck by lightning. When the transformers are ready the mill will resume operations again.

A large supply of ore is now being accumulated at the mill, some of it coming from the Bonnie Clare company's properties at Gold Mountain, and other shipments coming from the Great Western at Hornsilver.

It is reported that a splendid strike has been made by the Bonnie Clare company on its Rattlesnake property, a new vein having been opened, and showing a fine body of lead ore that runs well in silver and gold. Two sets of leasers are working on the Courbet and taking out considerable ore.

Mr. Hunter states that he is preparing to sink the shaft on the Randolph to a depth of 500 feet. It is now down 300, and there is a good

showing of ore that was opened by a crosscut about 70 feet from the shaft. The additional depth which will be secured by sinking is expected to greatly increase the size and value of the ore bodies.

James Williams is still developing the Royal Flush with a good force of men, and is getting out another good shipment of ore.

The entire Gold Mountain district is showing a great deal of activity, and the Bonnie Clare mill will be a very helpful institution, by furnishing a convenient market for ores in any quantities.—Goldfield Tribune.

#### RAWHIDE PLANTS ON CUSTOM ORE.

Superintendent Dan McLeod of the Rawhide Metal Mines company, accompanied by Mrs. McLeod, are in Reno, where they will remain during the summer months.

Mr. McLeod says Rawhide has an encouraging outlook. Since the Black Eagle people took over the old National mill and remodeled it throughout, they have been making a 90 per cent saving on ore from that mine, of which they have an abundance. The process employed consists of grinding the ore in cyanide solution to a very fine mesh, sliming it as much as possible, after which it is run into tanks and agitated until most of the values are taken up by the cyanide.

With a few more minor changes it is expected that a still higher percentage of saving can be made.

The Queen company has completed its cyanide plant and will start at once on custom ore, of which there is a great deal ready to be treated. Among those who have ore in their bins and on their dumps awaiting the starting up of the mill are County Commissioner F. R. Reed, Summer and Curley, on the Grutt Hill lease; Meaker Brothers, on the old Miller lease; Channing and Shafer on the Mint lease; Fanning and Margrave on the Anglers lease. The Phoenix company, on the old Kearns No. 1 lease, and several others with more or less ore ready for treatment. As all of this ore is taken from the oxidized zone, it is believed that a very high percentage of saving can be made. After all this business gets into full swing there is no doubt but that the much abused camp, which was the scene of the most spectacular boom ever "pulled off" in this country, save possibly the Klondike rush, will experience a real revival.—Goldfield Tribune.

#### RAY, CHINO AND UTAH.

General Manager D. C. Jackling of the Utah Copper, Ray Consolidated and Chino companies, returned Wednesday morning from his regular monthly inspection of the latter two properties, and the information he gives in regard to the two is of the most encouraging import. The Ray Consolidated is operating successfully and a splendid record is being achieved in the treatment of Ray copper ores.

Under the old-fashioned methods and ideas in copper mining, the pres-



## NEWS NUGGETS

## Concentrates Gathered From Various Properties.

ent company would measure far into the big enterprise column, but its present capacity is only a portion of what will be the case when all the sections are now in operation, but not at full capacity, the present daily tonnage being 2700 tons, which will be increased to 3000 tons a day by July 1. Everything is progressing according to the prearranged schedule and results are extremely satisfactory.

The financing of Chino company, stated Mr. Jackling, was accomplished with the greatest ease. The \$2,500,000 bond issue was over-subscribed several times, demonstrating the confidence reposed in these modern copper propositions.

By the latter part of 1911 the three sections of the Chino concentrator originally planned will be in operation at full capacity, and the two additional sections, which will raise the daily capacity from 3000 to 5000 tons, should be installed and operating during the first quarter of 1912. The Chino at the present time measures its developed ores at 45,000,000 tons averaging 2.30 per cent. As pointed out a few days ago from the east recent operations have assured the existence of 5,000,000 tons more up to the present date.

In regard to the copper situation, Mr. Jackling stated that he could add little to his recently expressed opinion in Boston that the outlook is now the brightest in two years past, and before the end of August the metal should be selling for 13 cents per pound.

"Copper is in excellent shape," said Mr. Jackling, "and this is the general impression in the east. The stocks of the metal are low and what there is is held by the producers. The consumers are now entering the market and when they begin laying in anything like normal supplies this will decrease the supplies of the producer and make the metal very scarce."—Salt Lake Tribune.

## MUCH SNOW UP THE BIG COTTONWOOD.

In a week or two the Cardiff management will be experiencing less grief in the effort to bring an adequate ore tonnage to the Salt Lake valley. President Ezra Thompson spent Monday at the mine up Big Cottonwood, and he states that road conditions still are not what they should be or will be a little later.

In order to permit the ore teams to reach the mine, he stated, it was necessary to cut roads out of ten feet of drifted snow and ice in places, which is a condition not easily appreciated by the citizens of Salt Lake, who believe summer has come in earnest.

A good deal of water is being handled by the tunnel, says Mr. Thompson, and the winze from which the miners were compelled to climb several days ago is getting its share of this flow, although it is in good enough loose territory to drain the water partially at least.

Big Cottonwood will be one of the productive silver-lead centers this summer, and judging from the number of new properties being worked for the first time the camp will be full of activity all year.—Salt Lake Tribune.

Officials of the Lead-Silver Mining company, believing they have ore resources which justify their plans, report that extensive development work soon will begin on the Rex mine in the Coeur d'Alene district, Idaho. Contracts have been placed for equipment to double the present working capacity. Manager Glass expects to begin work within 60 days on a lower tunnel to be approximately 6,600 feet in length, which will give a depth of 1,500 feet on the ore bodies. The outlet of the tunnel will be at the company's present millsite on Nine Mile creek. In addition to the machinery for the driving of the tunnel, the company is adding another unit to its air compressor, giving it the capacity of another 12 drills. Plans are also being prepared for an addition to a 400-ton concentrator.

Thirty thousand dollars in dividends for June was disbursed by the Hecla and the Kendall Mining companies, operating in the Coeur d'Alene district. The former paid \$20,000 as its 96th dividend at the rate of two cents a share on 1,000,000 shares of a par value of 25 cents each. The company has paid \$90,000 since the beginning of 1911, and a grand total of \$2,200,000 to date, or nearly nine times the par value of its stock. The Kendall's 79th dividend was at the rate of two cents a share on 500,000 shares of a par value of \$1 each, making a total disbursement of \$60,000 since January 1, 1911, and \$1,385,000 to date, or more than two and a half times the par value of the stock.

Sixty-five tons of ore is the average daily output of the leased mill in operation at the Marsh mine. The company has shipped concentrates of a gross value at the smelter of \$24,500 in six weeks. The net returns, after deducting freight, treatment charges and operating expenses, was \$9,500. The output of the mill will be larger in the future, as will that of the mine.

It should be remembered that Jim Butler made his great find at Tonopah within thirty feet of a road that had been used for a generation. Not a solitary passer halted to investigate the enormous outcropping that finally arrested the attention of the father of Tonopah. This ledge stood fifteen feet above ground, and the marketing of the rock yielded \$1,500,000 without a pick striking one foot beneath the surface. How few persons know that Goldfield was located at least three times before the final discovery that placed it on the map. In 1863 and 1864 the main traveled road meandered between the Jumbo and the Florence, which have given up their millions, and were passed over because the prospectors and emigrants could not get pannings on the surface. Locations were made again in 1870 and allowed to expire, and thus the famous gold camp, which in the short space of seven years, has contributed \$53,000,000 to the wealth

of the world, was allowed to go by default.

It is reported that the Majestic mine in the Elk River region, has made a valuable strike of ore that assays \$49.60 in gold. The samples were taken from the tunnel in rock which was looked on as waste by the workmen. The ore was blackish green in color, and the miners threw it over the dump, when A. H. McKnight, the superintendent, noticed it and sent a sample to Elk City, Idaho, for assays. The property had always been considered a low-grade ore proposition.

More favorable reports continue to come from the Demijohn of Pioche, Nev., where the new hoisting equipment is about ready to be put in commission, and will rapidly carry the main working shaft from the 200 to the 300 level. Shipping ore has been encountered in a number of places in the shaft and drifts, and with depth the prospects are said to be splendid for getting into bodies of commercial importance. Recently while blasting for the foundations for the hoisting plant three feet of galena ore was uncovered. This will be diligently prospected and gives great promise, according to late word from the front.

The Humboldt smelter of the Consolidated Arizona company, situated in Yavapai county, Arizona, is shipping about 10 cars of copper bullion a month. The company is working the Blue Bell mine on its own account, and is securing much of its ore from that source. Down to the 600 level the Blue Bell ore is said to average 5 per cent copper, with \$2 to the ton in gold and silver. The main shaft is being continued down to 900 feet in depth.

The Pearson Brothers, the millionaire mine, railroad and lumber owners, are developing a rich body of ore at Dos Cabezas, which lies between Casas Grandes, Chihuahua, and the El Tigre Mine in Sonora, Mexico. They are blocking out a mine, in the lower workings of which they have struck 14 feet of ore which gives an average of 900 ounces of silver, and gold values of one to four ounces to the ton. No stopping is being done in this mine and the work being done is preparatory to the installation of an immense plant.

There are at present more than \$2,000,000 worth of ore in sight, and the only ore being shipped is straight development. One carload of this ore recently shipped netted the concern \$50,000. Hitherto the public has known very little of this mine.

When excavating for the Odd Fellows Hall at Placerville, California, was first started a gold coin of early mintage was found. It is engraved on one side "August Humbert, United States Assayer, 1852," and on the other side "United States of America, \$10, 884 thous. One side contains an eagle and the other side a beautiful scroll.

Sylvanite showing values of 2000

ounces silver and rich streaks running as high as \$20,000 in gold has just been discovered on the 160-foot level of the old Sheep Rock property in eastern Beaver county, Utah.

The Country Boy is ready for work at Breckenridge, Colo.

It is probable that development work will be resumed at the Dollarhide group of mines, near Hialeah, Idaho, some time next month. The Eastern stockholders have been looking into the matter for some months, considering the reports of Aliene Case Jay Cizzek and other engineers of equal eminence, and they have concluded to resume operations.

There is said to be more snow on the Sonora road over the Sierras than there has been for many years.

Highland Mary has had trouble with the deep snow in the Downville, Cal., district.

At the Indiana Harbor plant of the Inland Steel Company recently, two 62-in. Cutler-Hammer lifting magnets unloaded 4,000,000 lbs. of pig iron from a steamship in 10½ hours. The maximum number of lifts made in an hour was 73 and the minimum 45. In all 1281 lifts were made by the two magnets used, the average lift per magnet being 3427 lb. With the lifting magnets only two or three men are needed in the hold of the vessel, and no time is lost in filling buckets.

#### SILVER.

The greater part of the silver produced in the United States is obtained when smelting lead and copper ores.

The greater part of the silver produced in Mexico comes from lead-silver ores. These ores also carry some gold, which oftentimes is sufficient to pay for their treatment, although not in such quantity that they could be classed as gold ores.

The greater part of the silver produced in Ontario, Canada, is almost native, although associated with cobalt and nickel minerals.

The first large silver deposit found in this country was the celebrated Comstock lode, in Nevada. The black sulphide of silver was at first thrown away by those who were washing for gold, and even broken up to obtain the free gold in the lumps. As soon, however, as an assay disclosed its nature, mining commenced in earnest. The gangue in this deposit was mostly quartz and the vein has been worked to a depth of 3,100 feet, making it evident that the solutions forming the vein came from great depths. Argentite, or silver sulphide, contains 87.1% of silver and 12.9% of sulphur. It occurs in cubes and octahedrons, massive; as scales, coatings, and tree-like markings. It has a blackish lead-gray color. Its streak on porcelain has a lead-gray colour and a shining metallic luster. It is partly soluble in nitric acid, and when in solution will silver-plate a copper strip. The mineral is as readily cut as lead; will flatten under the hammer, and is easily melted.

Other silver deposits were found in Nevada, although they were not remarkable, and it was not until 1878

that any bonanza silver deposits attracted attention. These were at Leadville, Colo., where the lead sulphides and carbonates were found in limestone adjacent to porphyry. In places very rich silver ore was found and often associated with it was gold. Closely following this were the Butte, Mont., deposits, which were in granite that had been cut by intrusive dykes, forming fissures that were afterwards filled by solutions carrying copper sulphides, gold, and silver. The copper sulphides were weathered, leaving the gold and silver in great masses near the surface. The gangue in this instance is quartz, indicating that the mineral solutions came from below.

Following this discovery came the Mollie Gibson and Aspen silver deposits in Colorado. These mines were in limestone adjacent to porphyry, and like the Leadville mines, were contact deposits. Probably the next most noted silver deposit was found by a burro in the Couer d'Alene district, at Wardner, Idaho. The silver-bearing galena seems to be as rich in the Bunker Hill and Sullivan Mine at a depth of 2,100 feet, as at the surface. The mine is said to have paid over \$7,000,000 in dividends since its discovery in 1885. It is at present the richest silver mine in the United States, and other silver-lead deposits are being discovered in the same district almost every year. The deposits are in a mineralized zone, having quartzite foot wall and an impregnated hanging wall of brecciated quartzite. The rocks in this section are quartzite and schists that have been folded and otherwise distorted. —Mines and Minerals.

#### A BIG MINE.

Nevada Consolidated continues producing its daily average of 10,000 tons of ore from the Copper Flat pit, and the output is keeping busy the contractor, converter and smelter. Two sections of the concentrator are being used exclusively for the treatment of the very low grade ore which is being taken from the pit; and the tests being made are very satisfactory.

The treatment of this ore is the wonder of the copper world, for they are mining and treating with profit ore which carries less than one per cent copper. The full amount of the profit has not yet been determined; and in fact the two sections are being run as a separate mill, which will determine the cost of treatment accurately.

In the smelter four of the reverberatories are running, three of them under fuel oil. The last of the three has been operating a little more than a week, and the fourth will be kept in operation until No. 1, the last to be equipped with oil gets up to the proper temperature for the treatment of the ore. Reverberatory No. 1 is now the longest, perhaps, in the world, its length being 118 feet. This is eight feet longer than the other reverbs, and for the reason that the grate, eight feet in length, has been made part of the smelting zone. The coal hoppers have been changed into calcite hoppers; and the remaining two

reverberatories are equipped for fuel oil, their grates will be done away with, and they too, made the same size as No. 1.

Drilling for water on Berry Creek, a branch of Duck Creek, has met with success, water being found at an elevation of 8,000 feet. While the extent of the flow cannot yet be determined, the conditions are very encouraging for further drilling. The development at Berry Creek of a good and steady flow, means much for the concentrator.

While the rock and the ore are flying in the big pit at Copper Flat, the Liberty pit is adding its modicum to the product of Nevada Consolidated; shipping, however, only such amounts of ore as is required to make way for the adverse which is being cut in the new workings. From the Liberty pit, up to date, 30,000 tons of ore have been taken. To the ordinary operator this would mean a fortune; in the workings of the Nevada Consolidated it is but a drop in the bucket.—White Pine News.

#### SEARCH FOR LOST MINE.

Phoenix.—A. A. Palmer, Henry Haney and G. Petrasch departed this morning for a long prospecting trip which will doubtless carry them through the summer and fall months, and on indefinitely.

Their first stopping camp will be made in the mountains to the north of the Roosevelt dam, where it had been reported to them that the brush and undergrowth was very thick and there was the best possibility in the world of an abundance of all kinds of game.

Also, they have had authoritative rumors that the "Lost Dutchman" mine existed somewhere in that section, and they will give the ground and mineral belt a good going over, looking for it.

Mr. Petrasch, of the party, was selected and taken along by the other two men because he is an Arizona frontiersman and who has much data and facts gathered in regard to lost mines.

The entire party went well equipped for such a journey in the wilds of the plains and mountains.

First in the list of new purchases to be made for the trip was a new wagon. Next were two good plug horses, in fair condition and about fifteen hands in height, and a set of medium weight harness for them. Added to this, the wagon is filled with everything necessary for traveling and camping out, and on the side, two new guns and plenty of ammunition.

Thence they will start direct for the Superstition mountains and make a camp at a cool spring of water which the frontiersman knows, having been there more than forty years ago with the soldiers during the Indian troubles. They will not move camp again until after the summer heat is past, if they do then, for they are going to look some more for the lost mine and its reported \$10,000,000 treasure.

Mr. Petrasch is more strongly given to the belief that the lost mine is somewhere in that section than elsewhere. Mr. Petrasch will do the fine work in figuring out details and outlining plans to re-discover it.

There are so many stories in circula

tion in regard to it that of late years it has assumed a jack-o-lantern phase and many have lost confidence as to whether it ever existed at all or not.—Douglas Dispatch.

#### YERINGTON COPPER CO.

The numerous shareholders of the Yerington Copper company will be interested in the report from the camp in Nevada that surveyors are now at work on this well known group, presumably for the purpose of rounding up the final proceedings to bring the property into the patented class. Following this essential step, it is considered certain that the company will be established once more on the active working list of Nevada copper mines.

For some little time it has been rumoured round that the officials are planning to reorganize the company in order to more readily finance the future operations. Just what these plans contemplate has not been released, and it is doubtful if any concrete programme has been mapped out, but those who stand in a position to know believe that some effort will be made to decrease the number of shares outstanding so as to increase the number of treasury shares.

Such a programme would permit a far more attractive proposition to be presented to capital than as things now stand, and the financing could be accomplished through the treasury stock rather than by making the stock assessable and call upon shareholders for the requisite amount.

The Mason Valley copper smelter is being erected between the Yerington Copper property and the town of Wabuska, bringing the property into immediate touch with a market for its smelting grade ores now demonstrated below the 300-foot level. There is a good tonnage already exposed, but the strength of the veins where tapped indicate even better results when depth is gained. It is desired to reach depth with the least loss of time and to put the mine in shape to produce a good ore tonnage for sale to the Mason Valley ore purchasing department at Thompson.

J. E. Campbell, who has a lease from the 800-level to the surface on the Red Cloud group of mines, on Deer Creek, near Halley, Idaho, has made one shipment of ore and expects to ship about a carload a month. It the ore pays he will employ every man that he can pay. He has two employed now. He will not start up the mill for a while, because of the cost; but he will do so as soon as he believes that he can make it pay. In the meantime he will use a hand jig to put through what ore has to be concentrated. We like this. It shows a determination to make the property pay its way—and that should be given more consideration than it often receives. Make it pay now.

Jesus Maria Uguirjo and Jose de la Luz Coronado have bonded their mine, the Santisima Trinidad, in the Moctezuma district, Sonora, Mexico, to an English company for \$30,000 and work with a large force of men will be begun at once.

## PETROLEUM NEWS

### Recent Happenings Among Oil Men. Notes From the Wells.

The arrival at this port last Friday of the big oil tanker W. F. Herin, towing a barge carrying 55,000 barrels of naphtha, valued at \$550,000 has given rise to much speculation on the part of the public as to the reason for shipping petroleum products to California when there already exists a so-called surplus of the crude oil.

Is naphtha bought cheaper abroad than at home? Else why should it not be manufactured at home? Is the foreign or the eastern article of better quality than that refined in California? These are the questions frequently asked.

A short time ago a consignment of gasoline from the far east arrived at this port for the Standard Oil company, which is engaged in distilling gasoline and other products from California oil, and the same questions have been asked as to that. The answer is simple. These products are imported because not enough gasoline and naphtha are made in California to satisfy the local demand.

The demand for these products has outgrown the present capacity of the Standard's refinery at Richmond, and they must be imported until such time as the refinery facilities of the Standard have been enlarged. Already the company is taking steps in that direction by building a refinery on the ocean beach at Manhattan, about 12 miles from Los Angeles. It will have a capacity of 50,000 barrels, and as the Standard builds its refineries on the unit system, the plant may be expeditiously enlarged by the addition of one or more additional units whenever the necessity arises. Being built upon the sea shore the expense of pipe lines will be minimized, as the products of the refinery may be placed at once in tank vessels at the refinery wharf with the minimum of expense.

Despite reports to the contrary, the company has taken no steps for the establishment of a pipe line to connect its Kern county properties with its new refinery. No such pipe line is deemed necessary.

With reference to the second question whether foreign gasoline is of better quality than the domestic products, well-informed oil men say that gasoline is gasoline wherever it is produced, and the fact that the crude oil from which it has been refined is of asphalt or paraffine base does not matter, for gasoline is so remote from the crude base that it is not affected by reason of the nature of the crude oil. All the gasoline shipped to this state is readily absorbed by the market, and such shipments will continue until the Standard and other companies, such as the Union and Associated, which do a little refining, shall be in such a position as to supply the home demand with the California product.

The estimated production of gasoline last year in the United States

was about 10,000,000 barrels, and it is supposed that nearly one-fourth of this was consumed by automobiles alone, without taking into account that used in motor boats and for power generally. The use of gasoline for propelling ocean-going vessels is in its infancy, and the advancing tendency in its price, which has only recently been checked, threatened the development of the new method of propulsion. Following the lead of Germany, explosion engines of large size are now being made which consume kerosene and the heavier oils, but at present they do not threaten to displace the gasoline for locomotion purposes, included in which the aero plane must not be overlooked.

There are two opinions regarding the so-called surplus of stored oil in the California fields. There were 36,000,000 barrels of surplus oil in storage in California at the close of April. March increased the then existing storage by 2,000,000 barrels. In April 800,000 barrels were put into storage. There are at the present time 594 wells being drilled in all fields in California, and a large percentage of them are in the fat gusher belt. It is expected that within a short time the production will exceed the demand at the present rate of progress by 1,000,000 barrels per month.

It is certain that a large additional surplus is expected over the demand, for the Standard, the Union and the Associated are constructing immense storage reservoirs in all fields to conserve the oil that will shortly be gushed to the surface. The price of the oil has fallen about one-half during the year. Crude oil that sold for 60 cents per barrel a year ago is being offered as low as 30 cents, and the Standard is now making short-term contracts at 30 cents.

The optimists, however, point to the fact that there is only a six months' supply in storage at the present rate of consumption and demand, and that there should be at least one year's supply in sight, in view of the coming in of internal combustion engines of the Diesel and Pace types, which may be used on sea-going vessels up to 10,000 tons. They point also to the fact that old wells are diminishing in their output as new ones come in, and that it is absolutely necessary that there must be visible assurance of a continuous and plentiful supply for the next fifty years at least before ship-owners will adopt the improved methods of propulsion.—San Francisco Chronicle.

#### FULLERTON FIELD.

At present the Fullerton oil field is attracting premier attention, due mostly to the activities of the Standard, Santa Fe, Amalgamated and other powerful companies. The Standard is steadily augmenting its holdings (having secured two additional leases, the 35-acre Dehm tract,

and 25 acres belonging to the Proud estate.

Negotiations for other tracts are pending and within a short time the Standard is expected to control many of the best properties in the field. Large sections of entirely virgin territory are being gathered in by the Standard, but the merit of these has been demonstrated by developments in adjoining holdings. The Standard is shipping in pipe, seven carloads being already on the ground, with more coming. This will be used in the construction of a pipe line from the Olinda and Brea Canyon districts to Fullerton, and it is understood that the line will be extended to Manhattan, where the Standard recently purchased a splendid refinery site. At Los Nietos pipe is being received and it is stated that the Standard will have the laying of the line in full swing within 30 days. The company is preparing also to increase its storage facilities in the Fullerton, Olinda Brea Canyon and Whittier fields. The company has contracted to receive the entire product of the Central wells in the Whittier district, and is said to be negotiating for the receipt of the Fullerton wells of the Santa Fe. The latter company has 65 wells in action, with a production ranging from 70,000 to 75,000 barrels per month. Eleven strings are in commission and new wells will soon be brought in. A large percentage of this oil is of such excessive lightness that it is unsuited for fuel purposes, but makes an excellent refining product.

#### OIL NOTES.

The refining plant of the California-Fresno Oil Company, located about two miles southeast of Fresno, on Railroad avenue, was completely destroyed by fire last week, together with about 100,000 gallons of gasoline, distillate and crude oil. The loss to the plant is estimated at \$10,000 while the loss of gasoline and oil is estimated at about \$30,000. As no insurance can be carried on places of this character, the loss was total. The president of the company, A. Ruschaupt, says the plant will be rebuilt at once.

With 100 steel tanks in commission providing a total storage capacity for 5,000,000 barrels of oil for the Huasteca fields in Mexico, and with other storage facilities, the Mexican Petroleum interests, owned by E. L. Doheny, C. A. Canfield, Dr. Norman Bridges and associates, are in excellent condition. It is stated that an order has been placed for 11,000 tons of 8-inch pipe line for the purpose of paralleling the pipe line from the Huasteca fields to Tampico, a distance of seventy miles, and for providing branch lines to the various fields of the company. Upon the completion of this pipe line the capacity will be between 50,000 and 60,000 barrels daily.

Desultory operations are the most that can be said for the eastern fields lately. Outside of a very few districts in West Virginia and deep sand territory in southeastern Ohio and the little excitement near Perrysville, in Allegheny county, Pa., there is nothing to attract any considerable

attention. For the past week or so the work completed in all fields was very much of the routine order and in no way relates to the extension of the oil fields or the discovery of new pools.

The Steptoe copper smelter at Ely, Utah, uses 750 to 900 barrels of California fuel oil daily.

The famous, reliable Midway district continues to record the inception of new gushers with steady regularity. The latest well to attract attention has been brought in by the Midway Royal on section 30.

The Lakeview is reported to be sending out about 5000 barrels of good-grade oil per day.

C. A. Turner, an oil operator of Visalia, Cal., who made good money in the Lost Hills, has been inspecting the Lorena oil district, in Nevada.

If the government is so worried about oil producers robbing Indians and everyone else it might solve the problem by making pumpers and lease bosses of its soldiers and superintendents and pipe line managers of its officers and engineers. There is enough fighting in the oil business to keep the boys in practice and enough exercise to keep them in good physical condition. Secretary Fisher could serve as adjutant general of the petroleum division of the army.—Oil and Gas Journal.

The civil engineering firm of Parsons & Barton has completed the reconnaissance survey for the Guaranty Pipe Line company's pipe line from Maricopa to the coast, says the Bakersfield Echo. It was first intended to survey the line to Santa Barbara, but a more practical route was found to Ventura, and it has been decided to take the pipe line over the mountains to that point. Ventura is just seventy miles from Maricopa, almost due south, and the highest elevation to be attained is 5000 feet.

#### IN THE YAQUI COUNTRY

Indications that the Yaquis are determined to secure the recognition which they have demanded for their rights continue to appear from time to time. There is a general movement of those that are in North Sonora to the south and a concentration of forces there. It is true that they show patience and a willingness to wait for a reasonable time, but it is also true that they are well armed for the first time in recent years.

Manager Moore of the Mababi ranch was in Tucson yesterday and told of unusual actions on the part of half a dozen Yaquis that have been working for him. The Mababi ranch is one of the largest of the estates in Northern Sonora. It is also known as "Lot 4" and has had a varied history until it recently was transferred to a British syndicate by the Banco de Sonora. It is now being actively developed along modern and up-to-date lines. This immense estate lies between Yzabel on the Nacozari railroad and Cananea.

Manager Moore stated yesterday that just before he left Hacienda Mababi six Yaquis, who were employed there, had left and started south. There is a rule at the ranch that no employees shall leave without giving

five days' notice, and that if they do they sacrifice the wages due them. These six Yaquis came to Mr. Moore and stated that they would have to leave without the five days' notice required, as they had been sent for to go south. They said they were aware of the five days' rule, but would sacrifice the wages. This they did not have to do, however, for they were paid in full, despite the irregularity of their leaving. They were highly pleased at this and departed with a quantity of arms and ammunition they had obtained. Each had at least one gun, and several had two or three, and everyone of the six had several belts filled with ammunition.

The embargo upon the taking of arms and ammunition is now removed. During the Yaqui troubles it was strictly enforced to prevent the entry of munitions for the Indians, and since then in anticipation of the revolution. Now that the revolution has been successful there was not considered to remain any satisfactory reason why arms and ammunition should not be admitted and the embargo has recently been raised.—[Even in New York City there is a general belief that there are rich gold fields to be found and worked in the Yaqui Country, but we suggest to prospectors not to go in until these people have been pacified. Ed.]

#### THE MINING BOOM.

Mining booms are not unmitigated evils. They stir up public interest, and are instrumental in disseminating all kinds of mining news. From the Rossland boom there have survived several strong organizations. Likewise has the Cobalt boom brought into existence scores of prosperous operating companies. Both booms taught their lesson, and both brought ultimate good to the country. This does not by any means imply that we approve the boomster.

Looking back over the rise of Cobalt there are many incidents that, considered together, prove that New Ontario has done considerably more for Old Ontario than has the Old for the New. The impressive array of new houses built by Cobalt money in the best residential sections of Toronto, not to speak of multitudinous motor cars, is direct evidence. Some millions of dollars of money made in Cobalt have been invested in real estate in Toronto. Montreal, also, can boast more than one modern business structure that owes its existence to Cobalt profits.

There is evident now another effect of capital created in New Ontario. Cobalt men and their associates are purchasing and developing mines in British Columbia, in Western and Eastern Ontario, in Quebec, and in Nova Scotia. Sheep Creek, B. C., Sturgeon Lake, Ont., and Killag, N. S., are some of the most notable illustrations. At these three localities investors who have been directly identified with Cobalt are supplying the necessary money.

Porcupine is really the child of Cobalt. In what condition Porcupine would now be were it not for Cobalt shekels we can only surmise. Por-

cupine, however, will be the means of infusing life into other mining camps, more especially, we think into old mining camps that have fallen by the wayside.

Thus Cobalt and Porcupine are not provincial but national in their influence. The boom that is impending in Porcupine will carry in its train less of misfortune and more of good exactly as the investing public is correctly informed as to facts. If the camp survives the boom, every other gold-mining region in Canada will, sooner or later, reap the benefit.

This is the large meaning of successful mining. No other industry calls into play such immediate enthusiasm, nor does any other industry diffuse so widely the wealth that it begets.—Canadian Mining Journal.

#### YERINGTON, NEV.

E. H. Nutter, Chief Engineer for the Mineral Separation Co., of London, was in camp this week looking over some of the large copper properties with a view of purchase for his company. The company which Mr. Nutter represents is one of the largest in the world, and at the Broken Hill property, in Australia, is treating over a million tons of ore a year. This property is the largest lead, silver and zinc mine in the world. The company has a process of its own which is adapted to the cheap working of the low grade chalcopryite ores occurring in epidote for which this district is noted. He took quite a number of samples with him and will know later on what may be done in this district by his company. Should this company decide, upon Mr. Nutter's report of conditions here, to get into this district it would mean the doing of things on a big scale. Mr. Nutter is a pleasant gentleman to meet, a college man, graduate of Stanford and classmate of C. F. Sherwood of this camp.

James E. Johnston, of Los Angeles, who has an option on the Douglass tailings in the big reservoir on the Carson River, below Dayton, has decided to exercise his option, and has begun the construction of a plant to handle the material. Several parties have heretofore attempted to extract the values from these tailings, but failed to do so at a profit. The material is an accumulation of slimes and tailings which was deposited by the mills of Virginia City and Six-mile Canyon in the early days of the Comstock. There are in the neighborhood of 400,000 tons of the tailings and it is estimated that they carry about \$4 per ton in values. The material is very dirty and contains considerable base, but Mr. Johnston has a process by which he will wash the tailings and take out all the copper and other base substance in them before they are passed on to cyanide tanks. He is very confident that he can turn the trick of getting the values out of this big pile of dirt, as he has made many experiments and tests with them in the past year. Several men are now employed on the ground and more will be shortly. The price to be paid to Mr. Douglass under the present agreement is 12½ cents per ton. Some years ago the tailings were held at 50 cents per ton.

## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

Frank D. Andrews, of Detroit, Mich., is in Yavapai County, Arizona, on mining matters.

C. H. Gibbs has been made manager for the Columbus Con. Mining Co., Alta, Utah.

Howard Poillon is manager of the Vanadium Mines Co., at Cutter, N. M.

The old Sancho Panzo mine, situated in the Van Horn district of western Texas, is to be reopened by J. C. Hoy.

The Black Shaft mine, also in the Van Horn district, has been leased and bonded by a syndicate of Minnesota men, and it is preparing to start development work upon the property. The workings of this mine extend to a depth of 300 feet, and it is said to contain a large copper and silver ore body.

Herr Belowsky of Berlin, Germany, is in Bisbee, Arizona, making a study of the mines of the district under a commission from the German government. After he completes his study he will return to Germany and give lectures at the technological schools on mining conditions in this country.

F. W. Johnson, who is heavily interested in mining property in the Mt. Grant country, Nevada, is now a resident of Hawthorne Nevada.

General Manager J. L. Harper of the North Washington Power Reduction company declares that the big building for the new mill is practically complete. All that remains to be done is to build a few footings for machinery, and the cement for this work is now on the ground.

Jim Gleason, of National, Nevada, has refused an offer for his Horned Toad.

George Wingfield has gone with his family to Lassen County, California, for the summer.

Guy Millard, of Goldfield, was in Nevada County, California, lately, on mining business.

Hauch Brothers are approaching the end lines of their Delta placer claims in northern Idaho and expect to abandon the property at the end of the season. Two nuggets valued at \$375 were found a week ago and several rich finds were made a month ago. Earlier in the season two nuggets, worth \$250 and \$330, respectively, were found and two which ran \$133 and \$240 were picked up a few days ago.

Republic Mines corporation, operating the Lone Pine-Pearl-Surprise group at the Republic camp, in eastern Washington, elected these officers at its annual meeting in Spokane: President, L. W. Anderson; secretary-treasurer, Robert A. Koontz; general manager, J. L. Harper; trustees, J. E. McFarland, Charles Blank, Thomas A. White and O. A. Broyles.

F. C. Norfield, of Douglas, Arizona, has gone to Red Rock, Arizona, and will proceed from there to Silver Bell, the headquarters of the Imperial Mining company, where he has a contract for some extensive drill work.

W. T. Sawyer is superintendent of

the Colorado Gold Mine, near Congress, Arizona.

Fred Smart is erecting a stamp mill on his gold mine in Colorado Gulch, about eight miles above Clifton, Arizona. The ore is said to be very rich.

R. C. Reinertsen, president of the Pondera Group Mining Company, owning 20 claims on Lake Pend Oreille near Sandpoint, Idaho, announces that a car of high-grade hand-picked ore is ready for shipping. The values in silver, lead, copper and gold range from \$125 to \$150 a ton. Four thousand feet of work has been done in three tunnels. In the main tunnel, where 10 men have been working since last winter, an eight-foot vein has been encountered and a large amount of ore has been taken out and placed on the dump.

F. B. Remington, who is a prominent mining man in Benton, Mono County, California, says the Benton and Queen Canyon mines are both producing bullion.

The Lincoln and El Dorado mines, which are an extension of the Temblor property in Sonora are now owned solely by T. L. Lambertson, the well known mining man of Douglas, Arizona. Mr. Lambertson says that the property is a first class one and added that he will go to work on the property and make extensive developments in a short time.

Daniel McGrath, manager of the Ray Jefferson property on Sunset peak near Mullan, Idaho, reports that an ore body more than six feet in width was encountered on the lower workings. The ore carries values in lead and silver, as well as about six inches of good shipping galena. The general manager's report shows that during the fiscal year ended June 1, 23,233 tons of ore had been mined and shipped to smelters. This ore had a gross value of \$578,402.56, and net value of \$405,037.14. The average value of all the ore shipped during the year was \$24.89 gross and 17.43 net per ton at the smelter. Mr. Harper's estimate shows that 557,400 tons of milling ore of a gross value of \$3,901,800, is developed ready for extraction. The company has no indebtedness outside of current accounts.

Near the Silver Summit, west of Mina, Nevada, D. C. McConnell has made a rich silver find.

B. Alexander of Clifton, Arizona, has been working a placer mine in Lower California, south of Ensenada.

J. M. Manson, of Reno, manager of the Western Ore Purchasing company, was in Mina, Nevada, last week inspecting the mines of the surrounding camps. Speaking of the outlook he says he expects another big boom in Nevada mines early this fall, as the present activity and conditions all over the State unmistakably indicate this.

George E. Martin, president of the Carbonate Hill Mining company, whose property is near Mullan, Idaho, has received reports that the entire



face of the tunnel has been in good milling ore several days and that clean shipping ore is plentifully disseminated throughout.

Fred and Will James have made arrangements to begin development work upon the Lone Star and Wild Rose consolidated claims in Mud Springs district, Eldorado County, Cal., S. H. Maginnes and Dr. J. Q. Vrenn of Placerville, are interested with them in the enterprise.

Webb Smith is superintendent of the Kennedy at Jackson, California, which operates 100 stamps, crushes 500 tons of ore daily and employs 350 men.

Fat Lovell of Winnemucca, Nevada, asserts that George Becker during the past two weeks has become a very rich man through the recent strike made in the Becker & Johnson mine at Yellowstone, about five miles from Floyds, in the Humboldt range. It is free gold and Fat asserts that it cannot become too plentiful for Becker and cause him to worry.

Mr. John E. Nay, a prominent mining man of Nevada and at present superintendent of the mill at the Stimler-Marsh Ruth mine, at George's Canyon, arrived in Manhattan, Nev., Friday of last week, bringing with him a large bar of bullion as the result of a few days run on the high-grade ores of the Ruth. Mr. Nay reports the ore so thoroughly susceptible to amalgamation that a very high percentage of values are recovered by that process.

Mr. Nay further states that a very rich strike occurred on the Kennison Atkin property adjoining the Red Ruth. The owners are now figuring with machinery people with the view of installing a plant at once.

B. H. Bowen has left Prescott, Arizona, to prospect in Oregon.

Dr. T. X. Schaeffer, professor of geology at the University of Vienna, who was invited by the Carnegie institute to witness the unearthing of the antediluvian monsters in Utah, announced in Spokane a few days ago that he will return early in August to make a careful study of the Couer d'Alene district, also visiting other camps in the Inland Empire.

Joe Clawson has returned to National, Nevada, from a prospecting trip and Ed. Clark has just started out.

J. Frank Harrington, is general manager of the Nelson mine, near Crown King, Arizona.

The Arizona Copper company has chosen Dr. L. D. Ricketts, of Cananea, as their consulting engineer in connection with the new reduction plant of that company which is to be erected as soon as preliminaries can be arranged, such as securing a required site, drawing of plans, etc.. In choosing Dr. Ricketts, the Arizona Copper Company exercised good judgment, regarding the highest talent in that line as necessary to the success of their undertaking.

#### BURROS DYING.

There is consternation in the ranks of the owners of burros in Wonder. There is quite a band of these useful animals here, most of them the property of prospectors who are working

in the mines for a road stake. The donkeys have been waxing fat on the luscious bunch grass of the surrounding hills, and paying occasional visits to town for water. On these trips to the city they have a swill route, taking in the back yards of boarding houses and residences and cleaning up any scraps of food thrown out. A favorite dish with them is the few particles of vegetables, fruits, etc., which adhere to cans, and the gorgeous labels with which canned goods are adorned. Within the past few days several of these best friends of the pioneer have been found dead, their bodies showing evidence of poison. It is a serious matter for a prospector to lose his burden bearer, and owners are puzzled to know how to protect their pets.—Wonder, Nev., Mining News.

#### NEVADA MEN CAUSE OF PROSPERITY.

Ever since it was first learned that Nevada contained wonderful bodies of mineral, it has been looked upon as a foregone conclusion that outside capital was necessary for the development of the untold mineral resources. Heretofore eastern capital has been a sort of bogey man with which to frighten those engaged in trying to develop mining property. If one did this, it would frighten away eastern capital. If he did that, eastern capital was frightened away. Well, when the panic came, eastern capital was frightened away, and it was a terrible shock to business all over the state.

Being deprived of the prop of eastern capital, we were forced to rely upon our own resources. A few of the mines were yielding profits, and the men who received these profits have invested heavily in mine development. For example, the money which is being spent in mill building at Wonder, came out of the ground at Tonopah; that at Fairview came from Goldfield. Buckhorn is about to be made to yield profits upon Goldfield dividends. And so on. The extended period of general prosperity upon which the state is entering, is due mostly to the reinvestment in Nevada mines of profits from Nevada mines by Nevada mining men. Tonopah Bonanza.

#### MONTANA PLACERS.

Bozeman, Mont.—The rush of prospectors for placer claims up the West Gallatin basin has steadied down and the canyon for some miles presents the appearance of the average settled placer mining locality. The largest company to become interested in the placer fields is the West Fork Mining company of Livingston. This company has been quietly at work installing a hydraulic plant on the claims it has purchased and has placed A. E. Bliss in charge. Eight men are now working for this company, but a larger force will be washing gold to its full capacity in two weeks.

Other companies and individuals are establishing plants for placer mining as the drift seems rich enough in gold dust to warrant steady operations. At the Michener ranch Mr. Michner has several men at work

for him opening the drift that is believed to carry the gold. The gravel washed out from Mr. Michener's claims has run high in gold. From the Michener camp on for miles the basin has been prospected and is now dotted with tents of prospectors.

The best dust seems to be in the old bed of West Gallatin river. The river has long since abandoned the old bed and now follows a course which lies below the old basin. Efforts are being made to find the source of the gold deposits and to this end all the country along the West Fork is being prospected.

Gus Steffens, a Bozeman jeweler, is the first man to discover gold up the West Gallatin and Mr. Steffens has maintained for years that the old West Gallatin basin would some day become rich placer grounds. Mr. Steffens has an option on the Michener place, the price being far beyond what the property could have been purchased for prior to the rush to the placer grounds in the spring.

#### LUCKY JOHNNY.

When the mines on the hill, the Tombstone Consolidated Mine property at Tombstone shut down it was a gloomy time for the old camp. She met her adversity bravely at a time when her prestige was gone and when the rest of the county was seeking for a removal of the county seat from the old historical camp. It was a dark hour for the old Tombstone camp, but just when the clouds seemed thickest and darkest there comes a rift and discloses a bright lining, and Tombstone hopes again. This was the advice that was brought to Tuscon yesterday, says the Star.

"Lucky Johnny Pearce" seems to have found the real ore body of the great Commonwealth Mine at Pearce, Ariz. This property has already produced \$40,000,000 and ranked with the great producers of the territory, but the announcement that Pearce has found the real ore body has created excitement in Tombstone and is awakening interest everywhere that the news is heard. Here in Tuscon it was the signal for Martin Costello to leave last night for the old camp. He has always been active in mining affairs and especially so in that district, and the report that the ore body of the Commonwealth had been found was all that was needed to hurry him back to fields he prospected in the early days.

It is now claimed that the Commonwealth has ore in sight to last for ten years to come. This is the cause of the hope and excitement in Tombstone, and since the announcement was made gold seekers have been coming to the old camp by every train, and Tombstone has brightened up and taken notice, regained her old-time hopeful aspect and is ready to go ahead again and welcome the return of prosperity.

#### AROUND KINGMAN.

J. C. Potts, son Clifford, and Howard Smith, who have been over at the Atlantic and Pacific mines, near Thumb Butte, returned home yesterday morning. While there the mines were examined by an engineer for the purpose



of representing the property to a large mining corporation.

Clack Brothers are making a shipment of several tons of ore from the new strike on the Rico mine, which they expect will run more than four ounces gold and about as much more in silver. The shipment is being made as a test of all the ore recently taken from the new shaft. They propose to run a long drift on the vein to get several hundred feet below the bottom of the shaft.

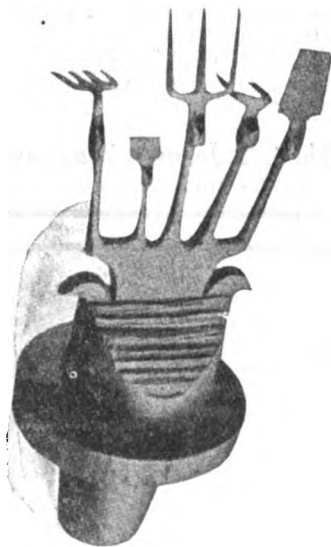
Articles of incorporation of the Pacific Investments Company, owning and operating the mines recently taken over from J. P. Flinn and Robert Ferguson, at Cerbat, were filed in the Recorder's office this week. The company is under the management of Julian P. Jones, who has been opening the property up in good shape. Machinery is being placed on the mine and it is the intention of the company to sink to a depth far below the present level.

J. H. Hoffman returned yesterday from Los Angeles, where he made arrangements for the purchase of a two hundred ton milling plant for the Arizona Southwestern Copper company. He reports that owing to trade conditions he has been able to add materially to the capacity of the plant and that when it is erected it will be one of the most up-to-date plants in the country. The plant will probably

## TRADE NOTE.

We are advised by the Orenstein-Arthur Koppel Company that they have secured a contract for the yearly requirements in shoes and dies from the Empire Mines, Grass Valley, Cal. The contract was secured after the mine had made exhaustive tests with nearly every brand of recognized value sold in this market and it speaks well for the quality of the "Koppel" steel.

The "Koppel" brand of shoes and dies is manufactured from forged



steel of a very high grade quality, as is evident from the photo reproduced, showing how the bottom of the steel shoe has been forged into garden tools.

The company has an agency in Los Angeles at 120 So. Los Angeles St.

be ready for shipment to the mines as soon as the road is completed over the mountain. He left last night for his home in Pueblo, Colorado.

The past ten days the Ruth mill has been trying out its machinery and testing the merit of its new amalgamation process. Thursday last a clean-

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LEONARD WEYRES,  
Care of Mining Review,  
Los Angeles, Cal.

### VONTRIGGER, CAL.

#### Special Correspondence.

A. H. Cram, President of the California Gold & Copper Co., made a trip to Goldfield to purchase a large filter press. A car of cement arrived this morning and construction on the large concrete tanks will soon begin.

The Liza Ray people are doing considerable development work. They are sinking a shaft and are down about 85 feet, and are hoping to get water soon. They have also ordered new machinery to remodel the old mill. They have some very fine silver and gold ore.

Mr. Harwood Robbins, a nephew of J. D. Rockefeller, Mr. Tucker, of Riverside, who is heavily interested in the California Gold & Copper Co. and an expert made a visit to the True Blue property and were well satisfied. They purchased a fifteen horsepower hoist from the Vontrigger Mercantile Co. and also ordered timbers and all material and expect to work as soon as possible.

W. F. Chaney and C. J. Cotter have been developing their tungsten property. They are down 35 ft. sinking a shaft in the main ledge and have some fine tungsten ore. The ledge is 12 inches wide and can be followed on the surface about 3000 ft. They had a sample assayed and received 76 per cent, being the best assay of tungsten ever known.

Mr. H. T. Robinson while visiting his daughter, Mrs. W. F. Chaney, was hunting one evening and discovered some very rich silver ore, the ledge being 4½ ft. wide. He sent some

## Mine For Sale

I own twelve high-class mining claims in Nevada, five in one group are free milling gold and silver; the remainder are gold, carrying copper and silver. Plenty of good water. Electric power line convenient. There has been enough work done to show what I have, and now I need a partner, a man who will come in and join me in making a fortune for both.

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samples to be assayed and received good returns.

Mr. Dan Simmons, while prospecting, discovered some very rich gold ore in the vicinity of Vontrigger. He made several pannings from a few ounces of crushed rock and got about \$5.00 in coarse gold to the pan. Of course that is very rich and has caused considerable excitement and although everyone has been watching Mr. Simmons very closely, no one has been able to find where he made his discovery.

### MAKING GOOD.

Some great mining has been going on for some time twelve miles east of Nogales.

The old Washington road as far as Harrison's Corners, for the past two weeks has presented a picture of activity that beggars description.

Not since the old days when the Pride of the West was being developed has this road from Harrison's Corners into Nogales presented such a sight.

Tuesday afternoon five more big loads of mining equipment left Roy & Titcomb's yards very quietly for the camp established about two years ago by Henry Greenwell, in the Patagonias.

Operations at the camp have been carried on with little or no outward show and especially here of late so much quiet and secrecy prevailed that it reminds one of a campaign of war instead of the development of a mine. —Nogales, Arizona, Border Vidette.

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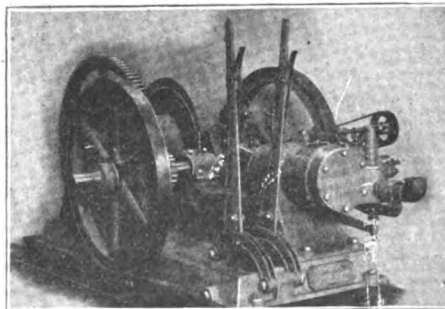
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### WONDERFUL MINES OF DEATH VALLEY.

Probably 200 men are now employed in the mines in the vicinity of Rhyolite, Keane Wonder and Beatty and there are now several heavy producers over in and on the edge of Death Valley, according to J. E. Busch of the firm of Busch Brothers, brokers and mining men of Goldfield and Rhyolite.

There are four active mines in the Rhyolite vicinity, and a big marble quarry eight miles south of the camp. The active properties are the Keane Wonder, the Chloride Cliff, the Skidoo Mines company and the Bonnie Clare Reduction company mill north of Rhyolite. The latter will soon be ready to handle custom ores, drawing its supply from Goldfield, Gold Mountain, Hornsilver and Bullfrog districts. It is a brand new mill, fitted specially

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the district. The property is owned by capitalists of Lynn and Boston. Mr. Woodward has been able to push the development with plenty of funds during the last six years.

Milburn E. and Millard S. Hosea, of Spokane, operating 14 claims in a group in Chewelah, (Wash.,) district under the name of the Pacific Copper Mining and Milling company, report having crosscut a 41-foot vein of copper, gold and silver in which the assay values range from \$33 to \$200 a ton. A large amount of development work has been done on the property, and the crew is now sinking a shaft on the main body of ore, which has been crosscut by the tunnel. A carload of hand-sorted ore is now on the dump ready for shipment to the smelter. The company contemplates installing a mill in the near future.

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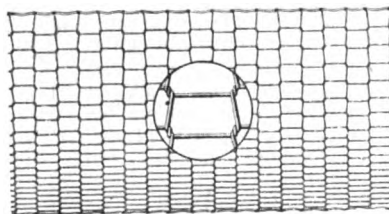


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## CONTENTS

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The Alaska Miner and  
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The Congratulations of  
a Governor



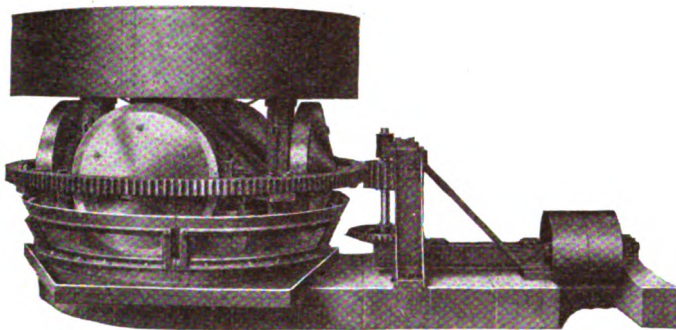
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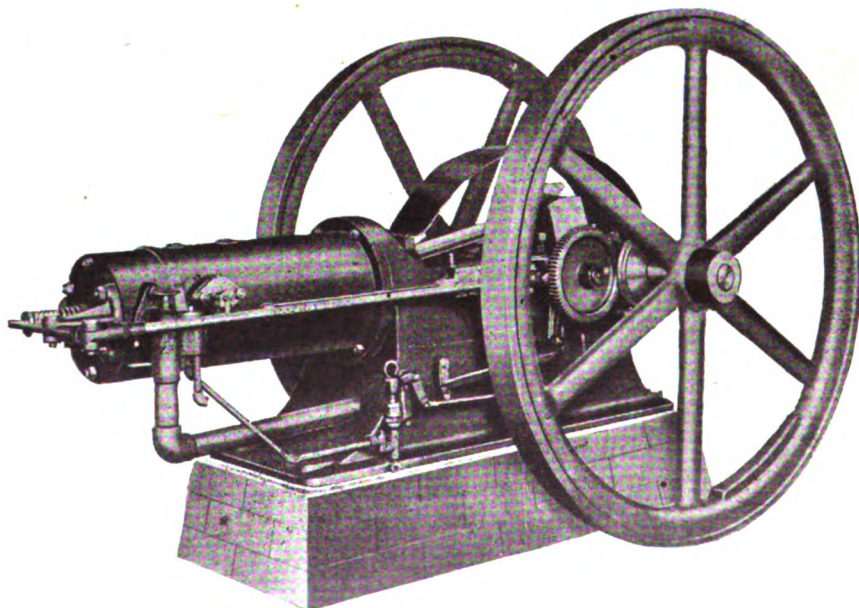
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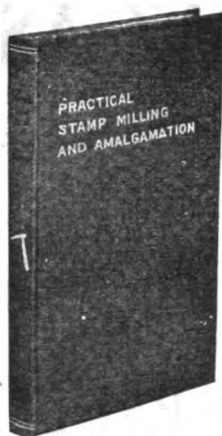
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# HISTORY OF LA PAZ AS IT WAS

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ARIZONA.

(Yuma, Arizona.) Jan. 10, 1911.

Mr. O. L. Grimsley,  
418 O. T. Johnson Bldg., Los Angeles, Calif.

Dear Mr. Grimsley:—Complying with the request contained in your letter of the 26th instant, in which you ask for a brief history of the old mining town of La Paz, I have prepared an article containing the following facts and a brief history of the mine. I have not gone into any of the many reminiscences of those old days, but have confined myself strictly to the main facts of its discovery, decline and final complete desertion. I have also added a few words as to the value of the properties owned by the new La Paz Gold Mining Co.

Yours very truly,  
(Signed) ISAAC POLHAMUS.

## BRIEF HISTORY OF THE LA PAZ PLACER FIELDS

When the writer first came to what is now the Territory of Arizona, in the year 1856, it was a part of that region known as the Gadsden Purchase. It was not until 1863, or seven years later, that it was made a territory, and at the time of its organization it originally comprised but four counties, namely, Yavapai, Mojave, Pima and Yuma.

Late in the spring, or in the early summer of 1862, the year before Arizona was established as a territory, gold was discovered in large quantities at what immediately thereafter became known as the town of La Paz. Reports of the rich placer mines quickly spread and people of all nationalities began to flock into the new El Dorado. Many of the old forty-niners who had gone to California during the great gold excitement there heard of the fabulous wealth of the La Paz placer mines, and were drawn thither by visions of untold riches that lay in this virgin field and awaited only the hand of man to gather and place them in the channels of commerce.

The town of La Paz was located at a point two miles distant from the Colorado river. This was due to the fact that the Colorado attained a very high mark during the summer of '62, and the land for quite a distance back from the usual course of the stream had become inundated, rendering it necessary to establish the town almost at the foot of the high mesa which stood about two and a half miles from the river proper.

The population, as stated, was made up of every nationality to be found in America. The Mexicans, however, greatly predominated. There was, of course, the usual large percentage of adventurers, gamblers and confidence men, that are always to be found in large numbers in communities of this kind. It was an era of wonderful financial prosperity. Men were lavish in their expenditures and money flowed as freely as water, for each and every individual of this nondescript population was moved by that same spirit of reckless extravagance and feverish excitement that invariably pervades the adventurous throngs who flock into new places of rich discovery.

The first visit which the writer ever made to the site of La Paz was in April, 1859, three years prior to the excitement aroused by the discovery of gold. At this time there was of course nothing whatever in the way of human habitation to be found on the spot that later became the scene of such great activity. The occasion of this visit was the taking of a boat of supplies to a point up the Colorado river that was afterwards known as Fort Mojave. This was during the Mojave War, and the supplies in question were being transported for the soldiers of the Sixth Regiment of United States Infantry who were then marching across the desert to the scene of hostilities. From this time forward, the various boats belonging to the Colorado Stream Navigation Company, of which the writer was Captain, and among which were the "Colorado," the "Cocopah," the "Mojave" and a smaller boat named the "Nina Tilden," made trips at more or less frequent intervals up and down the river.

That the placer fields of La Paz were decidedly rich was shown by the fact that nuggets of gold were taken out in great quantities. The largest of these, which was found in what was known as Farrar Gulch, weighed three and one-half pounds; a number of others were discovered weighing as much as three pounds, while still others of smaller size were uncovered in large numbers. A great deal of gold was encountered daily, and dust was panned out in abundance. The supply seemed inexhaustible and the people became wild with excitement.

La Paz, by reason of its importance, was made the first official Seat of Yuma County, and continued so to be until the first of the year 1870 but by an Act of the Legislative Assembly of Arizona, which convened in Tucson during the winter of 1869, the County Seat was removed to a point down the river then known as Arizona City, a name that was later discarded for that of Yuma. This move was effected some time between the 1st and 10th days of January, 1870. The writer was Captain of the Nina Tilden, the boat which transported the court records and paraphernalia, as well as all other records of the County, down the river to the new County Seat.

The Colorado Indian Reservation extends for a distance of a mile and a half south of the old old placer grounds, the southern boundary of the reservation being marked by what is known as the La Paz Gulch.

Parker, Arizona, is situated about thirty-five miles up the Colorado river from the former site of La Paz.

During the seven years that the placer mines of La Paz were actively worked, there was probably in the neighborhood of eight million dollars in gold taken out. The method of extracting the metal, however, was extremely crude. The miners did not even have dry wash machines, but the recovery of gold was effected solely by means of the Mexican bateas, a large wooden bowl, which was used in the same manner as the ordinary gold pan. By modern methods, placer mining should still yield a great deal of the precious metal, and the writer is sure that gold will be found in paying quantities in the area lying between the old site of La Paz and the foot of the mesa, which, so far as he is informed, has never been systematically worked at all.

Almost constantly since the discovery of La Paz, there has been a number of Mexicans and Americans working in the unrestricted fields with hand dry washers.

The fact that they all have and are making a good living, justifies me in saying that if the valuable ground owned by the New La Paz Gold Mining Co. is worked as you intend to, with modern hydraulic machinery, there is no question but that the company will be paying handsome dividends in a very short time.—ISAAC POLHAMUS.

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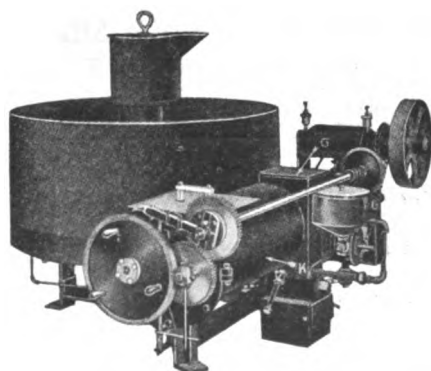
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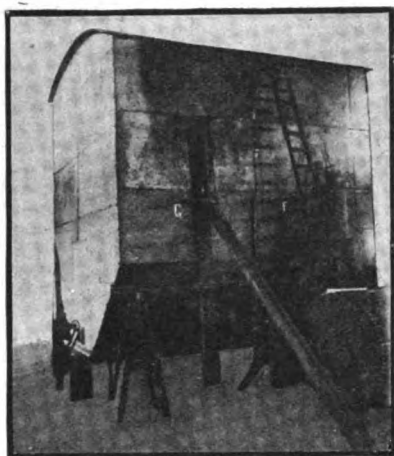
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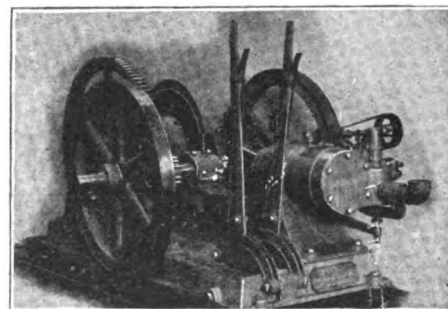
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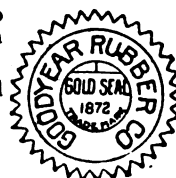
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Vol. 30, No. 21.

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Los Angeles, California, August 12, 1911.

## EDITORIAL

### CUTTING OUT THE WASTE.

The secret of success with many mines lies as much with the money that is not spent, as it does with the amount of metal taken out of the ores. Expressed in slightly different language, economy in operation counts as much in the final result as does the quality of the ore that is being mined.

This is not to say that the quality of the ore is not of prime importance, but rather that the economical management, directing the work intelligently, will clear greater profits than the management which neglects the finer points, or does not deem it worth while to install up-to-date appliances.

The most striking illustrations along this line may be found in the big low-grade producers, whether of copper or gold. For example, the gold mines which are treating \$2 and \$3 ore at a profit.

It has been true in the past, and is true today, where facilities are not of the best, that of several tons of ore taken out of a mine, only a small portion will find its way to the treatment plant, the balance going over the dump. Great dumps accumulated in this manner at some of the larger mines, the result of many years' work, are today being put through mills at a liberal profit.

The future will see less of these waste dumps, for each year witnesses an advancement in the science of metallurgy, and each year the cost of mining is reduced, as improved appliances come into use; so that today there is profit in treating ores that before were considered worthless.

What is true on the mining and metallurgical side, is true also of the managerial side. There have been mines which, under proper management, could have been made to pay handsomely, but burdened with a superabundance of paid officials and with too many men employed at the mines or works, have failed to yield any net returns.

This is not a matter where general advancement in knowledge counts most, but where the individuals at the head of the corporation are more directly responsible. Perhaps, carried to its final analysis, it may be considered a matter where the individual stockholders are at fault in not insisting upon full accountings from the officers, and making sure that the men at the head are best fitted for the duties they have to perform.

As in every other line of business, the small leak here and there, the "five cents a day" loss at various points, in running a piece of machinery, in a wrong division of labor, or in some other of the numerous ways in which economy may give way to waste, will mount up quickly in the net loss for the year's operations.

As we started out by saying, therefore, the mine that is returning the greatest net profits is more often the one that is being operated upon the strictly business basis, than it is the one which can boast of comparatively high-grade ores.

Intelligent, economical operation counts even in extracting the wealth which Nature has stored in the ground.

\* \* \*

### NEW GEOLOGICAL SURVEY MAPS.

Topographic Maps which may be Used  
as Bases for all Engineering Work.  
—Indexes will be Furnished Free  
by the Government.

The United States Geological Survey is issuing at frequent intervals topographic sheets resulting from the surveys of last year's field season. From 25,000 to 30,000 square miles in different parts of the United States are mapped each year by the Federal topographers, under the guiding hand of R. B. Marshall, the Survey's chief geographer. This mapping is done on the ground and the field sheet itself shows every physical characteristic of the area surveyed, as well as all works of man. During the following winter season the topographer inks his map and it is thereupon engraved and printed by the Survey's engraving division. The maps are printed in three colors. The contour lines which show the configuration of the country—the hills, slopes, valleys and peaks—are printed in brown; the rivers, swamps, lakes, and other water features in blue; and the county lines and other political subdivisions, railroads, wagon roads, houses, and other evidences of civilization are printed in black. During a single day last month, three of these maps were issued which indicate in a measure the widely diverse character of the Geological Survey's topographic work.

The map of the La Salle quadrangle, in Illinois, surveyed by topographers at Walker, Evans and De Puy, includes portions of La Salle, Bureau

and Putnam counties. It is on a scale of a mile to the inch, with a 20-foot contour interval. It shows that, except along Illinois River and its tributaries the country is comparatively flat to rolling in character.

Contrasted to this is the map of the Hawthorne quadrangle, in Nevada and California, surveyed by topographer C. G. Anderson. This map is on the scale of 4 miles to the inch, with 100-foot contour intervals. It shows a country of bold relief combined with desert flats. A portion of Mono Lake is included in the California part of the quadrangle, its altitude being 6,241 feet, also Walker Lake, Nevada, which is shown to be 4,083 feet above sea level. This map includes portions of the Mono National Forest, and shows many peaks with altitudes ranging from 6,000 to over 11,000 feet. The area is traversed by the Tonopah & Goldfield Railroad and other branches of the Southern Pacific system, and to the north are shown trails leading to Rawhide, the famous mining camp.

The third map represents the Columbiana quadrangle, in Alabama, surveyed by topographers W. G. Lloyd and F. E. Hale. This area lies in Shelby, Chilton, and Coosa counties and includes portions of Coosa River. The map shows the topography to be of a broken nature, characteristic of the southern Appalachian plateau, the elevation of the ridges and hills ranging from 400 to 700 or 800 feet. The survey was made on the scale of a mile to the inch, with 50-foot contour interval. Had the Columbiana map been available before the projection of the several railroads crossing the area, it would have saved much private surveying to determine the most feasible engineering routes.

These maps are sold by the Geological Survey at 5 cents each or at a wholesale price of \$3 a hundred, which covers only the cost of paper and printing.

A convenient feature of the Geological Survey topographic maps is the indication on each map whether the maps of adjoining areas on the north, east, south and west, or at intermediate points of the compass, are available. Thus, the Columbiana quadrangle is joined on the north by the Vandiver, on the northeast by the Talledaga, on the east by the Talledaga, on the southeast by the Wetumpka map, on the south and southwest by the Clanton, on the west by the Montevallo, and on the northwest by the Bessemer special area.

For general information as to the topographic surveys which have been

made in any particular region, index maps will be furnished free upon application to the Director of the Survey. About three-eighths of the United States has already been covered by these surveys.

#### WORLD IMPORTANCE OF CYANIDING.

In years to come the discovery of the cyanide process will be acclaimed as one of the monumental achievements of modern times. And cyaniding will be hailed by coming generations for its importance, not so much to the mineral industry directly, as in its bearing upon world economics in rendering possible a greatly increased output of gold and silver year after year.

In the comparatively brief 20-year interval since 1891, when MacArthur and Forests brought the modern perfected cyanide process prominently before the mining world, the output of gold has amounted to 284,081,289 fine ounces. This is a most astonishing showing, especially when we compare it with a total output of only 401,311,149 fine ounces for the entire 397 years previous—1493 to 1890.

In 1906 to 1910, for the first time in history, the world's gold output for a 5-year period exceeded 100,000,000 ozs.—totalling, in fact, to 105,701,290 fine ounces. In this connection, the following summary of gold production in modern times by 5-year periods will prove most enlightening:

Period.	Fine ounces.
1906-1910 .....	105,701,290
1901-1905 .....	76,732,498
1896-1900 .....	62,234,698
1891-1895 .....	39,412,823
1886-1890 .....	27,306,411
1881-1885 .....	39,973,773
1876-1880 .....	27,715,550
1871-1875 .....	27,955,068
1866-1870 .....	31,350,430
1861-1865 .....	29,747,913
1856-1860 .....	32,431,312

For the great expansion in the world's output of gold, particularly noticeable in the past 15 years, the spread of the cyanide process is directly responsible. Nor, if we except the Klondike, has this record production been boomed by the development of new fields. The cream of the world's gold fields had already been skimmed in previous years in California, and our west, in Australia, South Africa, Siberia and India, and elsewhere. It is mainly on the cast-off leavings of the old fields that the cyanide process has achieved a record production of the yellow metal.

And among these leavings, we must not forget, the innumerable lower-grade properties whose exploitation has been rendered fundamentally possible by the cyanide process. It is these latter which now furnish the bulk of the world's supply of gold, and upon which the world must depend very largely for its future requirements.

Such an increase in the gold output—and there is every indication that an increase will be maintained year after year—is fraught with results of tremendous importance to the world's political economy. With regret, the Mining and Engineering World leaves to economists a fuller discussion of this absorbing phase of the matter.

We cannot fail to note, in passing, however, that the United States now controls about 26.5% of the world's gold output; the Transvaal produces 35.3%, and the rest of the British dominions 25%. The Anglo-Saxons are responsible, therefore, for 85% of the world's gold output. The remaining 15% comes chiefly from Russia, Mexico, India, South America, and China, in the order named.—Mining and Engineering World.

#### ASSAY CHARGES HAVE BEEN ORDERED DOUBLED.

WASHINGTON.—More landmarks of the old west will begin to disappear January 1, unless congress should pass legislation to maintain the scattered western offices on their present basis.

The government has decided to double the charges for assaying at Deadwood, Carson, Salt Lake, Helena and Seattle. Congressmen from those places protest that the increased charges will close the offices because the mining companies will prefer to send their gold to the mints, where the assaying charges will not be increased.

Treasury officials say the offices have been a dead loss for years. Seattle, they say, does quite a business in assaying gold that comes from Alaska, but at all others the government loses money.

The government established these assay offices in the stirring days when a messenger setting out over the pass with a fortune in his saddle bags often failed to return and the professional "assayer" was classed with the card sharp and the gun man. No miner was assured of an honest assay on his treasure.

## PLACES TO PROSPECT

### Brief Mention of a Few Rich Spots That it Might be Well Worth the While of a Prospector to Investigate.

Every few days men with money come to this office and inquire for likely looking territory for prospecting. It may be that, in some instances, these men intend to thus look over a desirable field with the intention of buying anything that suits in case they do not find something soon. The one thing they have in view is to get hold of a good mine. It may help a prospector here and there to know of likely places to work, and we name a few spots that are well worth investigating:

Southwest of Coloma, on the south fork of the American River and about two miles distant, is Thompson Hill. It is too far from the river to prospect with the gold pan in the summer, but a dry washer will do the work and should enable the prospector to find something worth while.

In the valley of Lake Tahoe, crossing from Placerville, California, to Virginia City, almost half way across, stands the old Sierra House, which is now used as a ranch house. In 1863 men were ground sluicing in the canyon at the south, made money, worked all summer, but never returned. Some good nuggets have been picked up there, but no mining has been done since the above date.

When leaving Sonora, Cal., you can pass through Jimtown, Chinese Camp, Jacksonville and then turn up along the Tuolumne River to the bridge, two miles above, at the mouth of Moccasin Creek. Cross, and about two miles further on you come to a fork in the road. The right-hand road will take you to Coulterville and the left-hand winds along Priest Hill toward Big Oak Flat. Follow this fork and half way up the hill is a watering trough in plain view from the Tuolumne then swing right up the face of the hill, beginning to prospect from the very roadside.

Going from Markleeville, in Alpine County, California, on the road toward the Calaveras Big Trees, colors can be found on every bar of the Carson

River. About half way between Markleeville and Silver Mountain very rich copper float will be found above the road.

Leaving Angel's Camp and following the mother lode to Robinson's Ferry on the Stanislaus River, opposite Table Mountain, then following the road on up the river and across Coyote Creek, some good looking ground is found before reaching the bridge. Above the bridge and below the dam there is quite a bar that has never been mined and is known to be rich.

Below the Yosemite Valley, on the

chanan, on the Chowchilla River.

Leaving Raymond it is worth while to go to Grub Gulch, or, taking the right-hand road beyond Raymond, go to Coarse Gold. On the road stop and talk with Mr. Logan, who lives in the first house beyond the Fresno crossing. He is a prosperous and successful miner and will give information.

Sixteen miles southeast of Porterville is a ranch at Fountain Springs. About a mile east of the springs, in a gulch, are some good showings. This is patented land, but there will be no difficulty in dealing with the owner.

Following the same road nine miles farther and we are on White River at the little village of the same name. It would pay to work along up the river a few days. Some very rich float has



Prospectors on the Desert.

Merced River and opposite Mountain King, is a bar a mile long that has never been mined. It will pay well for working.

Leaving Hornitos and taking the road to Le Grande, Indian Gulch lies just where the great outcropping of the mother lode makes a half circle and apparently returns. But a few miles below Indian Gulch are good porphyry dykes and buttes, and very rich float has been found. One pocket of \$80,000 has been taken out. There is water to be had and other supplies can be bought at Indian Gulch and Hornitos.

Leaving Le Grande and following the road to Raymond, likely looking copper property will be found at Bu-

been found and the source has not been discovered.

### YAVAPAI COUNTY, ARIZONA.

F. F. Moyer is operating mines near Vicksburg on the A. and C. Railroad in Arizona.

Joseph Eicks, lately with the Copper Queen, has taken a position with the Humboldt smelter at Jerome, Arizona.

Horace Steever, representing a Pacific syndicate, has been inspecting mines in this county.

Joseph Hargrave, from Erie, Pa., has been looking over mining properties in the southern portion of the county. S. J. Snapp and Joe Whitehouse are developing a gold and copper mine near Wenden.

W. S. Gifford of New York was recently inspecting the Congress mine.

## OUR ALASKAN MINER AND HIS MINE

A Story of the Call of the Klondike and What Its Answer Brought to a Boy of Twenty-one.  
Half a Million Dollars From a Claim 190 Feet Square.  
From Iowa to the Yukon.

In "The Call of Gold" published in the Mining Review on June 3d, 1911, the author says: "In 1896 the song of the gold siren was heard in the Klondike—in the lone, white, silent land of the north. Coming from such a frozen waste, it seemed like a mocking gibe at human cupidity. The Klondike was not even the outer

ten thousand people under the shadows of the Arctic Circle."

The Alaskan miner we have in mind was just a quiet, hard working boy only twenty-one, living in a charming little town in Iowa, and with his mind occupied with his daily avocation. And then came the call of the Klondike. We can all remember it

employment, then back to Alaska in the spring of 1898. This time he went in at Haines Mission. Here he hired out to help drive a band of cattle along the Chilcoot trail, across the mountains to the Yukon which they struck at McCormick's Trading Post five hundred miles up the river from Dawson. Here they swam the cattle



Fifty-three Thousand Dollars in Gold Dust taken out by our Alaskan Miner in four months' drifting, working six men.

edge of civilization. It was two thousand miles farther. There was no road—nothing but a choice between the riverway for those who preferred to drown and the mountainway for those who preferred to freeze. Yet men rushed to the frozen valleys of the Yukon as if it were the promised land. Half came back or dropped by the trail; but the others seemed immune from either death or despair. They found gold—scores of tons of it—built railways and planted a city of

and if it had not been for the snow and intense cold, the larger part of the population of the United States would have moved to Alaska in a body. Our young lad thought over the matter and made up his mind that he could go up there and make \$10,000 and then come home.

He took ship at Seattle in the spring of 1897 and soon found himself in Skagway and there he ran short of money but went to work and stuck to it all summer, then back to Seattle where he secured more em-

ployment, then back to Alaska in the spring of 1898. This time he went in at Haines Mission. Here he hired out to help drive a band of cattle along the Chilcoot trail, across the mountains to the Yukon which they struck at McCormick's Trading Post five hundred miles up the river from Dawson. Here they swam the cattle

One day Dawson took fire and with his dog team he moved the gold from



the bank to a place of safety, four tons of the yellow metal.

A man secured a fraction of a claim, only 190 ft. and so small no one wanted it and he only took it up because he did not know where else to go: he took out half a million, which was considered satisfactory, even in the Klondike.

Another time he saw a pack train of eighteen mules loaded with gold come down the street and up to the bank where they were arranged in a

on a trip of 1800 miles. He left Dawson in the middle of March and walked into Nome six weeks later, where he found miners trying to thaw out the frozen sand with fires. He was the very last one to join the stampede and made the trip entirely alone.

That summer he spent working with a rocker on the beach, taking out gold right along, sometimes as much as \$50 a day.

But others were making far more

which they killed and cooked. They had no salt or flour and for some time our miners and their dogs lived on plain ptarmigan, very plain ptarmigan.

They prospected and found gold everywhere but were not able to stay, so they staked out claims and returned to Teller.

In 1902, he bought a boiler and plant for thawing the gravel, loaded his outfit of some 1800 lbs. on his sled, hitched up his seven dogs and



This is the Way Our Alaskan Miner took out his Gold.

half circle and their load stacked up on the ground.

Then the news came up the river of the discovery of gold on the beach at Nome but he had done well where he was and hesitated: he had now \$12,000 in gold, which was more than he had set out to get and sufficient to buy him a good farm "back home." But the whole population stampeded and down the Yukon they went, on the ice, headed for Cape Nome and its golden sands. Finally, he made up his mind that he might as well make his stake \$25,000 so he, too, loaded up his sled, swung his dogs out on the ice and started down the river, walking most of the way as he had a pretty heavy load and could not afford to work the dogs too hard

on the rich diggings of Anvil Creek and other streams.

That fall he went to Teller and was one of the first on the ground although there were about fifteen hundred in the camp by spring. There was no big pay but all made something.

One day Billy Langdon, who was a quartz miner, came along. He had been up on Candle Creek and panned out coarse gold, cutting through the ice to get at the gravel and then cutting another hole to do his panning. Naturally our young chap starts for Candle, with a partner, steering by compass, but they ran out of grub on the road and turned down Pennel Creek which empties into the Imnachuk and here they found ptarmigan

started back for Imnachuk River. The trip was frightfully hard on the dogs and three of them finally went mad from hard work and exhaustion. Now he began to prospect for the best place to go to work and his first pan yielded \$1.50; when near bed rock he took another pan and recovered \$9.90 and on bed rock his third pan gave him \$11.95. The largest pan he ever got there was \$50.60. He made a windlass of willows and his bucket for hoisting the gravel was a condensed milk case, a pine box. He was working all alone and with this outfit he sunk 24 ft. to bed rock. He gathered willows all one day for fuel and then thawed gravel and hoisted it the next.

He had now struck just the kind of

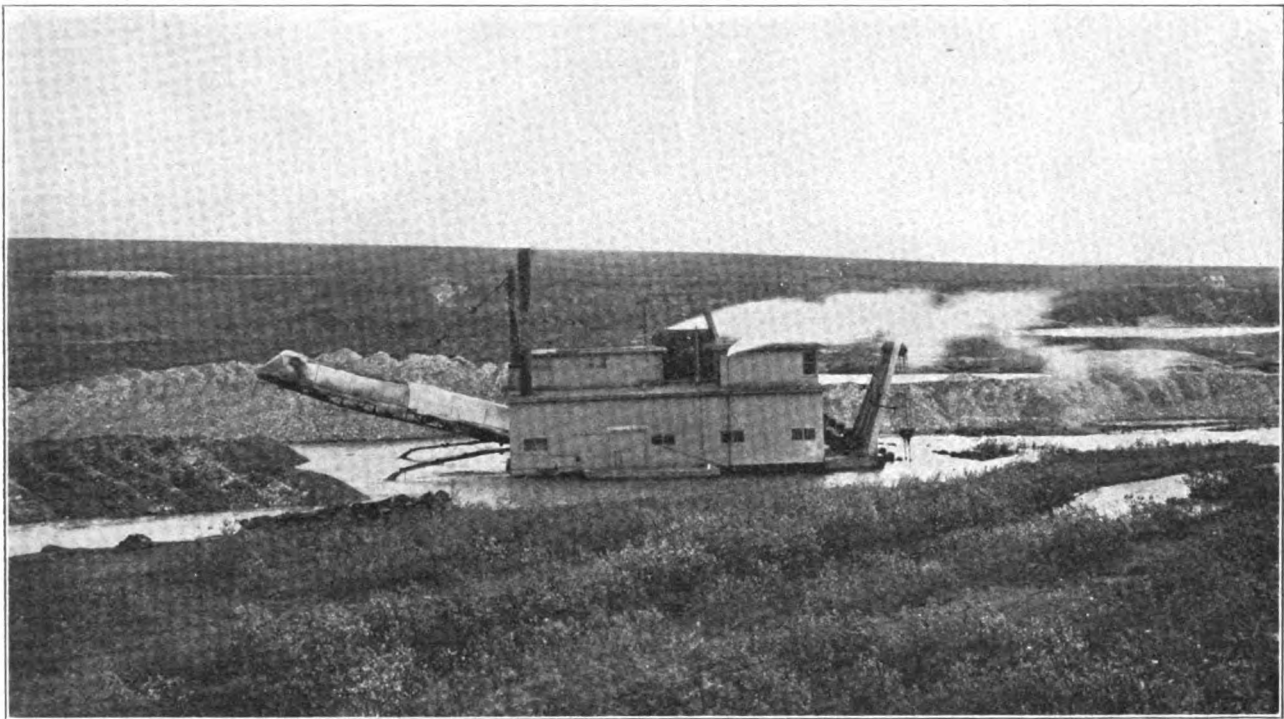
diggings he had been looking for and was soon stacking the gold up in his tent.

In a short time he had that \$25,000 he had substituted for the original goal of \$10,000. But he had not the heart to go away and leave that gravel full of gold behind him, so he changed his mark once more and this time he raised it to the \$50,000 level and set to work with more determination than ever. The gold came in faster and faster, yielding in one place of 75 ft. square, over \$33,000.

the primitive methods used in the past would be out of the question, so he is now negotiating for a modern gold dredge like those used in central California, handling from 3000 to 5000 cubic yards of gravel per day. The shovel method which he has pursued heretofore meant that one man would handle not to exceed 5 yards of gravel per day and his wages for the same would amount to \$7.00. Thus to handle the same yardage as a small 3000 yard dredge would require 600 men at a daily cost of more than

To control its speed a rough-lock is used by wrapping a log chain around it. Even then it chases the mule and proves embarrassing in case of a stumble or fall. It has been claimed that the mules get cunning enough to get on and coast, but packers as a class are not noted for truthfulness.

Quite often a sick man is sent down the steep mountain trails from the mines to the local hospital in blankets and lashed to a rawhide. Supplies of all kinds are hauled up and even machinery. The rates on



Modern Gold Dredge Operating in Alaska. This Method Our Alaskan Miner will Use Hereafter.

Then he began prospecting along the river to see how far up and down the stream the gold could be found in such abundance. It is difficult to say whether he was glad or sorry when he found that wherever he went he found the golden harvest waiting to be gathered. This changed his plans all over for if he had found no great riches except on his own claim he would have been content to work it out and go home.

After satisfying himself as to the unusual richness of the Imnachuck River he began to quietly buy up all the ground he could, both above and below his own claim until he now has accumulated a stretch of ground six miles long, taking in the entire river bed. These new purchases required capital and his bank was the claim which he first staked out and it never failed to pay on demand.

To work out all of this ground in

\$4000 for wages alone, while the dredge can be run 24 hours every day with a crew of but 10 men.

In order to carry out his plan of working the ground he acquired by years of privation and hard work he has formed a company with parties in the State of Washington and California who are skilled in the most modern methods of dredge mining.

#### RAWHIDING ORE.

A rawhide is sometimes a very useful article around a prospect. In the Slocan district of British Columbia they convert a green steer or bull hide into a toboggan by fastening a singletree to the neck. Suitable rope lengths are tied to the sides, and serve to secure in the hide from 700 to 1,100 lbs. of lead ore in sacks. The trails are steep and the hide is dragged on the surface of the snow.

ore range from \$1 to \$6 per ton, according to distance and conditions, and the saving is great, as the rates paid for mule back pack are double to three times this in the summer. A good strong rawhide will last about one season.

The trails are converted into a hard icy roadway, making excellent coasting, and one can get almost any speed desired on a hand sled. Around the boarding houses at the mines can be seen all kinds and sizes of sleds stuck on end in the deep snow, the chief requisite being a good brake. Quick trips to town are made, the sled being taken to the packers' barn, who drag them back on the up trip.

Hides are sometimes used on a prospect as a substitute for the sinking bucket and for bailing out water. They are far lighter than the wooden or iron bucket, thus giving more capacity in hand windlass work. A

hide can be rolled in a bundle and packed to the most inaccessible places, and in lasting qualities will beat any barrel made. They are generally used with the hair side out. Also, I have seen hides used as a substitute for a blanket in saving fine gold in placer work.—Mining Science.

#### EARLY MINING IN ARIZONA.

Pima was the first county in Arizona where mining as a legitimate business was inaugurated.

Before the passage of the organic act, and when all the present territorial area and part of the present state of Nevada was a political part of Dona county, New Mexico, the Ajo mines of western Pima were producing copper of such values as to defray the expenses of packing and hauling the ore to the port of Guaymas for shipment to Swansea, Wales, and netting the operators a handsome profit.

The Salari mines, in the Santa Ritas, under the management of the late Col. C. D. Poston, were producing large quantities of rich silver ores over fifty years ago, and the Mowry mine and San Antonia in the Patagonia range were profitably operated in anti-bellum days. Gold was mined in the Quijota Basin long before Marshall's discovery in the tail race of Sutter's mill.

The outbreak of the Civil War was the main cause of the cessation of mining in the strip known as the Gadsden purchase.

Lead was being shipped from the Mowry mines to the Confederate government after the commencing of hostilities, and continued until the arrival of the California volunteers, when the mine was taken possession of by the United States government agents and afterwards all operations ceased.

It was not till the discovery of Tombstone that Pima county began again to be known as a great mineral section, but she lost her prestige when segregation despoiled her of what is now Cochise, the richest and most extensive depository of mineral wealth on the continent.

The creation of Santa Cruz county deprived her of further mineral territory, but she yet remains a vast area of undeveloped mineral lands that in the near future will place her in the front ranks as the possessor of unlimited mineral possibilities.—Phoenix Sun.

The Badena group in Dutch Flat, Humboldt County, Nev., has been sold to M. H. Foss and D. D. Hommer.

## A GOVERNOR'S CONGRATULATIONS

How a Justice of the Peace in Name Only Was Eventually Brought to Account.

[Written Specially for Mining Review by C. B. Genung, Forepaugh, Ariz.]

On July 18th before the Martin family were murdered I was in Prescott, and the news was wired to there that one Lucero boy had fired a shot at Stanton from long range; that gave Stanton an excuse, and he, as soon as he returned from the scene of the murder made out a warrant for the arrest of Pedro Lucero, father of the boy who he claimed had shot at him. He also made out subpoenas for all of the citizens of Weaver, but two, whom he forgot. I suppose, his object was to get all of the people out of the way and get Rodgers saloon and store closed until the gang that had done the killing should get back and scatter out of the neighborhood, as they might get to Weaver and get drunk and talk too much. Mike Hickey who was deputy sheriff made the arrest and served the subpoenas, Stanton issued the papers out of his own court, he being a justice of the peace. While enroute to Prescott, Hickey claimed that Lucero tried to escape and had his head badly beaten with a six shooter. The boy that Stanton claimed shot at him on July 18, had shot Stanton through the ear some time before for insulting his mother and sister and Stanton offered \$5000.00 reward for him dead or alive, which had caused the boy to leave the country for a time and stay in hiding. I learned that at the time that Stanton claimed he was shot at and had had Lucero arrested as an accessory, Lucero was at the Vulture mine on a visit to a married daughter and knew absolutely nothing of the matter. I went from Phoenix to Prescott and succeeded in getting Lucero out of jail where he was held under \$3000 bond. Dr. O. Lincoln going on the bond with me, I took him to my ranch in Peebles Valley, armed him and sent him home through the hills. He told me he thought his boy was in hiding near Weaver. I told him I would like to see him, the boy, and talk to him and set a date to meet him at a certain place.

The boy was at the rendezvous on time and I had a long talk with him. He told me that he did not shoot at Stanton on the 18th but that Stanton

had caused the shot to be fired by an Indian who was staying with Vega's family in his absence and that he thought it was a part of the plot to give Stanton an excuse to get the people out of Weaver. He gave me a lot of information that was of much help to me during my struggle with Stanton and his gang. Told me who I could depend on among the Mexicans if I needed help, and who to look out for. Told me that his little brother Sesto had been told by Elano Ernandes, the man who used the knife on the Martin family, that the Martins were all dead: (Sesto is now serving a life sentence in the Territorial prison for a crime of which he is innocent). He told me also that an old man named Marco knew which way Ernandes went when he left Weaver and I got Marco to go with Sheriff Melvern and his deputy and put them on the trail of the mule that Ernandes rode and they did follow and arrest the man and put him in jail at Phoenix.

As soon as Stanton heard that I was on the trail, he went to Prescott leaving a man named McGowan in his place. While he was gone McGowan kept Stanton posted as to what was going on at the station by sending a courier two or three times a week to Prescott. Stanton hung around the Sheriff's office most of the time while in Prescott. While Stanton was in Prescott Vega and several others of the band were in hiding at an old deserted miner's cabin about two miles up the canyon from Stanton's place. The night after he returned Vega and the others of the party that were with him moved to an old tunnel on one of Stanton's claims. I had two Weaver Mexicans watching every move, and before day one of them came and told me that Vega had moved and that Stanton had sent the Indian that was staying with Vega's family, out to them with a lot of provisions. These two Mexicans had lain out all night in a heavy rain to watch the movements of the gang. Sheriff Melvern had promised me to come to me on the day before Vega moved and had he kept his promise we would more than likely have captured or killed several of the gang but he did not come until the afternoon of

the next day. In the morning after the murderers had changed camp I took their trail and followed them to where I found the ashes still warm in the fire that they had built in the tunnel. I tracked them to near the Martinez Ranch where they had separated. I then returned to Antelope Creek where Melvern had promised to meet me. Late in the afternoon he came bringing with him a man named E. C. Talcott: came in a buck board. Had they come the day before we could have done something, for Talcott was a good and fearless deputy. As it was there was little use to follow the murderers, who had forty hours start and were not following wagon roads much to speak of. A buckboard was always a poor tool to hunt outlaws with in Arizona. They were headed for their stamping ground on the Colorado River where it would have been folly to try to find them. I then arrested the Indian that was living with the Vega family and took him to Phoenix and locked him up. I got some information from him which would have been of much help if Stanton had been brought to trial. I then returned with a deputy from the Sheriff's Office in Phoenix and had Stanton arrested and taken to Phoenix where he was held as long as the law would hold him without a trial. Jack McGowan went as far as the Vulture mine with Stanton riding one of Barney Martin's horses. The last word that McGowan said to Stanton when they separated at the Vulture was, "I'll stay with you" and rode back toward Antelope Creek. A few months later, Stanton had a man staying with him named Charles Kelley. One evening Kelley was attracted to the front door by hearing men talking. The men proved to be three Mexicans. When Kelley appeared at the door one of the Mexicans asked him where they could find a place to camp as they had a pack train coming behind. Kelley told them of a good place near the house. Then one of the men asked in Spanish if he, Kelley, had any tobacco for sale. Stanton who was sitting inside the room answered in Spanish and invited them in. Two of the Mexicans stepped into the room and fired on Stanton, killing him on the spot. Kelley started to run behind the bar but when he saw the rifles pointed at him he grabbed a barrel cover and knocked the light out. Then he rushed to a room on the side of the building where there were several guns. The third Mexican, the one who remained outside was at the only window in the room where the guns were and shooting through the

window which was in range of the corner where the guns stood. The two men who were inside came out and saw their companion, mistook him in the dark for Kelly and shot him dead. Kelly said that he had fired the shots that made the holes in the window glass, but it was imagination on his part for every shot had passed through from the outside. When an official of Yavapai Co. went to Governor Zulic and asked him if he was not going to offer a reward for the capture of the murderers of Stanton, the Governor told him that the reward fund was entirely exhausted. A short time after the killing I met Governor Zulic and Secretary Tom Ferish in Prescott, the Governor shook hands and remarked: "Well, Charley you got rid of that——down there, didn't you?"

The fact was, Stanton was too smart for the officers. He claimed to be an illegitimate son of an Irish lord, claimed he had been educated for a priest, had committed some crime and was sought by the English government, which had offered a reward of 1000 pounds sterling for him. He is a good lord now. He was mixed up with the Slack and Arnold diamond swindle. Had some rubles on exhibition in San Francisco at the same time that Slack and Arnold were working their diamond deal and claimed to have got the rubles from the same country that Slack and Arnold salted with diamonds. Old time San Francisco men will recall the circumstance. The day following my stay in Wickenburg when Grant showed me the burnt place on the roof of his store room I stopped at Barney Martin's station for dinner and feed. Barney asked me when I would return to Phoenix and I figured that it would be about ten days which would make it July 18th but I was delayed longer than I had calculated and did not start until July 23d. Martin wished to travel with me as his wife was in poor health and his wagon had no cover while I had a two-seated easy riding carriage, and it was arranged for her to ride with me as far as Phoenix. Then Martin was to take her to Maricopa where she would take the train to Ohio.

#### COLONEL PERCY'S FAST HORSE.

When Colonel John M. Percy, now of Los Angeles, was connected with Seldon's Sampling Works, at Leadville, Colorado, he was the owner of what looked to him like a fast trotter. No man could bestow such a horse

upon him as a gift, in 1911, but he was younger and did not know as much about fast horses then as he knows now.

Leadville was to have a trotting meeting and this induced him to send away for a trainer to handle his speeder. We almost forgot that the horse had a remarkable disposition as well as speed. The Colonel used to drive to and from the works (he used the precious animal as a driver when he was not racing him against time and the entire solar system) and in a few days he had the streets all to himself at the appointed time for his appearance which was always made on the dead run and he was never able to stop him till he had gone several miles past his destination. While Colonel Percy always passed punctually, his arrival was apt to vary from 20 minutes to an hour. The horse dearly loved to trot but preferred to run.

The Saturday afternoon of the race found the Colonel in a high-wheeled sulky at the track and Mrs. Percy admiringly in the grand stand waiting for the sensation she was sure her husband would give the spectators. (He did.)

The first heat found this son of the morning buck-jumping and running the entire mile, not trotting a rod although both the horse and the Colonel knew very well that it was a trotting race. The audience, composed largely of miners, showed its kindly appreciation by roaring at the judges to throw both man and horse over the fence.

There was the usual 20 minutes between heats and the Colonel took advantage of that opportunity to keep the horse going round and round the track. The next heat, our equine wonder went out and won without a skip or break from start to finish and could have distanced the whole field. Then the grandstand stamped its feet, shouted and howled with joy.

Here is where the Colonel made his third mistake, in not keeping right on again and circling the track for the next 20 minutes. (The other two mistakes were, first, in buying the horse at all and, second, in not killing him afterward.) Instead of doing as he ought to have done he took the horse into the stable, gave him a good rub down and fed his vanity with needless praise.

The bell called the horses for the third heat and then came the usual scoring with the comet always ahead and running like a scared pup. The starter finally sent them away and again the Colonel and his horse went

tearing like mad around the track ignoring for the whole route that there is such a thing as a trotting gait.

We are glad that it is not necessary to describe the scene that followed but the Colonel certainly furnished a sensation.

## RICH FLOAT.

William Andrews, an itinerant in the prospecting field, recently made a prospecting trip along the Santa Rosa mountains including the metal-bearing sections from Rebel Creek, Willow Creek, Flat Creek, Canyon Creek and across Charleston mountain towards Eight-mile. In his inspection he states that he found fine conditions, leads with values and much float, all carrying values, some very rich. He showed the writer a piece of float on his return trip that made him fairly spectacular in his enthusiasm over what he called the richest piece of float he ever saw. He found the float on the northeast side of Charleston peak and at a point half way between the Stall shaft and the summit of Charleston peak, with its volcanic vents and craters and which with its scoria and fragments of lava and earlier flows and movements has fissured and changed that richly golden portion of Charleston mountain. The float was found towards the Fairview Fraction and the Sagehen group of claims.

It is an omen of richness. It is as rich as anything that ever came from the old Stall workings further north. It bears a similar relation to this virgin section as the early rich float did to the discoverers of that fabulous high-grade shoot that gives the National district its fame. The repository from whence this float came evidently is of good size and will no doubt be determined by development now in contemplation by the owners in that particular vicinity. Parties in interest are the Charleston Hill Gold Mining company, the National Defiance and the Frost-Kendall claims sideling. The float will spur the diggers for National has other high-grade shoots than the ore that has produced its millions up to the present time.—National Nev. Miner.

Great Western Mining Company of New York, composed of financiers of New York, Boston and Vancouver, B. C., has been incorporated and will proceed with development work on the Apex group of claims on Independent mountain, near Medley, B. C.

# MINING MATTERS

## Late News From Districts Producing Precious Metals.

Wickenburg, Ariz., Aug. 2.—A body of ore weighing several hundred pounds was brought into Wickenburg last week from the Tiger Gold company's mines, taken from the 400, 500 and 600-foot levels. The ores attracted much attention and the result of their analysis has occasioned wide comment in mining circles.

Two samples were taken from each drift, each showing the same mineral characteristics, which establishes a continuous ore body of immense tonnage and greater value from the lower to the upper levels. Mr. Scherer, general manager, in speaking of what has been accomplished in recent work, states that enough ore is in sight for the 20-stamp mill for at least two years without taking into consideration what will be developed as each drift is extended in future operations. The drifts that have been under development and which show this favorable condition were the source of considerable trouble until recently, the ground being loose and calling for diligent and careful work to hold up.

On the three levels a conservative estimate of the average width of ore bodies shows four feet, while in the 600, or deepest point yet reached, an ore body of 90 feet is exposed which in the face of the drift shows a width of six feet. At several places all drifts and veins are swelled as far as 20 feet. Mr. Scherer is emphatic in his declaration that the showing is the best ever made in the property and that a low estimate of the value of the ore bodies at any point will show at least \$15 a ton.

DENVER, Colo.—Officials of the North American company report that the company's smelter at Golden is now handling more ore than it has at any time since the plant was acquired by the present owner. The ore comes principally from Clear Creek, Gilpin and Boulder counties, much of it from mines that the company owns or holds under lease and operates on company account. The policy of the management in getting hold of more property, and thus making certain of a continuous supply of ore, is maintained. Recent acquisitions are Decatur, Helmer, National, and the Mammoth mines in Gilpin county. It is also getting a supply of custom ore that shows that the opera-

tion of the plant is stimulating mining activity in the sulphide belt of Northern Colorado.

Spokane, Wash.—Humboldt Quartz and Placer Mining and Milling company has been organized in Spokane by F. E. Garman and his associates to develop 13 20-acre placer claims near Marshal lake, Idaho county, Idaho. Fifty thousand dollars is to be expended, if necessary in equipping the property and buying 10 other claims in the district, which is between the famous Florence and Warren camps. J. J. Moak, superintendent and general manager, announces that two giants and 1,000 feet of steel pipe will be installed at once to handle the grade. This apparatus will give a 200-foot head of water from Grouse and California creeks. The prospect assays show average values of \$2.75 a yard.

Latest Out and Gilmore mines, at Gilmore, Idaho, are shipping from 16 to 18 cars of ore a week. The Allie will ship in a short time. Progress is also reported by managers of the Pittsburg-Idaho and Silver Dollar properties. A peculiar departure from the usual characteristics of mineralized veins has been found in the Silver Dollar tunnel of the Pittsburg-Idaho corporation. The working is following a true fissure, about three and a half feet in width, the filling being made up from an 18-inch streak of 65 per cent lead ore on the foot side and a similar quantity of \$14 gold ore on the hanging side, each being independent of the other. The division line is six inches of porphyry.

Four Ledge Mining company's silver-lead properties four miles west of Wallace, Idaho, have been taken over and will be developed by the Burlington Mining company of Spokane, headed by Ben E. Hervey. There are 15 claims, bisected by the east fork of the Two Mile creek two miles from Osborne. The property gives promise of being a good producer. Three hundred and sixty feet of tunnel has been driven on the 600-foot level and a contract will be awarded soon for a 250-foot extension. This is expected to cut through two big veins making it possible to stope large quantities of ore. Work is being pushed on a water power plant.

Financial arrangements have been completed to provide for a new 3,000-



foot tunnel, designed to tap the lower level of the United Copper mine, in the Chewelah, (Wash.,) district. The machinery and equipment will be moved to the mouth of the new tunnel. It is expected to cut the west vein in 90 days. The completion of the tunnel will place the property on an extensive operating basis. Three shifts are at work. A 12-stamp mill and four concentrators have been ordered, giving a capacity of 60 tons of ore a day.

C. F. Orkstrom, manager of the McKinley mine in the Orient, (Wash.,) district, is planning to treble the force of miners now at work driving the tunnel to the enormous ore dykes and hopes to have a 100-ton concentrator in operation before the close of the year. Frank Ansley, manager of the White Elephant, another promising property with a large quantity of ore in sight, is planning to double his force. The Alice E. has three shifts at work in the shaft. The International, on First Thought hill, which is sinking a shaft to cut the vein, reached the ore at the 50-foot level. The bottom of the shaft is reported in rock of shipping grade.

R. H. Wing of Spokane, president of the New Victor-Empire Mining company, has awarded a contract for the extension of the tunnel 250 feet on the property, which is located on Granite creek, 10 miles south of Libby, Mont. N. W. Murray of Butte, will do the work at \$8 a foot. The tunnel is 1,088 feet. The purpose of the tunnel is to get under a big iron capping found on top of the mountain and traced for 1,200 feet down its side. It is 24 feet wide.

J. R. Brown, manager of the Clugstone property near Bossburg, Wash., has received assayers' reports on ore samples from the new strike. These show the ore carried lead values of more than \$20 to the ton, and silver values of \$45. The ore was believed to be low grade, but the miners have been working on the new high-grade ore for two weeks, drifting on the vein. The tunnel will be extended 1,000 feet on the vein before any ore is stoped.

#### RAWHIDE MILLS RUN CONSTANTLY ON GOOD ORES.

E. W. King, operating the Rawhide Queen and Rawhide Coalition properties and directing the Queen mill which is doing custom work for the entire camp, came to Reno yesterday with \$2000 worth of precipitates from the cyanide auxiliary, the second shipment

from the new mill. Mr. King gives a very optimistic report of the working of the leases at Rawhide and with the mill running constantly at full capacity the hopes of those who have stood by that badly buffeted camp bid fair to be justified.

It may be surprising, but it is the fact, on Mr. King's authority, that Rawhide has produced to date over a half million gold. The National mill has been working regularly and the new Queen mill will materially aid in handling the output. Both mills have the latest equipment for the cyanide process in addition to the usual equipment.

The main shaft on the Queen is now down 500 feet and has tapped a promising vein of sulphide ore on which the reliance of the camp rests for permanency and extent of values. The upper levels above the water line produced remarkable jewelry ore, but until the sulphides were found further mining was more or less of a gamble.

The Superior lease is down to the 500-foot level with crosscuts at every level. It has produced \$60,000 already and a crosscut will now be run from the 500.

The Crown lease cut the ore body on the 300-foot level and is down in the shaft 360 feet, where they have started to crosscut for the ore.

The Phoenix lease has produced more marketable ore than any and it is very probable that it, with the others, will keep the Queen mill running at full capacity indefinitely.

#### ANOTHER SHOOT OF BONANZA ORE.

The Humboldt Star says:

Another strike of fabulously rich gold ore was made in the workings of the famous Adamson-Turner property at Rexall, on the northwest side of Winnemucca mountain late Wednesday afternoon. The find was made in an upraise from the new tunnel recently driven in at the bottom of the hill and in the lowest workings of the property. While it is spoken of as a new strike, in reality it is only the continuance of the bonanza ore shoot that is being followed down in a winze from the upper tunnel, and the winze also is producing ore that is extremely rich in gold.

From the first opening of this wonderful property the owners have been extracting this bonanza ore and the disclosures made in the lower tunnel has proved its continuity for over a hundred feet in depth. At this lowest

depth the vein retains its great width and the ore that is being extracted from the high-grade streak is as rich as any yet found in this great mine, and that is very significant as it is no uncommon sight to see ore carrying more than half its weight in gold.

A mud or talc in which occurs this rich ore streak is itself at times so bespangled with the precious yellow metal that it looks as if the gold had been sprinkled into it with a pepper box.

It almost sounds ridiculous to mention this property in its true sense, but nevertheless it is the truth, and pieces of the ore left at "The Star" office will easily prove the assertions made of its richness.

That other and distinct bodies of the fabulously rich gold ore exist in the famous Adamson-Turner property at Rexall has been demonstrated by late development. Since the discovery of the extremely rich gold ore in the lowest level of this estate a few days ago it has been found that the new shoot is in another and distinct ledge running at a different angle from the original vein that has been producing the rich ore since the discovery of the property.

The new ledge, as it might be called, is on the east side of the intrusive dyke that was cut by the tunnel that was sent in from the bottom of the hill and which is the lowest working on the property.

#### THE WICKENBURG, ARIZ., FIELD.

Some of the officials of the Big Blue Mining company arrived in Wickenburg this week and commenced establishing a camp at the mine which was formerly known as the Glore property which was taken over by Col. Ed. Browne and A. D. Myers, of Los Angeles. It is understood that machinery has been ordered and that a large concentrating plant will be erected for the treatment of the ore which is a copper and silver proposition. It is also understood that extensive development of the property will be commenced about the first of September.

The best news that has come to Wickenburg for some time is that the Monarch Mining & Smelting company will resume operations at once. C. W. Platt left for the camp Thursday with a wagon full of camp supplies, and was accompanied by J. W. Meadow. They look for some of the officials of the company shortly after the first of the month when active operations in the way of development will be commenced.—Wickenburg, Ariz., Miner.



## NEWS NUGGETS

## Concentrates Gathered From Various Properties.

Pres. Joseph E. Stubbs of the University of Nevada, at Reno, made a several weeks' visit lately in New York, and it was upon his return therefrom that the announcement was made of the gift of \$250,000 from Clarence Mackay, the son of John W. Mackay, who made his fortune on the old Comstock Lode at Virginia City. Mackay has already donated large sums to the University of Nevada, and endowed the Mackay School of Mining. The statue of his father stands at the north of the quadrangle facing the Mackay building.

The Canadian Mining Journal is urging the Canadian government to pay higher salaries to the officers of the Department of Mines.

The Nevada Gypsum works at Mound House, Nevada is developing a large industry, and a big force of men is kept steadily at work mining the product and preparing it for market.

A rich gold strike was made recently south of Yerington, Nev. The territory had been prospected for years and some very rich stringers had been found, also good placer ground, but the recent strike is said to be larger, richer and more permanent looking than anything found heretofore in that field.

A party of mining men has been inspecting the Louisiana in the Coulterville, Cal., district.

Something of a stampede was caused in Tonopah by a miner showing rock with free gold all over it. It was supposed that it had been found near Hot Springs, and a number of Tonopah people were soon on the trail to the new diggings.

The Silver Belt mine has been shipping 300-dollar ore from Humboldt, Nev. This is a recent find.

So great is the demand for lead ores and concentrates on the part of smelters in Washington that for the first time in a number of years lead ores in British Columbia are being solicited.

Secretary Nagel of the Department of Commerce and Labor, issued a statement showing the conditions of workingmen in the steel industry. He says that out of ninety thousand employees investigated, one-fourth worked 84 hours or over each week. Sixty per cent of the employees are foreigners. Half receive less than 18 cents an hour, a fourth less than 25, and the

other fourth 25 cents or over an hour. Very few receive 50 cents an hour.

The holder of a mineral claim location within a forest reserve holds also the surface rights to his claim, and these are not subject to rental to others by the Forest Service. If he wishes to exclude stock from his claim he has the right to fence it in. Stockmen have no right to build fences across mineral claims, and the claim owner cannot be excluded from access to his claim.

The average plate recovery for forty-four tons of ore milled this week at the Red Dog mill, Randsburg, Cal., from the Miller and Watchman lease on the King Solomon, amounted to \$28 per ton. The ore was mined from the east stope on the 100-level.

The Milter Mining Co. has established a new 20-ton mill on their property at Crescent, Nevada, a few miles from Searchlight.

The Badger mine at Chloride, Ariz., has prepared a shipment of 200 tons to the Needle smelter.

Spokane mining men have organized a company to work rich placer grounds between the Florence and Warren districts, Idaho Co., Idaho.

The United States Mining and Smelter Co. is preparing to build a new 10-stamp mill on their property near Vall, Arizona. James Bennett is the president.

N. C. Booth, who has been working a lead and silver claim near Central, N. M., has uncovered a large vein carrying large values of vanadium.

A promising gold strike has been made in the vicinity of Encampment, Wyoming.

On Pine Creek, near Cornucopia, in Eastern Oregon, a rich placer find has been made recently.

On the Stone Cabin claim of the Jim Butler group at Tonopah, a ledge has been found which shows seven feet of quartz, although both walls have not yet been found.

The Oro Rico at Coulterville, Cal., is now employing 40 men on the construction of the mill and at work on the mine.

At Wowona, on the south fork of the Merced, within the Yosemite National Park, a forest fire was started last week by lightning.

The Dugout, near Hachita, New Mex-

ico, has been taken over by Georgia capitalists recently, and they are preparing to make their first shipment to the El Paso smelter.

The Halifax, which adjoins the Belmont on the east, at Tonopah, has made a start on its shaft.

Five additional stamps for the Seven Troughs Coalition Mining Co. are now at Lovelock, Nevada, and these will be installed just as soon as the cyanide plant is complete.

Cinnabar continues to show on the White Caps at Manhattan, and some of the miners are beginning to wonder if that gold property is going to turn into a quicksilver mine.

Consul Frederick Simpich writes from Ensenada that a \$200,000 California corporation has started quarrying onyx in the Serro Blanco Peninsula, Lower California, about 200 miles south of the international boundary. Thirty men are now employed in the company's quarries, and monthly shipments will be made from the landing at San Jose. This Mexican onyx lies in flat ledges close to the surface.

The Murdock drift gravel mine at Nigger flat, four miles above Placerville, California, has been bonded by Idaho capitalists. The holdings consist of 60 acres through which passes an old river channel. The gravel is cemented and requires milling.

The Green Cananea reports that the May results were the most satisfactory of any month in its history. The cost of production including construction did not exceed 9 cents per pound.

The El Paso and Southwestern Railway, which belongs to the Phelps-Dodge interests is to extend its line to Tucson, thence to Phoenix, where it will connect with the Santa Fe, and its business to the coast will be operated via Wickenburg and the Parker cutoff to this city. This has called forth the counter rumor that the Southern Pacific will build Northeastward from Globe to reach the Union Pacific. Every mile of the above construction is bound to be a big help to the mining industries in Arizona.

## CONGRESSMAN SMITH.

Word from Monrovia, where Congressman S. C. Smith of the Eighth California district has been spending several months at a sanitarium, is to the effect that he is greatly improved. Mrs. Smith is with him, and word has been received here stating that the well-known California legislator is on the high road to recovery.

## PETROLEUM NEWS

### Recent Happenings Among Oil Men. Notes From the Wells.

**GALVESTON** — A phenomenon which puzzles scientists and oil experts presented itself in the Humble oil fields when a well dug 1200 feet blew out with a terrific gas explosion. This was not an unusual feature, nor was the spouting of water, but three hours later, with a deafening roar, the hole in the ground began belching up what appeared to be lava and molten lead or red hot iron, rocks the size of goose eggs, and sulphurous gases and sand, or, rather, a strange dust which covered the trees. Rocks and lava were shot into the air about a hundred feet, and after four hours, during which the eruption gradually decreased, the ground near the hole began to sink and cave in, extending nearly 400 feet in diameter, it is reported.

Fearing further developments, many oil field workers residing near by are preparing to move before the sinking ground claims their property. The oil volcano has ceased emitting anything but gas, but much uneasiness is felt. Scientists declare the explosion must have extended into the bowels of the earth at least 1000 or perhaps 2000 feet below the bottom of the 1200-foot well to have brought forth these heated substances and iron of apparent meteoric formation.

Douglas, Arizona, August 10th—Douglas now bids fair to become the center of an oil excitement which will rival all the mining interest of the past and may result in adding much wealth to Cochise county, as have the mines of the Mule mountains. Such results would not be beyond the expectations of a number of the citizens of this city who have banded themselves together for the purpose of developing oil lands which they have secured near the San Pedro river, west of Fairbanks, says the Bisbee Review.

W. W. Stovall, the well known citizen of Douglas, and C. B. Mitchell, an oil expert of California, but who has been operating in the oil fields of Mexico for the past year, returned to the city yesterday morning after having been at work for three weeks making surveys of the desired land and making the necessary filings to put it in the way of entry. The land is unsurveyed, so it was necessary to

make the surveys and file them with the location papers.

Mr. Mitchell declared yesterday that he had never examined an oil belt more promising than the one where the oil lands were secured by himself, Stovall and their associates in this city. On either side of this land is the required apex to insure a flow to the surface of whatever is encountered, be it oil or water.

On arriving in the city the work of organizing a company for the purpose of developing the land will be undertaken just as soon as the necessary boring machinery can be brought to the property, probably during the early part of next month.

This company will bear the name of the Arizona Oil company and the following are already interested in the enterprise: W. W. Stovall, D. N. Darling, D. L. Perry, Henry Nieman, Eugene Aument, C. M. Seaman, Albert Stacy, G. A. Hesse, C. B. Mitchell and Dr. J. J. P. Armstrong.

It is known that government surveyors have already reported on this section as being favorable for oil development and just over the hill from the land secured by the Douglas company a company from Tucson is now sinking a well. For a long distance a bituminous shale has been uncovered, which, when broken, gives a strong odor of oil gas.

A standard rig is to be ordered delivered on the ground as soon as possible, so that the test may be made without any delay.

The originators of this enterprise are so confident of success that they will only issue the required amount of stock to raise the money necessary to put a well down to the required depth. The boring machine which will be purchased will have a capacity for going to a depth of 3,000 feet. There will be no promotion stock and every share of stock issued will give its owner an equal interest with every other stockholder. Officials of the company will receive no salaries and every dollar brought to the company will be expended in the economical development of the company.

The land to be developed is on the survey of the proposed Tucson extension of the El Paso & Southwestern railroad and the securing of oil in that locality would put it in direct connection by rail transportation with all the big mining camps in Southern Arizona and it would mean

more for the prosperity of the territory than anything which could be imagined in the way of industrial development. It would mean a reduction of mining expense, a reclamation of the valleys by pumping irrigation and the starting of many new enterprises requiring a cheap fuel for success.

### KRAMER CONSOLIDATED WILL DRILL DEEPER.

The Kramer Consolidated is going to drill deeper into the sand it tapped in its 2929-foot well near Kramer, San Bernardino county. After months of battling with water and endeavoring to locate its source and to reduce the huge column of water by pumping, the company management believes that the problem is solved and that the water has been coming in at the bottom, and therefore the well has been cemented at that point. The cement has been given weeks to set and drilling was resumed on Monday of last week.

### OIL NOTES.

A refinery is being constructed by the Coalinga National Petroleum Co. and will have a capacity of 6000 barrels a day.

A. L. Barnes, a well-known driller in the Coalinga field, has sailed for Upper Burmah, in British India, to join the men who left last March to work for the Burmah Oil Company.

W. E. Deacon, of Pasadena, who recently turned over the controlling interest in the La Crosse mine to C. H. Putnam of Los Angeles, has abandoned the mining industry and is now turning his attention to the oil fields.

The Alleghany Oil Company, of Salt Lake, J. C. Roberts, president and manager, has encountered oil in the well it has been sinking in the Spring Valley field, Wyoming. The oil was encountered at a depth of 1164 feet, and is of excellent quality.

Rawlins, Wyo.—Drilling at the Larsen oil wells south of the city is progressing rapidly and they are now down about 175 feet and expect to soon be averaging 50 feet per day. The indications are constantly becoming more favorable and the company is rushing the development work as rapidly as they possibly can.

The Shell-Royal Dutch Combination is preparing to supply the coast market with importations of gasoline from Sumatra.

## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

H. S. Chapman of Rawhide, Nev., is in Arizona on examination work.

J. Edward Spurr of New York City is in Tonopah, Nev.

Boyd Dudley, Jr., instructor in metallurgy and ore dressing at the Missouri School of Mines, has been granted a leave of absence for the school year, beginning September 1, 1911.

R. T. Walker has been appointed general superintendent for the Con. Arizona Smelting Co., Wickenburg, Ariz., succeeding H. B. Bennitz, who resigned July 1.

Walter Harvey Weed is in the Porcupine district, Ontario.

B. H. Bennett, who has had charge of the mines and smelters for the Consolidated Arizona Smelting Co. for the past two years, has resigned. His future address will be Tacoma, Wash.

J. Thompson, the diamond prospector from South Africa, accompanied by his wife, is investigating the diamond field near Tulameen, Can.

H. A. Roesler of Youngstown, O., a graduate of the Missouri School of Mines in the class of 1903, has been appointed instructor in metallurgy and ore dressing at that institution for one year. Mr. Roesler is at present in the employ of the Carnegie Steel Co., at Youngstown, O.

Charles E. Knox, a well-known Tonopah mining man, has closed a lease and bond for the Mountain King at Lucky Boy.

C. F. Nourse, who has been visiting in San Francisco for some time, has arrived in Nacozari, Sonora, where he has resumed the management of the Tharsis-York.

Wilkerson Bros. of Big Pine, Indio Co., Cal., have sold a mining property in the Pine Mountain district, 20 miles east of Laws, for \$400,000. They discovered the mine some three years ago, but never made the value of their find public until lately.

John H. Southard, vice-president of the Clason Map Co., Denver, Colo., has come to Los Angeles with his family, and is spending his vacation at Redondo Beach.

President Schwab of the Bethlehem Steel Company has secured large contracts for armor plate for the Italian navy.

L. L. Patrick of Goldfield has sold the North Star of Wonder, Nevada, to capitalists of Washington, D. C.

Llewellyn A. Morrison of New York City is at Quincy, Plumas county, Cal.

Arthur C. Hendy, general manager of the Copper Chief mines near Jerome, Ariz., is in New York City.

A. D. Akin, consulting engineer, of Wickenburg, Ariz., has accepted a position as managing engineer for the Monarch Mining & Smelting Co. in Yavapai county, Arizona, and will spend most of his time at the property. He will, however, continue his practice as consulting engineer. Mr. Akin recently returned from an inspection of mines in San Juan and Grand counties, Colorado.

Mr. and Mrs. J. E. Morgan returned to their mines at Chloride, Arizona, from a two months' visit to Los Angeles.

O. B. Stanton is preparing to install a mill on the Ora Plata, in Mojave Co., Arizona.

D. R. Muir, general manager of the Needles smelter, went to Chloride, Arizona, last week, to inspect work on the Tennessee.

E. E. Schmitz, the almost forgotten former mayor of San Francisco, owned the Carlisle mine at Forbestown, Butte Co., Cal. The property is now owned by Mrs. Hazelton. A few days ago a 10-stamp mill was started and 20 men are now employed. It is understood that the property is paying good returns to its present owner.

Paul Lodge, general manager of the Bishop Creek mine, in the Bishop, Cal., country, has 15 men on development work.

J. E. Himes, of St. Louis, Mo., has been in Goldfield watching development on the Talmage.

W. F. Blackman, the Inyo county miner, is in Los Angeles for a rest.

J. C. Minge, of San Francisco, is examining the placer mines of the Chemehuevis valley, Arizona, now owned by J. P. Jacobson and others. Should this examination prove the properties to be what the owners represent them a large plant will be installed and the deposits worked. The mines are among the oldest of the placer mines of the territory and have produced large sums of money by dry-washing processes.

Loper and Baker, who recently opened a rich vein of ore near the Wright place, in Cottonwood district,

east of Hackberry, Arizona, have purchased a gasoline propelled arastra and will at once begin the crushing of ore at the mine. There is plenty of water for all purposes in that section. It is said that they have a large streak of ore in their shaft that will run well above \$200, which will be extracted and milled in the arastra.

J. A. Caskey, superintendent of the Big Blue Mining Co., was in Wickenburg, Arizona, a few days this week on business for the company. He had with him about \$250 in free gold which he panned from about 15 pounds of ore from his Gold Valley claims, located two and a half miles from the Big Blue, in the Black Rock district. The Gold Valley group of four claims is Mr. Caskey's individual property, and he took a man out with him late this week to do some work on the group. Mr. Caskey says that the ore will plate \$25 per ton gold and will concentrate to \$250 per ton. The ground looks very promising. Besides the gold values of \$287 per ton, recent assays showed 75 ounces of silver and 10 per cent lead.

### RICH STRIKE IN GRAVEL.

News of a rich strike at the Haskell Peak mine, in the Gold Lake district, in Sierra county, owned by Oroville and Marysville capital, was brought to this city yesterday in a telegram. J. J. Snyder, the president of the company, who is superintending the work at the mine, sent the news to his brother-in-law, Mr. Johnson, who is one of the heaviest stockholders in the company.

Snyder stated that but two cars had been taken from the mine and that the gravel when washed gave up \$6.20 to the car. The dirt was taken from the top of the channel, where the values run the thinnest. At the bed rock it is expected that the value will run into big figures. The cost for driving the tunnel and stoping, as well as washing the gravel, will run from 75 cents to \$1.25 per car. In each car 1200 pounds of the gravel is carried. From the values washed from the gravel it may be easily seen that the mine can be most profitably operated.

Twelve men are now employed at the mine and it is expected that the force will be greatly increased within the present summer.

The mine is a gravel proposition and is upon the mountain side at an elevation of 7000 feet. Part of the ground is located in Butte and Plumas counties.—Oroville Mercury.

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### RECENT MINING DECISIONS.

(Special Correspondence.)

There is no law authorizing the reservation of phosphate deposits in lands to the United States, nor authorizing the entry of the surface thereof under the Homestead Laws.

If a legal bona fide mineral location, founded upon actual discovery of valuable deposits of mineral, is subsequently flooded by reason of the operations of a reclamation project, the owner will be entitled to damages, provided there was no default in the assessment work required under the law of a mineral locator.

Where a mineral application has been rejected for failure to properly post the notice and plat on the claim as expressly required by the statute, the entry will not be held intact subject to republication and reposting of notice of the patent application, but must be canceled, with the privilege of prosecuting patent proceedings de novo.

Land that is oil in character is not subject to disposition under the exchange provisions of the Forest Lieu Selection Act of June 4, 1897 (30 Stat. 36), and upon a proper and sufficient showing to that effect, the selection covering it must be canceled.

Such a selection, however, of land subject thereto otherwise than because of its mineral character, is, at the most, voidable only, and, while pending, operates, to the same extent as would a state, railroad, or other selection, to reserve it from any other form of appropriation looking directly to the acquisition of the legal title. Citing F. C. Finkle, (33 L. D. 233.)

### OIL NOTES.

In California all the important wells are on or associated with anticlines. This is often markedly shown by the derricks being located on the tops and flanks of the hills rather than in the gentle valleys occupied by the syncline. To novices unacquainted with the mode of occurrence of oil, and associating in their minds the collection of fluids in basins, it seems strange to see such elevated rugged sites selected for wells, in preference to the soft meadow-like basin and valley.

Out in the McKittrick district a big Hereford bull is roaming at large and attacking everything in sight, including prospectors, tenderfeet, workmen and automobiles.

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## MILL ABOUT READY AT NEVADA HILLS.

Development is progressing satisfactorily on all levels on the Nevada Hills at Fairview. The ledge has been struck on the bottom or 570-foot level, but not enough work has been done to form an opinion as to its possibilities. The other levels are showing splendid bodies of ore, and a large tonnage has been broken and blocked out for supplying the mill when it is ready for operations.

The mill is likely to start August 15. It will first be limbered up on the lower grade ores, and will then be put into its stride on run of the mine. The mill is of steel and concrete construction, and is the most thoroughly modern plant ever erected in Nevada. All of the best features that have been evolved in milling and metallurgy are embodied in its construction and equipment. It will have a capacity of 150 tons daily.

Mine and mill will be in charge of E. A. Julian, who was superintendent of the Combination mill, and later assistant superintendent of the Consolidated. Quite a tonnage of ore will be broken in the stopes when the mill starts, and it is expected to move forward without a hitch.

## NEW PATENTS.

Washington, D. C.

August, 2, 1911.

This week California ranks eighth in actual number of patents granted.

There were 550 patents granted today, 16 of these being to California inventors of which the following are reported by special wire to Lyon & Hackley, Patent Lawyers, Merchants Trust Building, Los Angeles, California.

Richard Ditzel, Los Angeles, Cal. Rail Joint.

George Keller, Los Angeles, Cal. Gate.

Orlando Kellum, Los Angeles, Cal. Switch and Exhibitors.

Frank C. Priestly, Los Angeles, Cal. Combination Pump and Shock Absorber.

Frank Snow, Los Angeles, Cal. Valve.

William Kipp, Pasadena, Cal. Window.

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John Smith, Santa Rosa, Cal. Automobile.

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For further particulars address Nevada Mercantile and Supply Co., Washuska, or Rawhide, Nevada.

### SOURCE OF CHERRY CREEK GOLD.

**DENVER, Colo.**—If reports from Newlin's gulch prove true, the long-sought-for original source of the gold in Cherry Creek has been discovered. What is said to be a dike of some eruptive rock carrying gold has

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been discovered a short distance above the old diggings where there has recently been a revival of activity. The dike is reported to be eight feet in width, and has been traced for a distance of forty feet. The belief that the gold of the placers came from this dike is supported by the fact that none is found above the place where the dike is located.

#### IDAHO SPRINGS SHIPMENTS.

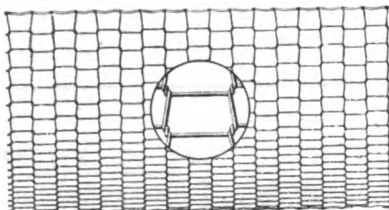
IDAHO SPRINGS, Colo.—Shipments of smelting ore and concentrates from Idaho Springs during the first half of 1911 show an increase of 5 per cent over the shipments of a year ago. Three mills are in operation,—The Jackson, the Hudson, and the Newton. H. B. Clifford of New York, who holds leases on a number of mines near Idaho Springs, reports that Thos. A. Edison has agreed to make experiments with the ore of the district, and to try to work out a more economical and profitable method of treatment.

#### EIGHT-FOOT VEIN OF EIGHTY DOLLAR ORE.

BOULDER, Colo.—Two tons of ore recently shipped by J. V. Sybrandt from Springdale in this county brought returns of 4.05 ounces, or more than \$80 a ton in gold. The ore was encountered in a drift on what is known as the Earl vein, and is said to be eight feet in width. William Marks is still taking from the Rip Van Dam Mine at Springdale ore of the same kind that netted him \$2,000 on a small shipment a few weeks ago. Eight pounds of gold bullion represents a ten days' run and the first clean-up at the new cyanide mill of the Cash mine at Magnolia.

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<p><b>CARLTON H. HAND</b></p> <hr/> <p>Mine Examinations and Reports 4704 Wilton Place Los Angeles, Cal.</p>	<p><b>BURDETT MOODY</b> Mining Engineer Fay Building <b>LOS ANGELES, CAL.</b></p>	<p><b>W. L. WATTS</b></p> <hr/> <p>Mining Engineer and Geologist, Assayer and Chemist. Office and Laboratory, 803 North Bonnie Brae. Telephone Temple 493. <b>LOS ANGELES, CAL.</b></p>
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Vol. 30, No. 22

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## CONTENTS

<sup>ENGINEERING</sup>  
A Frontier Experience



The Penole Treaty



EDITORIAL

The Miner and the Law

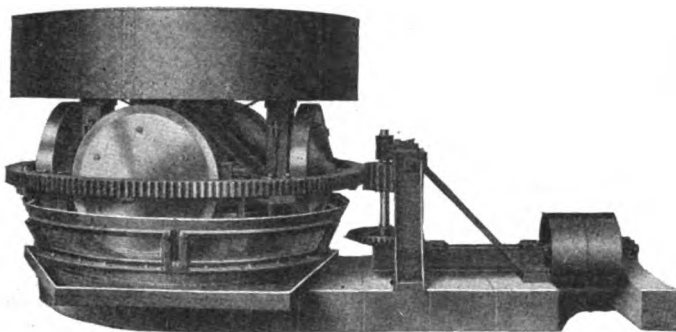


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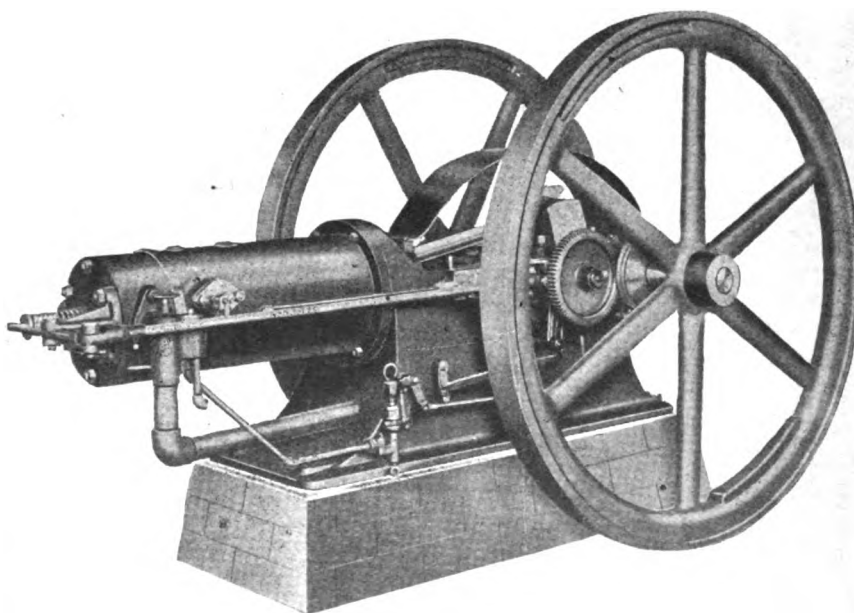
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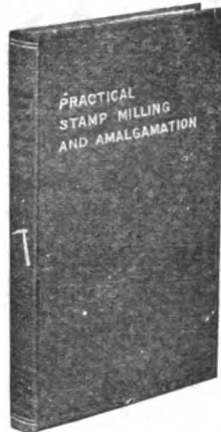


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# HISTORY OF LA PAZ AS IT WAS

Office of the  
COUNTY RECORDER, YUMA COUNTY,  
ARIZONA.

(Yuma, Arizona.) Jan. 10, 1911.

Mr. O. L. Grimsley,  
418 O. T. Johnson Bldg., Los Angeles, Calif.

Dear Mr. Grimsley:—Complying with the request contained in your letter of the 26th instant, in which you ask for a brief history of the old mining town of La Paz, I have prepared an article containing the following facts and a brief history of the mine. I have not gone into any of the many reminiscences of those old days, but have confined myself strictly to the main facts of its discovery, decline and final complete desertion. I have also added a few words as to the value of the properties owned by the new La Paz Gold Mining Co.

Yours very truly,

(Signed)

ISAAC POLHAMUS.

## BRIEF HISTORY OF THE LA PAZ PLACER FIELDS

When the writer first came to what is now the Territory of Arizona, in the year 1856, it was a part of that region known as the Gadsden Purchase. It was not until 1863, or seven years later, that it was made a territory, and at the time of its organization it originally comprised but four counties, namely, Yavapai, Mojave, Pima and Yuma.

Late in the spring, or in the early summer of 1862, the year before Arizona was established as a territory, gold was discovered in large quantities at what immediately thereafter became known as the town of La Paz. Reports of the rich placer mines quickly spread and people of all nationalities began to flock into the new El Dorado. Many of the old forty-niners who had gone to California during the great gold excitement there heard of the fabulous wealth of the La Paz placer mines, and were drawn thither by visions of untold riches that lay in this virgin field and awaited only the hand of man to gather and place them in the channels of commerce.

The town of La Paz was located at a point two miles distant from the Colorado river. This was due to the fact that the Colorado attained a very high mark during the summer of '62, and the land for quite a distance back from the usual course of the stream had become inundated, rendering it necessary to establish the town almost at the foot of the high mesa which stood about two and a half miles from the river proper.

The population, as stated, was made up of every nationality to be found in America. The Mexicans, however, greatly predominated. There was, of course, the usual large percentage of adventurers, gamblers and confidence men, that are always to be found in large numbers in communities of this kind. It was an era of wonderful financial prosperity. Men were lavish in their expenditures and money flowed as freely as water, for each and every individual of this nondescript population was moved by that same spirit of reckless extravagance and feverish excitement that invariably pervades the adventurous throngs who flock into new places of rich discovery.

The first visit which the writer ever made to the site of La Paz was in April, 1859, three years prior to the excitement aroused by the discovery of gold. At this time there was of course nothing whatever in the way of human habitation to be found on the spot that later became the scene of such great activity. The occasion of this visit was the taking of a boat of supplies to a point up the Colorado river that was afterwards known as Fort Mojave. This was during the Mojave War, and the supplies in question were being transported for the soldiers of the Sixth Regiment of United States Infantry who were then marching across the desert to the scene of hostilities. From this time forward, the various boats belonging to the Colorado Stream Navigation Company, of which the writer was Captain, and among which were the "Colorado," the "Cocopah," the "Mojave" and a smaller boat named the "Nina Tilden," made trips at more or less frequent intervals up and down the river.

That the placer fields of La Paz were decidedly rich was shown by the fact that nuggets of gold were taken out in great quantities. The largest of these, which was found in what was known as Farrar Gulch, weighed three and one-half pounds; a number of others were discovered weighing as much as three pounds, while still others of smaller size were uncovered in large numbers. A great deal of gold was encountered daily, and dust was panned out in abundance. The supply seemed inexhaustible and the people became wild with excitement.

La Paz, by reason of its importance, was made the first official Seat of Yuma County, and continued so to be until the first of the year 1870 but by an Act of the Legislative Assembly of Arizona, which convened in Tucson during the winter of 1869, the County Seat was removed to a point down the river then known as Arizona City, a name that was later discarded for that of Yuma. This move was effected some time between the 1st and 10th days of January, 1870. The writer was Captain of the Nina Tilden, the boat which transported the court records and paraphernalia, as well as all other records of the County, down the river to the new County Seat.

The Colorado Indian Reservation extends for a distance of a mile and a half south of the old old placer grounds, the southern boundary of the reservation being marked by what is known as the La Paz Gulch.

Parker, Arizona, is situated about thirty-five miles up the Colorado river from the former site of La Paz.

During the seven years that the placer mines of La Paz were actively worked, there was probably in the neighborhood of eight million dollars in gold taken out. The method of extracting the metal, however, was extremely crude. The miners did not even have dry wash machines, but the recovery of gold was effected solely by means of the Mexican bateas, a large wooden bowl, which was used in the same manner as the ordinary gold pan. By modern methods, placer mining should still yield a great deal of the precious metal, and the writer is sure that gold will be found in paying quantities in the area lying between the old site of La Paz and the foot of the mesa, which, so far as he is informed, has never been systematically worked at all.

Almost constantly since the discovery of La Paz, there has been a number of Mexicans and Americans working in the unrestricted fields with hand dry washers.

The fact that they all have and are making a good living, justifies me in saying that if the valuable ground owned by the New La Paz Gold Mining Co. is worked as you intend to, with modern hydraulic machinery, there is no question but that the company will be paying handsome dividends in a very short time.—ISAAC POLHAMUS.

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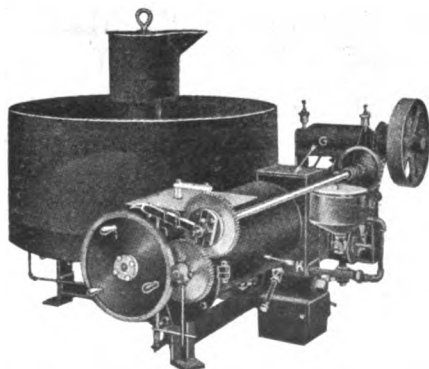
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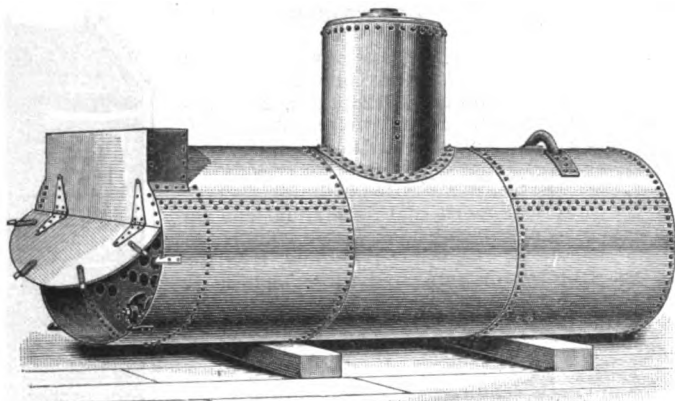
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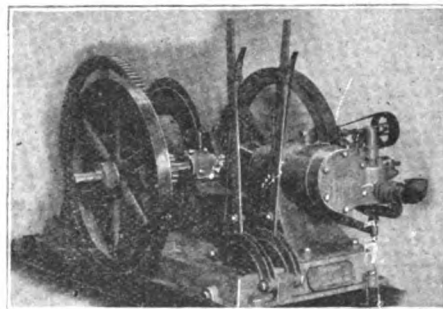
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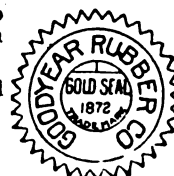
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Los Angeles, California, August 26, 1911.

## EDITORIAL

### USURPATORY CLAIMS.

When the Klondike was in the midst of its glory, we learned that the Esquimaux in Alaska were in hunger and threatened with actual starvation.

The distress was so compelling that something had to be done and our government officials at Washington determined that the thing which would give the natives the surest and most permanent relief would be to stock the country with reindeer.

The next thing was to buy them and ship them to Alaska and see to it that they had proper care.

Away up in the northwest corner of the Russian Empire, lying away north of the Baltic Sea and even north of the Arctic Circle lies a country called Lapland, the natural home of the reindeer,

and there our government sent men with instructions to purchase reindeer and hire caretakers to go with them to Alaska.

In due time the reindeer were bought, Laplanders were hired to take care of the herd on the voyage and to remain with them afterward. One band of reindeer was put ashore at Golofnin Bay, an inlet running northward into the Seward Peninsula from Norton Sound and the man who was placed in charge of them was Japhet Lindeberg, a Laplander who had come with them from his own country, who received thirteen dollars a month and rations for his work and who could neither read nor write in our language or his own. One day there came to his hut on Golofnin Bay a Swede by the name of Lindbloom who had deserted from a whaler and was mighty glad to find shelter and human companionship.

\* \* \*

Up on the Behring Sea a missionary had been at work for years trying to convert the Esquimaux to Christianity and endeavoring, at the same time, to teach them how to care for themselves in other and more material ways. He had even gone so far as to explain to them the rarity and value of gold and then they told him they could show him gold, plenty of it. Thereupon they took him over to Anvil Creek and showed him gold, more than he had even seen in all his life. The missionary did not know how to mine or what to do and he wanted to talk it over with some one else so he sent word to Lindeberg of the gold to be had and when the latter received the message both he and his partner hastened across the country guided by the native who had brought the startling news.

It would seem that those men could have worked there indefinitely without anyone knowing of the fabulous riches they had found but in some way the word went out to the states and up the Yukon of the wonderful diggings at Cape Nome and the news created far more personal feeling and intense excitement than the declaration of war with Spain.

In our last issue we told how the United States officials who were sent in to Nome defrauded and robbed the miners in the most high-handed way. But the time came when they were removed from the field.

And now who do you suppose came on the scene and proceeded to rob the American miners right and left? Why, nobody so very great or seemingly powerful—just our ignorant thirteen-dollars-a-month herder of reindeers. He and his partner had made money and when they came out to San Francisco for the winter the Pioneer Mining Company was organized with Lindeberg as the president.

The same outfit of hirelings that had worked for Noyes and his crowd could still be purchased and when a man found a desirable claim it became customary to order him off and tell him that the ground belonged to the Pioneer Mining Company.

The thugs and rascals would furnish the necessary perjured evidence in regard to having done assessment work. And so the process of robbing the American miner went gayly on.

Naturally some one will say, "Well, this is once anyway, when no possible blame can be laid at the doors of Washington officials." Not so fast.

Some two or three years ago the Laplander himself made two affidavits setting forth that he rightfully held certain claims and showing how he had performed the assessment work thereon. Shortly afterward the grand jury returned two indictments against him for perjury.

The first thing Lindeberg did was to retain every lawyer in Nome. One indictment was dismissed because the affidavit had been sworn to before a notary public who was a woman and that the U. S. Statutes did not authorize a woman to act as a notary in Alaska.

Trial on the second indictment was postponed till the next year and when Lindeberg came out he hastened to Washington.

The man who would preside at the trial was Judge Moore, well known in Nome to be fearless and honest. That

winter Judge Moore was superseded by a police justice of Nome and a new district attorney was appointed. Perhaps you can begin to see where Washington came in with its usual methods to defeat justice and protect the man who had money to divide. When the case was called for trial the next year, the affidavit had disappeared from the files and the notary public before whom the perjury was committed and who was a clerk in the office of one of Lindeberg's lawyers, had been sent out of the country the year before.

The man admitted it had cost him a quarter of a million dollars and as the lawyers in Nome did not get more than one-tenth of that amount, the remainder was used in Washington and elsewhere. It would be really interesting to know who received it.

As the proceeds of one or two stolen claims easily repay \$250,000, there was no hardship inflicted on the herder of reindeer. The important feature is that Japhet Lindeberg was set at liberty once more and is still pursuing his usual avocations in Nome.

\* \* \*

#### DELEGATE WICKERSHAM.

On his way home to Fairbanks, Alaska, in an interview at Seattle, Delegate Wickersham declared himself opposed to the Robinson-Works coal land leasing bill now pending in Congress, and said:

"Colonel Roosevelt and Gifford Pinchot are as radically wrong in their conception of Alaska as is the president, and between the two interests Alaska is being crushed. The leasing bill proposed by the chairman of the House committee is worse than the Senate bill defeated at the last session.

"Under its terms private enterprises cannot develop the coal fields and I doubt whether even the powerful Guggenheim interests with their railroad and steamship connections and a market for the coal could open the mines.

"My bill proposes to give the government authority to fix the maximum price to be paid for coal mined in Alaska. That is all that is needed."

We contend that if any men on earth know what is right and reasonable for Alaska, it is the men who have made it. Naturally, we have been surprised that congressmen and senators have persisted in going elsewhere for information.

Mr. Wickersham, of Fairbanks, has at least two things to recommend him to public favor: He is and has been for years an actual citizen of Alaska, and presumably knows quite a good deal on the subject he is discussing;

Japhet Lindeberg did all in his power to prevent his election. We mention this man elsewhere. What a calamity it would be if that influence controlled the delegate from Alaska.

\* \* \*

Secretary Fisher, of the Interior Department, has gone to study Alaska for two whole weeks.

\* \* \*

#### JUDGE LANDIS.

Kenesaw Mountain Landis is the Judge who fined the Standard Oil Company \$29,240,000. If either party should be wise enough to put him at the head of the ticket, how much do you suppose the Standard would contribute toward his election?

\* \* \*

#### THE HASSAYAMPA CLUB.

Some six hundred Arizonians mustered in this city last week for the annual reunion and outing of the members of the Hassayampa Club. They celebrated pretty steadily for three days, going to the theatre, a trip to Sycamore grove where they heard speeches and had a light luncheon, an automobile trip to the beach at Santa Monica and a final banquet on the evening of the third day.

Arizona may well be proud of the men and women who represented her and how easy it was to distinguish them with their clear eyes and strong self-reliant faces.

We had the pleasure of meeting them and felt that it was good to be there.

#### THE RADIUM MARKET.

(From Consul General T. St. John Gaffney, Dresden, Germany.)

Since the discovery of radium and the powerful action of its rays, governments as well as numerous private enterprises have endeavored to discover or acquire suitable sources of this valuable product. While governments are prompted exclusively by scientific motives, private individuals to a very great extent are attracted by the high price—\$80,000 per gram (0.03527 avoirdupois ounce). The cost of producing a gram of radium is about \$2,000, which is low considering the value of the substance.

A radium bank was established in Paris a short time ago, which in 1910 disposed of 1.92 grams of radium of highest activity at \$80,000 per gram. Of that quantity \$15,000 worth has been acquired for industrial purposes and \$139,000 worth for use in therapeutics.

Radium of the highest activity never loses any of its properties. A

regular output of radium means a regular increase in the quantity of radium in the world. In consequence of this property, a hiring system has been developed, a procedure which will naturally hamper the development of a market.

The production of radium is dependent to a great extent upon the production of uranium, and as the present output of the latter metal is still needed to meet the demand for uranium-color manufacture, an early increase in the production of radium seems unlikely. The new American production of inferior uranium has also interfered with the market, and a regular increase in the output will cause still further depression.

Radium is found in Luntwengule, Morogoro district, East Africa; Evje N. v. Cristiansund, Norway; Cornwall and South Devon; Joachimsthal in Bohemia; Gilpin County in Colorado and Kolmlagerstaetten in Sweden. Of all uranium mines only the one at Joachimsthal, which is working regularly, may be depended upon; there the two mines to be taken into account have an estimated output of 16 to 20 tons of uranium pitch ore, or pitchblende, containing 55 per cent  $U_3O_8$ . Radium-free uranium color is obtained from this ore, which increases the radium content of the residue. Six tons is the annual production of residue, from which it is reasonable to expect a production of 1.8 grains of radium salt of the highest activity.

The yield in Austria up to the present—3.5 grains—is not derived from the regular production from pitchblende, but from numerous old stocks, which are probably exhausted now. The yearly yield of 1.8 grams of radium salt of the highest activity may, according to present prices, be valued at \$144,000.

(Previous reports on radium appeared in Weekly Consular and Trade Reports for Apr. 16, 1910, and in Daily Consular and Trade Reports for July 21, Aug. 30, Sept. 27, and Nov. 23, 1910.)

#### RECIPROCITY.

The Canadians are learning that men work in the steel mills twelve hours a day, and seven days a week for a dollar and a half a day. It is because they do not wish to compete against the cheap foreign immigrant labor employed by the steel and other trusts that some of the Canadians are urging the defeat of reciprocity.



## AN OLD MINE FOUND.

There has been in Gleeson for the past six or seven years a Mexican, Jesus Hernandez, who has told that he knew the location of a wonderfully rich mine in Mexico that had been worked and abandoned many years ago. On account of having been sentenced to be shot, under the Diaz regime, Hernandez could not be induced to guide any one to the mine until the downfall of the former president. Soon after Diaz had surrendered control Hernandez, with Bob Stone, went to the city of Chihuahua as a starting place, and from there to the mine, which he found as agreed upon, though it is in a country described as the toughest that a man could wish for and fully twenty miles from water.

Mr. Stone thoroughly sampled the workings, bringing away fourteen samples, which were assayed on their return to the United States, and none gave returns of less than \$300 to the ton, while one assayed 61 ounces in gold.

John Gleeson and Bob Stone very promptly took steps to gain possession of this property, making Hernandez an equal partner, and having now secured the mine, Gleeson and Stone departed for the city of Chihuahua, from which point they will equip an outfit and begin the preliminary work that will be necessary before active operations can be begun at the mine.

The original workings of the mine consist of a shaft that has been sunk in an irregular manner, leaving benches at intervals of about ten feet, which leads to the belief that the workers would sink the ten feet, throwing the waste and ore onto the bench above them, then onto the next and so on until the surface was reached.

In addition to the shaft there are a number of burrows or gopher hole side openings, where the ore had been followed for short distances from the shaft. Not a stick of timber is to be found in the mine, nor is there any indication that there has been any timber used.

Gleeson announced before his departure that it is his plan to develop the property to the fullest extent, and though the country is rough and no water to be had except by hauling it, these are considerations that amount to but little where good mining property is at stake.—Courtland (Arizona)

## OUR PUBLIC MINERAL LANDS.

In this issue we publish an address delivered to the Michigan School of Mines by the Director of the U. S. Geological Survey. Doctor Smith discusses the public-lands policy, with special reference to the disposition of mining lands.

In going out of the beaten trails of the geologist, to discuss the mining industry, public-land laws, and political matters which the Director has not himself deeply studied, he has strayed into rather unfamiliar paths—which may excuse some of his missteps.

The suggested abolishment of the apex law and of extra-lateral rights has been common property since the days before the Survey was born. So, too, with the suggested enforcement of compulsory assessment or development work for the holding or re-locating of mining claims. The federal geologists have never merited, nor before solicited, credit for these suggestions.

Two general policies suggested by the Survey are, indeed, meritorious. We refer to Veatch's system of re-valuing coal lands on the basis of coal tonnages contained therein, wherever such computations are practical. This supplants the old flat rate of \$20 and \$10 per acre when respectively within or beyond 15 miles from a railroad. The new system as operated has resulted perhaps in too high a valuation, making unproven, western, desert and mountain lands often more valuable than some proven, easily accessible coal-fields east of the Mississippi. This defect can, of course, be remedied and does not affect the merits of the system itself. A second admirable suggestion of the Survey is to grant "discovery" rights in certain cases—as in oilfields, deep-seated coal and phosphate or salt beds, deep lodes, etc.—where geological structure renders it reasonably certain that mineral occurs at depth, but where "discovery" under the present laws is too expensive, cumbersome and impractical. Such discovery licenses should be merely permits for the immediate and continued working of the deposits.

The withdrawal system as conceived and operated by the Survey is to be condemned as unlawful, even since the withdrawal act of 1910, and as wholly iniquitous and fraught with tremendous potentialities for evil. The act of 1910 authorized withdrawals for the purpose of classification; but the Survey classifies all withdrawn areas previous to the withdrawal. The

withdrawal really indicates, therefore, that the areas withdrawn have already been classified. The lands should be sold as the present laws decree; and not according to what the misdirected zeal of government employees may assume to be a possible future disposition of the lands. The withdrawal system, its iniquities, and unsavory potentialities have been discussed in these columns before, and will be again.

With regard to the leasing system, Doctor Smith's address indicates that the Survey still favors royalties and a short-term, revocable lease for the working of coal, oil, or phosphate deposits—evidently, in the end, for all minerals—on the public domain. The director is a much less ardent advocate of the leasing system than was Geologist A. C. Veatch. The latter has been the real power guiding and urging the mineral-lands policies of the government from 1906 to 1910. The Survey seems, indeed, only lukewarm for leasing, as compared with former years. And well it might considering the Nelson leasing bills which it drew up, but which Congress refused to enact. These bills, after separating surface from mineral rights and permitting liberal prosecuting rights for the discovery of mineral, granted the Secretary of the Interior absolute power in his own discretion to refuse a mining permit to the original discoverer, and to grant such permits or refuse to grant them, to any subsequent applicant.

President Taft, himself, favors a "suitable" leasing system. A "suitable" leasing system in the United States means no leasing system at all, for none is suitable. Besides other defects of a leasing system, even when honestly administered, Two objections seem insurmountable. One is that leased holdings could not compete with non-leased holdings which would exist in the same region, if not in the same field. Where the leasing system is in vogue, as in the Transvaal and the Australian states, Italy and Austria, there are no non-leasing holders with whom lessees from the government are subjected to competition. Another objection, one that is particularly potent in a free republic, is the accepted doctrine that the most desirable citizen is the man who owns the land from which he earns his living. If this doctrine holds good for the farmer and for the householder, it more than holds good for the mining industry.—Mining and Engineering World.

## BIRDS OF A FEATHER

A "Solid Three"—Dr. John Pierson of the Vulture Mine Rendered "Professional" Service to the Miners, while Sexton Took Care of Their Gold.

[Written for Mining Review by C. B. Genung, Forepaugh, Ariz.]

In the late sixties a man named Sexton was sent out to Arizona by the owners of the Vulture Mine to take the place of James Cusenberry as superintendent. He had for doctor at the mine a man named John Pierson, and for assayer a man named C. P. Stanton, and I doubt if there ever were three worse scoundrels associated together.

Sexton stole nearly all the gold that the mine produced while he was in charge; Pierson had the hospital for the miners at the old Vulture mill near Wickenburg. The miners were paid in gold bullion and most of them left their sack of gold bullion in the Company's safe. If one of those who had gold in the safe got sick, and there was lots of sickness at the mine as well as at Wickenburg, he was almost sure to pass in his checks and that was the last of the man and his money.

Sexton ran the mine as long as he could on credit and closed it down owing the men several months pay. he owed \$12,000.00 to George Bryan who had a store and wood contract at the mill; his largest indebtedness was to J. M. Bryan, a brother of George, to whom he owed \$83,000.00 for hauling ore from the mine to the mill, a distance of sixteen miles. The price paid for hauling the ore was \$10.00 a ton and the average haul was 75 tons a day.

After the close down Sexton dared not try to leave as he was afraid of being lynched; he hung around for more than a year until most of the miners had left the country. Then he went back to Connecticut and built himself a palace on the Connecticut river.

While Bryan was hauling the ore he also had the haul of goods from the Colorado River, and the business men from San Francisco all along the route got left by the Vulture Gold Mining Company. A man named Frink was the purchasing agent and looked after all the business outside the mill and mine.

Frink had a splendid team of four roan horses that he drove to a light thoroughbrace wagon which was made to order in San Bernardino. The rockers were made of iron piping instead of wood and this pipe line had slide doors in each end. Into these slide doors the gold bars were put at

the mill, being made small enough that they could be pushed in at one end and out at the other.

Frink knew all the roads leading out of the country and used all of them, and generally slipped off in the night—to avoid holdups, as was said—and they were very successful. In all the years he carried the gold bars he never lost any.

After the Vulture closed down, Pierson got a position with James Grant, who at that time had the U. S. mail contract between San Bernardino, California, by way of Wickenburg to Prescott and Phoenix, Arizona, where his chances were not so good to poison men for their money as when he was company doctor for the Vulture Company, but he never let an opportunity slip to get in his work where it was to his advantage to do so.

There was at that time another doctor living and practicing at Wickenburg who on one occasion was not feeling well and called Pierson in. Pierson made an examination and told the doctor that he could fix him up all right, went to his office and returned in a short time with some powders, gave the doctor one, and told him to take one every three hours. In a short time the doctor became very sick and realized that he had been poisoned; he rushed into his office where he kept his stomach pump and it was not to be found. He then tried to get rid of the contents of his stomach with emetics but it was too late. There was a well just outside the doctor's office and in cleaning out the well some years after the stomach pump was found at the bottom of the well by the men who were doing the work. Which was proof that the doctor who died was correct when he said that Pierson had poisoned him and stolen the pump to make his work sure. Later on when there was a new contract let to carry the mail Pierson became interested with Grant and James Stewart and had charge of the office at Wickenburg, as well as acting as Wells, Fargo agent. At that time the Crook mine was being worked about fifteen miles south of Prescott and they shipped out some big bars of gold.

Pierson had put a man named J. W. Evans in the Stage Office at Pres-

cott (Evans was one of Pierson's pupils, having been taken when he was only a smooth-faced boy and trained to his tricks.) It was arranged that when a Crook canon bar was in the express box that Evans should wire Pierson over the Government telegraph line, the Wickenburg office of which was in Pierson's building and next his own office. The message was "Look out for two bay horses."

When the stage that left Prescott with the bullion went out from Wickenburg there were two men waiting for it out on the Ehrenburg road. One was named Rodebach, the other Rhodes, pals of Pierson's whom he had been supplying with food while they were hiding out in the hills near town. The man who carried the food to these two men has relatives living in this country so will not mention his name.

When the stage was stopped Rodebach told the driver to throw out the W. F. & Co.'s box, which order was promptly obeyed. Rodebach picked up the box, gave it a shake, and threw it into the stage again, remarking, "Up to his old tricks again", and told the driver to drive on. The two highwaymen went back to Wickenburg and made Pierson open up his safe and give up the bar of gold. They then went to New Mexico by way of the Verde river.

The telegraph agent became suspicious of the telegram and by inquiry it was learned that there were no horses missing at or near Prescott, and the party who told me saw Rodebach and Rhodes when they went to Pierson's house and overheard the conversation about the gold bar.

About this time there was a man named James Carroll driving buck board for the company between Wickenburg and Prescott whom Pierson did not like; so every time Rube Thomas who was Division Agent and had the hiring and firing of all employes over the road, would go away Pierson, being afraid to do it himself, would make Evans fire Carroll. When Thomas came over the route again Carroll would be put back, as he was a good fearless driver and could and would get the mail over the road on time when others would fail under similar circumstances. At that time failure to arrive at Prescott on time meant a fine and perhaps a heavy one.

One day Carroll went to the stable, which was in a large corral and the stage office in one corner of it, to hitch up his team, to start for Wickenburg as usual. Evans told him he could not drive out that night but Carroll hitched up and drove up to the front

gate to go out while a man was opening it. Evans came to a side door of the stage office, near the back end of the building, and being almost directly behind the buckboard deliberately shot Carroll in the back. As Carroll was falling he fired a shot at Evans which hit him in the left arm. Carroll fell over the dashboard of the wagon and F. M. Smith who happened to see the transaction caught him and kept him from falling under the horses' feet.

Evans lost his arm in the fracas and in after years while living in Phoenix he claimed to strangers that he lost his arm in the Civil war fighting under Wade Hampton. He couldn't have been more than 12 or 14 years of age at the close of the war, for he was a smooth-faced boy when he was hostler in the stage company's employ at Camp Date Creek in 1871, when I first met him.

Stage Company money kept him from being hung and his doctor bills also were promised to be paid by the company. F. W. Williams now of Prescott stood good for the bills and later had to pay them.

Before Pierson moved from Wickenburg to Peeples Valley he sent Van Dusen and a character known at Big Pike to my ranch on one occasion to learn what I would take for the ranch and take my team and move off. Pike and Van did not tell me in so many words that Pierson sent them but I knew it for they were his tools, so I told them that they could tell Pierson that twelve thousand dollars would buy what he wanted. That was the last of it—notwithstanding that there was more than twelve thousand dollars worth of stock and produce on the ranch at the time.

Pierson was always in want of money for the class of men he kept around him did not spare him when they wanted money and he dare not deny their demands. As soon as Pierson got fairly settled in his new home he began to work on the neighbors that he wished to get rid of. Peterson had been disposed of in Wickenburg and his partner, Wermet, was not very healthy and it was not long till Pierson was treating him and soon had him under the sod and had a title to the ranch which joined mine on the east and across which flowed a big stream of water that rose on my place.

Then began the job of getting rid of me. His men were up to some mischief all the time for two years. Finally he caught up a yearling Kentucky Jack which I had turned out with a band of mares and gave it to a

Mexican who was living at the Tiger Mine. The Mexican occasionally made a trip into the Peeples Valley to buy eggs, butter, and other farm produce.

I was in Prescott when I learned the whereabouts of my jack and supposing the Mexican had stolen it I went to Murat Masterson who was district attorney at that time and got a warrant for the Mexican and Frank Murray, the constable, brought the Mexican and the jack to Prescott, also bringing two witnesses to prove that Pierson gave him the jack colt.

I then went to Masterson for a warrant for Pierson. Masterson said it was no use—the bunch he had around him would swear him out of any scrape. I then said, "What can I do to make this man behave himself?" The reply was, "Get a good club and beat the head off him the first chance you have." It was not long before the chance came but I forgot the club and went after the fellow with my bare hands. This happened in Fred William's saloon in Prescott and when the bodyguard was not present. I did not get much chance to punish my man as there was an officer in the room and he arrested me and next morning I paid a fine of \$10.00.

After the fight was over I went to put my team in the stable and while I was out the body guard came in and when he saw the blood on Pierson's face and was told who had put it there he remarked, "If I had been there I would have made Genung bite the dirt. Well the constable who had just turned me loose came to the barn and told me what the fighting man said so I was on my guard. Later on this fellow, Oscar Bear, was his name, told Gottlieb Urfer that I would never get out of the country alive.

Well I kept out of this fellow's way by traveling nights and dodging around him as best I could for several months but after a while there came a new baby to my house and when he was fourteen days old I had occasion to go to Seymour where I had some teams hauling wood for the mill. Just as I was leaving my house an old man named Johnson who had been working for Pierson came to my wagon and told me to look out, for Oscar Bear was down on Antelope grade laying for me.

Here I will say that Pierson was road overseer and every time I had occasion to go over the road he would send the man Bear down to work on the road and I had been in the habit of traveling at night or before daylight in the morning. But after the baby was born I made up my mind to

go when and where I pleased so on this occasion I had a man with me leading a saddle horse as he was to bring some work oxen up from the Hassayampa and I let the man drive the team while I was on the lookout for the Bear, and sure enough as we were going down the mountain Mr. Bear stepped out from behind a bush not forty feet ahead of us and as he did so picked up his gun.

I was sitting on the high seat and jumped to the ground and with my number ten shot gun gave him both barrels. He died with the gun in his hand and cocked without breathing. I sent the man that was with me back to the ranch and a lot of men came down and took charge of the body. While I was waiting for the men to come I fixed a place so that I could get past the body with my team in order to turn round as I wished to go to Prescott and report to the proper officers, which I did that night.

Dr. Day was the coroner and he went down and held an inquest and the Grand Jury looked into the case and there was nothing done. A few days after the court adjourned I was plowing in a field and one of Pierson's henchmen who was known as Babe Crowell came out to where I was, on horseback, and said he wanted to talk with me. I listened to him a while and he said Pierson had sent him to me to make a compromise that he did not want any more trouble, and a lot of stuff.

While Babe was talking I had worked around the horse's head till I was on the right side and at the butt end of the Henry rifle that he held across the saddle with his right hand. When he had spoken his piece I just took his bridle rein in my left hand and told him to go back to Pierson and tell him that the next time anything went wrong with me that I could trace to him that I would take my shotgun and find him wherever he was if it was under his wife's bed. I pushed the horse from me and told Crowell to go, and kept my hand on my gun until he was out of range.

I think the message was delivered for Pierson went to Prescott and mortgaged his real estate to William Wilkinson for what he could get and took his teams and family and started for San Bernardino where his wife had some land. He owed the Bashford, Burmister Co. a bill and they got wind of his going and sent an officer after him and he settled the bill on the road. That was the last of Dr. John Pierson in Arizona but he lived in San Bernardino county for some years and was finally sent to

Stockton insane asylum where he died.

The above is only a very meager account of the mischief that Pierson was mixed up in during his life in Arizona. On one occasion he put up a job and got two young men named Sutton in trouble and one of them was killed by J. M. Bryan at Ehrenburg while assisting Evans who had been appointed deputy United States marshal to arrest them. Later on Bryan realized his mistake, that he had unwittingly been a tool of Evans and Pierson.

At the time the stage was held up on this occasion George Monroe and J. W. Swilling, who at the time was living near the old town of Gillette, and a man named Kibbey had left Swilling's ranch to go to the Red Picache about 18 miles east of Wickenburg to take up the remains of Colonel Snively, who had been killed by Indians some time before. Pierson learned about these men being out in Red Picache and realized it would be an easy job to have them arrested and held, sent Evans out from Prescott and had Swilling and Kibbey taken to Prescott and thrown into jail.

The late John A. Rush got Monroe out at once and as Swilling had been on a spree his friends thought it best for him to lie in jail till duly sober. Evans realized that he could not hold Swilling more than a few days and so got him out of jail on some pretext and took him to Yuma where he died without ever having a hearing. Kibbey was turned loose as there was not the least bit of evidence against him.

In 1875 or '76 a man named Wells, of Wells-Fargo and Co. established an express line from San Bernardino to Wickenburg and Prescott and to Tucson by way of Phoenix, and put on good Concord coaches and fine horses and was doing a good business carrying passengers and express matter. At that time a man named Van Dusen, one of Pierson's tools, held the contract for carrying the mail from San Bernardino to Prescott and Tucson via Wickenburg. Therefore when the money was due each quarter Van Dusen had to sign the vouchers before Pierson and company could get the money—Van being only a tool and never having a dollar of his own.

Pierson became alarmed for fear Van would sell out to Wells, so one morning Pierson had a span of horses hitched to a buggy ready to go to Phoenix. Before starting he called Van into a storeroom back of the office and gave him a drink and told

him to take a message to Mrs. Pierson at once. In two days Pierson returned and asked for Van, who had not been seen. He was found dead under some cottonwoods on the way to the house—his eyes closed as if asleep.

#### COPPER PROSPECTS.

At the present time the status of copper is one of the most interesting topics under discussion by the mining world. Opinions have been given on all phases of the question, both upon the market situation, as considered in connection with general market conditions, and with regard to the copper mining industry, as such. It is always of value, however, to learn what some one else thinks, and therefore any authoritative statement coming from one who is more or less intimately in touch with conditions may be read with interest.

While the price of metal is low, the general opinion is that the situation as a whole is good. The world's supply of reserve metal has diminished during the past year and the prediction has been made that it will be only a comparatively short time until this reserve will have been used, and consumption will have overtaken production. This will undoubtedly result in better prices for the metal.

An interview with D. C. Jackling, who is connected with several of the larger companies, among them Utah Copper and Chino, brings out the an immediate advance in the price of opinion that the only drawback to the metal is the present somewhat dull condition of business generally.

He is quoted as saying: "At no time since I have been engaged in the copper business have I found stocks so low as at the present time. When industrial conditions improve this will have its bearing. I have always been optimistic on copper and continue to be so."

Former Senator Clark, who is at present in Europe, presents another angle of view when he calls attention to the relation between copper and steel; the one reflecting conditions in the other. With the present improvement in the steel trade, he intimates, this should mean an early improvement in copper.

He calls attention further to the fact that foreign consumption of copper is playing a large part in the reduction of the surplus, taking it off at the rate of 10,000,000 pounds a month.

Incidentally, he sets a good price for copper at 14 or 15 cents a pound,

at which price properties can be operated at a profit, and yet it may be considered a fair price to the consumer.

#### AGED 70, CROSSES DESERT WITH TEAM.

Crossing the desert in a buckboard behind a team of mules, and at times suffering from thirst and the heat of the desert sun, Captain C. M. Anderson, 70 years old, who, in 1876, headed a band of cowboys against the Sioux on the Arizona border and participated in many stirring scenes in the territory's early days, arrived at the Hollenbeck hotel last week to attend the meeting of the Hassayampa club, of which he is a charter member and one of its founders.

A few hours before Captain Anderson drove into Los Angeles a little party of Arizona's famous gunmen and Indian fighters of the early days registered at the hotel. They also were charter members of the Hassayampa club, and on Anderson's arrival a reunion of the veterans of the Indian wars was held in the lobby, and the border "whoop" sent ringing into the street.

Notable among the members of the party of pioneers which met at the hotel is Col. George N. Todd of Tombstone, who, with J. T. Stacy, a cattle king of Texas and banker of Dallas, also here, helped in 1872 to defend Fort Worth from the attack of 200 Comanches on the war path. Colonel Todd bears the scars of twelve bullet wounds received in gun fights along the border in the early days.

J. L. Ward, Tombstone's first sheriff, who helped hang a dozen desperadoes and kept peace for many years only by the agility with which he handled his guns, was another member of the party.

With Ward was W. S. Lowe, one of the picturesque figures of the early days. He was a "preacher" and a hotel proprietor in one and the same building at Tucson many years ago.

A. E. Davis, who was with the California volunteers who fought the Sioux and Apaches in the war of 1863, is another Arizona pioneer who is a charter member of the Hassayampa club. He lived many years on the banks of the Hassayampa and attended the club's first meeting on the river bank some years ago.

Con. Crowley, who is working on the Fourth of July mountain, four miles east of Searchlight, has a foot of \$50 ore and is taking this out preparatory to making a mill run at the Cyrus Noble at an early day.

## ALONG THE COAST OF SOUTH AMERICA

An Interesting Glimpse of Conditions in a Country where the Prospector Drinks Yerba Mate.  
Mining Laws Seem Fair and Chilian Government Does Much to Attract Capital.

[Contributed and written especially for the Mining Review by a subscriber.]

I am sorry for the sake of the Mining Review, that my recent trip to South America, did not take me up the West coast as far as Venezuela, Peru, Colombia or Ecuador, all of which are rich in minerals, more or less developed. I went on one of the Hamburg-American Liners from New York, down the Atlantic side to the Straits of Magellan, through them and up the West coast as far only as Valparaiso. There those of us who were not taking the land trip across the Andes, meeting the ship on the East coast again, retraced our way through the Straits and so on back to New York. We touched at fourteen places en route, in the Republic of Brazil, Uruguay, Argentine and Chili, and at two or three of the West Indies.

Brazil's largest exports are coffee and rubber. She has paying deposits of minerals and diamonds and is very fortunate in possessing a quicksilver mine in the State of Minas Geraes.

In the Argentine Republic agriculture and stock raising and its products, take first place with but little doing in mining, though she has undeveloped deposits of gold, silver, tin, lead, iron and zinc in the mountains.

From the miner's standpoint Chili is the most interesting. Her greatest wealth is derived from her vast nitrate beds. She is called the "Shoe String" state from her long narrow coast line, lying between the Pacific and the Andes. And they speak of the natives as the "Yankees" of the South. From what I have seen of them I am not quite sure whether this is complimentary to ourselves or not. At any rate, though her population is but small, she has accomplished much in the way of railroads and her army and navy, and her neighbors have a most wholesome respect for her fighting qualities. Comparing her size with some of the other republics, she makes one think of a game little bantam, which by sheer grit and pluckiness has overawed the whole barn yard.

There are three things which militate against the mining interests in all South America, the same trinity of evil that discourages the mining man in Mexico, and these are the lack of adequate transportation facilities, lack of fuel—coal sells for over nine dollars a ton at wholesale and is most of it imported—and the everlasting

"hired girl" question, except that in this case it is a man, or what passes for such, instead of a "girl". The peon of South America has an exaggerated respect for his saint's day, as has his proto-type in Mexico. He much prefers sleeping in the sun and letting his sins ooze out from the pores of his skin, for the glory of God, than to swinging a pick in an honest day's work. In this connection it has been truly said: "No man works on Sunday, which would be commendable if that day were not given over to excessive drinking and carousal, so that Monday is needed in which to taper off and sober up."

Practically no work is done on thirty to forty feast days, on fifty-two Sundays, on fifty-two Mondays and on three hundred and sixty-five nights during the year. Add to this a few strikes and a few off for sickness, several more for drunkenness, some time for weddings and funerals and other events that keep the laboring man from his toil, and the year is badly broken up."

This propensity for keeping Saint's days was often an annoyance to the Bluecher's tourists. It was very exasperating after sailing all these miles to find on landing that there was nothing moving but a procession.

Then again South America manufactures very little—Chili nothing at all—and things are exceedingly expensive. Nearly every thing is imported which means customs duties, and there is also a tariff between the different republics. In Santos, Brazil, shoes that in New York retail for about \$3.50 a pair, cost from \$11 to \$15. A ham there is worth from \$30 to \$40. A lunch which three of our party took there, consisting of sandwiches and a glass or two of lemonade each, came to over \$30. At Buenos Aires, Argentine, a pair of shoe strings to lace aforesaid shoes, were 25 cents. At Valparaiso, away across the continent in Chili, they charged 40 cents to launder one collar. I say "one". Of course at this rate none but a multimillionaire could afford to have a dozen. Punta Arenas is almost at the entrance of the Straits of Magellan and there I was charged 40 cents for one cup of chocolate and it didn't have any whipped cream in it either. An

ordinary suit of clothes could not be bought for less than \$100.

There are many kinds of very disagreeable illnesses which are apt to afflict the new comer to the tropics. The miner, who is exposed in every way, and oftentimes far from medical aid, some times departs for the Happy Hunting grounds much sooner than he ever expected to. In all South America there are snakes galore from the big boa constrictor twenty feet long, down to the very littlest snake. Some people do not mind snakes. I do.

The prospector, if he were a poor man, would not carry with him the traditional frying pan and "side meat" but would have dried beef and drink Yerba Maté, or Paraguay tea which is much used in South America in place of coffee. It has a slightly bitter smoky taste, can be taken with lemon or cream, and must be drunk very hot. The Indians chew the leaves, which have something the same stimulating effect that the leaves of the coco plant has. He would not lack for burros to carry his pack. Poor little wretches, with their starved bodies and sore backs, they suffer from the cruelty and neglect which seems all too often the portion of any animal in this part of the world. I saw one so small in Valparaiso that a friend offered to buy it for me to use as a watch charm.

While these conditions may seem rather unfavorable to an American miner, at least the Chilian government does all in its power to attract mining capital. The laws are fair. Fifteen hectares—a hectare is about two and a half acres—constitute a discovery claim. Compulsory work is not required to fix title, and the tax is only about twenty-five cents a year, gold.

We expected to go ashore at Coronel, West coast of Chili, but for some reason the Bluecher changed her course and we did not go. Coal is mined in considerable quantities at Coronel. February 15th, the Bluecher dropped anchor opposite Punta Arenas, or as the English call it, Sandy Bar, Chili. At one time this town was the site of considerable mining excitement and numbered about ten thousand people. I doubt, however, if at present there are five thousand. And

there will be still less when the Panama canal is finished, if one is to credit the statements of some of the business men who fear that the shipping that now passes through the Straits of Magellan, making this place one of outfitting, will pass through the canal and materially injure Punta Arenas. There has been much money spent in placer prospecting in this region. Our party was taken on the cars to Mina Lorete, about five miles from Punta Arenas, to see a placer mining plant. There is some coal mined near here but of very low grade. Both placer ground and coal mine lie in the same valley the ground gradually rising up a canyon. At the canyon head we found two men with a small sluice box and pans and were told they were washing out from five to seven dollars a day. One of our party made inquiries and was not quite sure whether that meant gold, or Chilean money. If in pesos it would value much less. Near the gold ground were two very fine steam dredges, one of which had a small flow of water underneath, and the other quite high and dry, and both idle. Punta Arenas is rather a forlorn looking place. It is built mostly of one story houses, rather poor in construction, though there are a few better buildings. There are wide streets but no trees of any kind except where there is a high wall to protect them from the ever lasting winds which sweep up here night and day from the Antarctic circle and Cape Horn way and make trees an impossibility. It only stops blowing to blow some more. An old priest in exhibiting to me some preserved fruits said they all grew on the ground "for we have no trees. The wind won't let them grow." In looking at the town from the ship in the gray light of the early morning it seemed like one vast graveyard all filled with square tombs. And in a way it is a grave yard where have died honor and honesty and the things a man lives for. Punta Arenas has many ex-convicts, and men whose country prefers their absence to their presence. At one time it was a convict colony for Chili. The convicts revolted, were subdued and moved to another place. It is now a place of banishment for political offenders. It would seem that there still lingers some of the old leaven. One of us put down a pocket book containing about ten dollars for a moment in one of the stores, and no trace of it even was found. A small boy with us remarked he "finked" it might be carried away by a cat. Possibly. One can imagine almost any meanness on

the part of a cat. One of our tourists wandering over the place met an Irishman who told him he had been in Punta Arenas for thirty years. He did not seem in the least happy over it and my friend asked him how he happened to come. "Oh", he said, "I just jumped my ship." There was an awkward pause and then he said, "Now the next thing for you to ask me is, why don't I go away?" The inquiry was not made. The thermometer stood at 48 that day and overcoats and furs for the ladies were quite in order. The natives, however, were running around in light attire. They said it was the warmest day they had had this year, for February with us, is the glad old summer time in Chili.

There were many stores full of very nice things in tins and also shops devoted almost altogether to parts of machinery that might be needed in a ship's engines or elsewhere on her, and one could see that losing much of this trade might work havoc to the town. I noticed in a drug store an advertisement which read "Pilulas Rosadas para Pessoas Pallidas," which being interpreted means our old friend "Pink Pills for Pale People", and also "Viejo y famoso remedio matador de Perry Davis," another old acquaintance of ours, and both warranted to cure every thing but sin. It makes no difference, I understand, whether you take the remedies in Spanish or English.

On March 29th, when we were nearing the end of our trip, the Bluecher took us to La Brea about 38 miles from Trinidad, West Indies, to see the wonderful Trinidad pitch lake. This is circular in form, from 90 to 110 acres in extent. Borings of 100 feet have been made in a futile effort to find its depth. At present it is being worked by an American company, the New Trinidad Asphalt Company, Limited, with headquarters in Ohio, I think. They are allowed to mine 110,000 tons a year and pay royalty on each ton. I was told it could be dug for \$1.50 a ton, shipped to New York for \$3.50, and sold there for \$20 a ton. They get some petroleum which is used to run the plant. To save space in freighting the asphalt is melted and put into barrels. Negro labor is employed, but all the head men are white. The lake is half a mile from the shore, on the top of a hill. The company takes advantage of this and loads the stuff on a wire connected with the wharf and gravity does the rest. The pitch is dug up in any old spot to the depth of from two to six feet a day. In twenty-four hours the place is filled up once more in quite a mysterious manner. The

bottom of the hole is pushed up to the top by some powerful force underneath. It does not ooze in as one would expect. The lake is soft and yielding and yet not like quick sand. I have a photo of a negro who posed for one of our camera fiends, sunk up to his knees in it. He had somewhat of a struggle to get himself out and his big ugly feet made quite a loud "plop" as he finally emerged. Here and there on the asphalt were seams or crevices filled with beautifully clear water. Some one said there were fish in them but we did not see any. One negro said he caught them eight inches long. Probably he was a candidate for the Ananias Club. Tiny jets of gas spurt up through this water which make a small flame if a match is applied. Seated flat on the asphalt beside these little streams were several negro women doing laundry work. The problem of doing up dainty garments for their children certainly could not have troubled them very much as nearly every pickaninny was running around absolutely naked.

JEAN M. VALLETTE.

#### MINERAL WEALTH OF PERU.

(From Consul General W. Henry Robertson, Callao.)

The following article dealing with the production of copper, silver, and gold in Peru was published recently in the London Times:

Peru covers an area of approximately 650,000 square miles, of which 70 per cent is on the east side of the Andes—known as the Montana—where there is no mining except possibly a little gold washing. The principal mining fields are confined to the Andean Cordilleras and coast regions.

The mining industry is scattered over a possible total area of 150 to 200 square miles. The distribution, according to the claims paying taxes, appears to be gold, copper and silver, silver, petroleum, copper, coal, and to a much less extent, bismuth, mercury, vanadium, tungsten, nickel, antimony, iron, sulphur, salt, and peat.

The industry is largely confined to the extraction and reduction of copper minerals. The greatest producer and the most important company in the country is located at Cerro de Pasco, controlling the production of that region and operating a smeltery at probably the highest elevation (14,000 feet above sea level) in the world. The company's mines produce from 20,000 to 30,000 tons of ore per month, while the smeltery treats from 30,000 to 40,000 tons, which include



## MINING MATTERS

### Late News From Districts Producing Precious Metals.

(Special correspondence.)

customers of the district. At present the copper production is at the rate of 50,000,000 pounds per year (the copper cakes shipped average about 99 per cent copper, 100 ounces silver, and .1 ounce gold per ton), and it is probable that by the close of 1911 the yearly output may be doubled. Copper production has now superseded that of silver in this district. To the present date possibly 300,000,000 ounces of silver can be accounted for. Cerro de Pasco also possesses two or three small reverberatory plants shipping matte abroad.

The next largest copper producer operates mines at Casapalca and Morococha, and a smelter at the former place. The daily tonnage smelted has recently been brought up to 200 to 250 tons, which might mean a monthly output of 600 to 700 tons of matte, averaging 50 per cent copper and 300 to 400 ounces of silver per ton.

A considerable amount of raw ore is shipped from various parts of the country either to the United States or England, the grade running from 12 per cent to 40 per cent copper, with possibly 6 ounces to 50 ounces of silver and a little gold. The largest shipping output comes from Morococha. In 1908 about two-thirds of the total copper output was in copper cakes, nearly 20 per cent as matte, and over 14 per cent in mineral; the output was 19,900 metric tons of copper (metric ton equals 2,204.6 pounds). Considering the possibilities of the Ferrobamba region (the control of which has recently passed into American hands), where large deposits of 6 per cent copper ore with slight silver values are said to occur and are now under development, and those of other regions more or less promising but still in the "prospect" stage, Peru is likely to become an important factor among the world's copper producers. It is probable that this year nearly 30,000 short tons of copper will be shipped, as against 21,900 short tons in 1908.

#### Silver Mining is of Minor Importance.

Since Peru's discovery down to as late as 1906 silver was the most important metal mined, but since that date the copper industry, through the Cerro de Pasco operations and the high price of the metal, has taken the lead. The mining of silver ores is entirely confined to copper or lead-silver bearing minerals, very little silver mineral mining being carried on. The industry is widely distributed. Of the various Departments of the country, in that of Cajamarca the pro-

(Continued on next page.)

Dan B. Genung, superintendent of the Mildred Mining Co., operating at Stanton, Arizona, has recovered from his recent illness and is working a small force of men on the property. He is down over three hundred feet in good ore and expects to start up the ten-stamps in a few weeks. This mine is located on the southwest side of Rich Hill and is a strong continuous vein of white quartz.

D. I. Sullivan is working on his claims at Congress keeping a small mill running steadily. He ships two car loads of concentrates per month.

The leasers on the Rincon ground which lies about two miles west of Rich Hill are shipping a car-load of high grade concentrates every thirty-five days. The Rincon is a great property but was so poorly handled that the company had to quit work. Then a couple of practical miners got a lease on it and have been doing well.

There is a prospect of the Yarnell mine starting again soon. That is an other good property lying idle for the want of a man with just a little bit of common mining sense to handle it.

The Octave in the same district is another example of bad management. It was good enough, however, to pay dividends for a number of years with a hotel clerk who never saw a mine until he came to the Octave, as superintendent.

#### GOLD AND PLATINUM MINING.

A new company has recently been organized under the name of "Black Sand Leasing Company" with a capitalization of \$50,000 for the handling and treating of the black sand concentrates and tailings to be taken from the undercurrents of six big hydraulic giants of the E. L. Goldstein Company's plant at Brandy City, Sierra County, California, and commonly known as the Brandy City Mining Company and well known as one of the largest hydraulic placer mines in the west, having been in operation ever since the year 1857 and having over 800 acres of placer claims with a face of over 180 feet. They now have given a three year lease of their tailings to the Black Sand Leasing Company and it is reported that these tailings run high in both gold and platinum values. Many exhaustive tests have been made of these tailings with a new process and separator owned

and manufactured by the Automatic Gold Separator Limited of Los Angeles, California, with unusual results, recovering all the platinum and leaving only a trace of gold. This company have now taken an interest with the Black Sand Leasing Company in the handling and treating of these tailings for which they purpose to begin the installing of a plant at once on the property. The necessary machinery is now about ready for shipment and it is expected to have the plant operating during the month of September. The officers and directors of the Black Sand Leasing Company are Lew Robertson, president and general manager; J. A. Bothwell, vice-president; C. H. Gowman, secretary-treasurer; with W. E. Bechtelheimer and L. W. Partridge on the list as directors, all of which are of Los Angeles, California, with exception of L. W. Partridge, who is of Detroit, Michigan.

#### GOLD ROAD DISTRIBUTION.

Last week the liquidators of the Gold Road Mining and Exploration company sent out notices to all stockholders that upon surrender of their certificates of stock to the First National Bank of Los Angeles, Cal., drafts would be issued in payment of same at the rate of \$3.80 per share. The price for which the mine passed was \$4 per share, but under the agreement with Mr. Bayly that gentleman is to receive twenty cents per share, or \$60,000 on account of the part he took in the sole of the mine. The distribution to the shareholders is to be completed by the 24th of this month. After the liquidation of the stock the company will make a distribution of the money now in the treasury, accumulations from the sales of bullion up to the first of February, of this year, which is said to total more than \$100,000.—Mohave Miner.

J. L. Greninger, of San Francisco, has been looking over property in the Chloride district, Mohave Co., Arizona.

W. J. Douglas of Virginia City, Nevada, has extended the option on the tailings in the Carson River, east of the mouth of Six Mile Canyon, to J. E. Johnson of Los Angeles. The latter has asked additional time to make further experiments that he may determine the best treatment.

**MINERAL WEALTH OF PERU.**

(Continued from preceding page.)

duction is mostly all silver sulphides, the result of the lixiviating process. In Ancash the production is much the same, but a good deal of silver-bearing ore is also exported. In Lima the output is almost entirely due to the argentiferous copper mattes exported. In Junin the Provinces of Cerro de Pasco and Yauli are the sole silver contributors; that of the former, said to be responsible for more than a third of the entire output of the country, is mainly the silver in the Cerro de Pasco copper cakes, although some argentiferous mattes and silver bars are exported, that of the latter is chiefly in the form of silver-lead ores. In Arequipa the entire production is practically due to the Caylloma mines, where silver-bearing ores and concentrates are shipped. Several other Departments, of which Huancavelica and Puno are most important, contribute to the silver production. The production for 1908 amounted to nearly 200,000 kilos (220.4 short tons) of silver, of which nearly 60 per cent was in copper cakes and mattes, 25 per cent in silver-bearing ores and concentrates, and 12 per cent in silver sulphides from lixiviation, the remainder being in bars. The cyanide process is receiving attention at one plant. It has been tried at another plant, but was found to be inferior to concentration.

Gold mining has not received much attention. This may be partly explained through existing conditions, such as lack of water. The largest production from an individual mine, within recent years, is credited to the Santo Domingo mine (the gross value being \$3,406,550). Other vein mines exist, but these properties either ship gold-bearing minerals abroad or are in the course of erecting machinery. Vein mining will be developed as rapidly as conditions are studied and their probabilities appreciated. Placer mining has been carried on principally in the southern part of Peru in the Department of Puno, where more extensive working is now being planned.

Lack of water is the serious drawback in many localities where auriferous gravels exist. In some places the Indians make a fair living in the rainy seasons by panning rich streaks in the river beds, but such places are usually not suited for working on a large scale. A dredger has, however, been under construction, and is now nearly complete, which may prove the success of this process in gold winning.

The total gold production for 1908

was 1.076 short tons, worth \$647,245, which includes the metal produced and shipped in ores, copper cakes, and mattes; the gold bars, however, do not leave the country. Of the above amount 80 per cent was metallic, 4 per cent in copper cakes, and the remainder in silver sulphides, copper mattes, and auriferous ores. The development of the placer fields will tend to bring outside attention to the possibilities of gold mining. Cyanide practice has been tried only at the Santo Domingo mine.

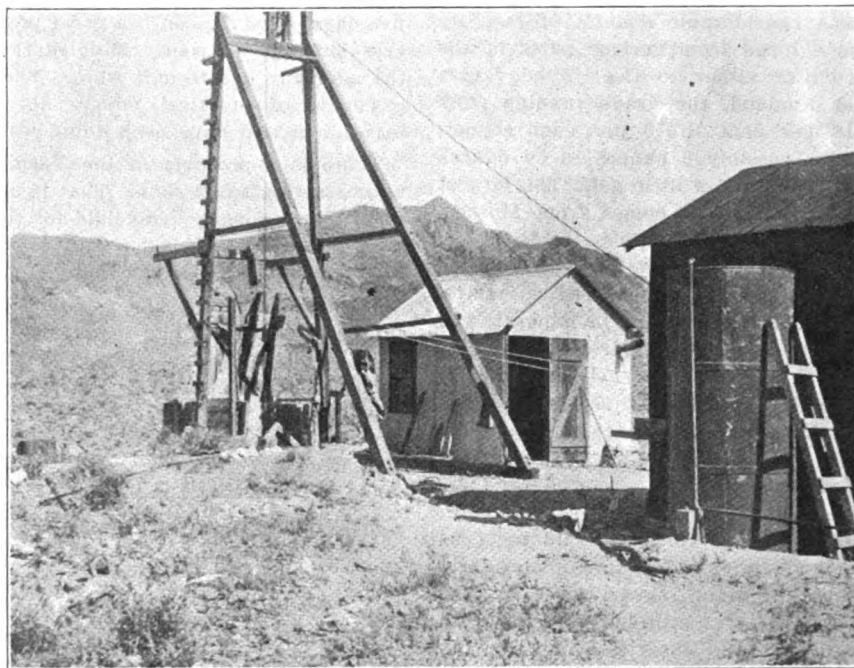
**CROWN CITY GOLD MINES.**

The Crown City Gold Mine is located in the Goldroad district, Mohave County, Arizona. It is  $1\frac{1}{2}$  miles west of Goldroad and joins the Tom Reed Mine to the southeast. The elevation is about 2500 feet. The property con-

tercept the several parallel veins which show on the surface. Upon the completion of this work drifting will be done both to the north and south. Numerous assays taken show values ranging from \$4 to \$24 per ton. Late reports from the mine are of a very encouraging nature and if the development work on the 350 ft. level results as favorably as the Company, with good reason, anticipate it is the intention to install a modern up-to-date mill similar to that at the Tom Reed, the ores of the two mines being of a similar character.

The principal equipment consists of a 15 H.P. gasoline hoist and a six H.P. hoist, which were installed to supplant a steam plant, the latter being more expensive to operate.

The Company owns a very valuable water right consisting of an unfailing spring of pure mountain water which



HOIST AT THE CROWN CITY GOLD MINE, MOHAVE COUNTY, ARIZ.

sists of eight claims, five being continuous along the vein and three being side claims. It has been worked at spasmodic intervals since 1900. The headquarters of the Company are at Pasadena, Cal.

The mine developments consist of three shafts having respective depths of 65, 318 and 368 feet, levels being established at 100 ft. intervals in the two deeper shafts. During the past six months work has been vigorously prosecuted, the new shaft being sunk an additional 200 feet and stations cut at the 250 and 350 foot levels. At the latter point crosscuts are now being run east and west in order to in-

is piped by gravity to the mines through a 4-inch pipe line. The spring is at Battle Mountain at an elevation of about 2800 feet and is three miles northeast of the mine.

Geology—The country rock is green chloritic andesite and is intruded by dikes and masses of rhyolite and by dikes of basic greenstone porphyry. One of these dykes, of greenish color, trending east and west is cut by the vein some 600 feet south of the new shaft.

The main vein varies from 10 to 30 feet in width and strikes N. 10 deg. W. and dips 70 deg. west. The dip however, is variable. There are three

## NEWS NUGGETS

### Concentrates Gathered From Various Properties.

smaller veins running more or less parallel with this. One of these joins the main vein near to where it cuts the greenstone dike. To the north of the old shaft the vein apparently splits into numerous spurs and does not seem to retain its development.

The vein consists essentially of iron and manganese stained quartz and calcite with inclusions of crushed andesite. The calcite or spar is predominate on the surface but is replaced in depth with quartz, the veins increasing as the vein becomes more silicious.

The work at the mine is in charge of Mr. J. F. Berryhill, a Colorado mining man of large experience. Under the present aggressive management it seems probable that substantial ore bodies will be opened up and one more dividend paying mine added to the now famous Goldroad district.

EDWARD W. CARSON.

### PATENTS.

Lyon & Hackley, Patent Lawyers, 504 Merchants Trust Building, Los Angeles, California, report the following patents issued this week:

Lee Calahan, Los Angeles, Cal., Hoist; Ralph Eckley, Los Angeles, Cal., Hydroplane; Robert Jarvis, Los Angeles, Cal., Wheel; John Lindsey, Los Angeles, Cal., Trimmer; Charles Mahone, Los Angeles, Cal., Tax Receipt; Harrison Slaughter, Los Angeles, Cal., Engine; Clyde Dayton, Chatsworth, Cal., Preserving; Joseph Delmore, Piru, Cal., Lock; Emil Erickson, Emigrant Gap, Cal., Spike; Clayton Frederickson, Coalinga, Cal., Hoist; Robert Gradner, Vallejo, Cal., Aeroplane; James Porteous, Fresno, Cal., Plow; Clarence Shaw, Susanville, Cal., Cutter; William Stanley, Alameda, Cal., Tool; Royer Luckenback, Colwyn, Pa., Concentrating amalgamator; Ralph D. Cochrane, Hetton-le-Hole, England, Means for quenching and arresting fires in mines; Seven T. Nelson, Assignor to Sullivan Machinery Company, Chicago, Illinois, mine-Hoist; Louis F. Hess, Assignor of one-half to D. Boone, Hawks Nest, West Pa., Attachment for Mining Machines; James A. Thompson, Assignor to Chicago Pneumatic Tool Co., Chicago, Illinois, Rock-drill; Edgar B. Symons, Assignor to Smith & Post Co., Milwaukee, Wisconsin, Stone Crusher; Carl G. Smith, Stockholm, Sweden, Machine for splitting or other working of stones and the like; John G. Leyner, Denver, & S. A. Knowles, Golden, Colorado, Assignors of three-fourths to The J. George Leyner Engineering Works Co., Denver, Colo., Mucker for removing Ore, Rock, Dirt, etc.

The Crown Reserve mine of Cobalt, Ontario, has completed its delivery of one million ounces of silver called for in the contract made with the Prussian government about 2 years ago.

The Green Cananea Copper Co., of Cananea, Mexico, is making arrangements to handle a greater output, two new converter stands being at present in process of installation at its smelter.

The Parker Post says the indications are that there will be more mining in that field this fall and winter than ever before in its history.

A new strike is reported in the hills near Rawhide and Schurz, Nevada. The location is twelve miles east of Schurz on the road running to Rawhide. The ore is very rich and several good sized ledges have been uncovered.

At Elk City, Idaho, work is progressing rapidly on the new reduction plant and it is expected to have the mill in operation by the first of September.

The Mexican Mining Co., on the Comstock Lode declared a dividend of 10c per share. This is the first dividend in the history of the company. Plans are being made to put up a mill which will cost \$48,000 and enough ore is now on the dump to defray the expense.

A good strike has been made on the 200-foot level of the Jupiter at Porcupine, Ontario.

What is believed to be a continuation of a vein from the Stray Dog at Manhattan has been struck on the ground of the Dexter Consolidated Mining Co., and runs from eighty to one hundred dollars a ton.

The Nipissing, at Cobalt, Ontario, had a silver production for July of \$227,066.

The Trail Creek Mining Co., in the Idaho Springs, Colo., district, is completing a modern mill which will be in commission by the end of the month, and have a capacity of fifty tons a day.

The details of the plans for sinking the two thousand foot shaft on the property of the Merger Mines Co., at Goldfield, Nevada, are now being developed and actual work will be commenced at an early date.

The Standard Mining Co., in Silverton, B. C., will have its new mill in operation in October.

There has been a new discovery of gold made in both placer and quartz in the Coquahalla Valley, near Hope, B. C.

A rich strike has been made on the Stratton's Independence at Cripple Creek, Colorado. The ore is rich in sylvanite and assays from two hundred a ton up.

The Yukon Gold Co., which is a Guggenheim concern is making a better record this year than last. Its gross production to July 15, was \$932,000 as against \$665,000 last year at the same date.

A gold bar valued at two thousand dollars was shipped from the Alabama property at Rawhide, Nevada, last week.

According to the last record of the executive committee of the Transvaal Chamber of Mines, the Association of Mining Engineers will conduct a series of experiments with colored wrappers for explosives, in certain mines for a limited period for the purpose of ascertaining whether the per cent of accidents in stopes arising from stray pieces of explosive lying about will be lessened thereby.

There are one hundred men working in the placer grounds in the Manhattan, Nevada field.

Prince Rupert is the Pacific terminus of the Grand Trunk Pacific Railway which is being constructed by the Canadian government, and ships going into that port must dock not less than six feet from the wharf, and their hausers must have metal rat guards not less than three feet in diameter and not less than three feet from the wharf.

The interests which are planning the sinking of a deep shaft on the Quartzsite claim on the east slope of the Black Butte in the Goldfield, Nevada district are amply able to carry out their plans and the sinking of this shaft should be of great value to the Diamondfield district.

Word comes to Boise, Idaho, that the U. S. Smelting, Refining & Mining Co., has purchased the Rainbow mine in the Mormon basin district, eastern Oregon, for \$750,000. At the same time it is reported that an English syndicate has purchased in the same district the Humboldt mine for about the same figure.

O. H. Hagen who has been inspecting the Chipmunk Springs mining district some thirty miles south of Yerington, Nevada, has gone to San Francisco for the purpose of arranging to take over a number of prospects in the district and put in a ten-stamp mill within the near future.

## PYRAMID OIL COMPANY.

An extensive development campaign is being planned by the Pyramid Oil Company to be started on its tract of 1600 acres on the Midway-Maricopa flat, about the first of September. Six new drilling outfits are to be installed, and wells drilled by each as rapidly as possible.

The Pyramid Company is over 3650 feet deep in its well on Section 18, 32-25 on this tract, and has gone through over 200 feet of prolific oil bearing, sandy brown shale formation, which also carries a heavy flow of gas. The Pyramid Company has demonstrated by this well that the oil bearing formation in this part of the Midway field is of unusual thickness, indicating that the wells drilled will be big producers. The unusual thickness of the oil bearing stratum here assures a long life to all wells that may be drilled.

The gas pressure is so strong that it has been taxing the ingenuity of the drillers and all the latest equipment has been installed to control any flow of gas that may be encountered.

## A DEATH VALLEY STORM.

That the press reports which told of the terrific heat and the remarkable cloudbursts which took place in Death Valley several days ago, were not exaggerated is the statement of J. C. Wyman, of Mojave, an oil driller, who is now working in the West Side fields, and who was near the valley at the time.

"The heat was withering," said Mr. Wyman today, "and the very bottom seemed to have fallen out of an immense lake in the clouds and tossed the water upon the valley. I was three miles from the valley proper at the time, but the phenomenon was the most remarkable I ever witnessed in my life.

"While I could only see the storm at a distance, I could appreciate its magnitude from the downpour and the heat which we felt about us. I was out there for two weeks, having left Mojave two weeks ago yesterday. They say that the heat has been more terrific this year than for many years, and that men who have been frequenting the valley in other summers are keeping away this year because of the scarcity of water. Many of the springs near the valley are poisoned this year."—Randsbuhg Miner.

J. F. Thorn, general manager of the Consolidated Mine at Goldfield, Nevada, was in Los Angeles last week.

## PETROLEUM NEWS

## Recent Happenings Among Oil Men. Notes From the Wells.

Seattle.—Surprise among oil men is occasioned by the announcement that the big contract for supplying fuel oil to the Great Northern Railroad has gone to the Independent Agency, rather than the Standard. The first cargo of this oil has been delivered at Everett, for the Hill company, consisting of 35,000 barrels brought north by the tanker William F. Herrin. The Herrin is under charter for the transportation of oil continuously between California and Puget Sound for the Great Northern and will make these trips monthly.

The Great Northern's storage tanks at Everett are nearing completion. They consist of four 55,000-barrel tanks, and in addition there are half a dozen small tanks at different points on the extreme western end of the line. The use of oil will not extend beyond the Cascade tunnel. About 160 engines have been converted to oil burners.

That the Chicago, Milwaukee and Puget Sound should be supplied by the Standard, is of course, natural, as it is a Rockefeller road. William Rockefeller, with his son, Percy, and President A. J. Earling of the Milwaukee system are making a pleasure tour through the Northwest.

The Western Washington Oil company and the Irondale Oil Company, made up of Seattle and California interests, have been organized to drill for oil near Port Townsend, on the Olympic Peninsular. The Irondale company is going right to work, on ground, near which a well was sunk some twenty years ago. This well has been supplying gas for a farm house ever since it was drilled. The Western Washington concern is planning to put on a \$10,000 drilling outfit, but may not get to work this season.

## SEEKING DEEP OIL SANDS.

In the older fields of the east there is a growing curiosity to ascertain if there are not other oil sands below those which have been found. The old wells are giving a smaller yield each year, and the producer who has remained in the east, to which he is bound by home and association, is looking to the possibilities of finding new production by deeper drilling. It has been a theme of suggestion and talk for a number of years, but no general effort has been made towards it. Here and there an occasional well

has been drilled to a greater depth than usual, but these have been so few and so scattered as to be of little practical value from the oil producer's standpoint, to determine the existence of any sand below the Kane and Speechley sands. Had the oilmen of the white sands of Pennsylvania been content with reaching the third sand only, the fourth and Speechley sands would not have been found, and in the northern sections the Kane sand might have been left for future operators.

It is notable that in certain sections the single sands of one locality break up into several sands. The Gordon, fourth, fifth, and the possible sixth sand of southern Pennsylvania and West Virginia, are practically the splitting of the third sand of Venango county. The Freeport sand develops into the second Cow Run and the stray southeastern Ohio, while the Pocono sandstone on the hills of Clarion and Venango counties, splits up into the Maxon, Keener, Big Injun and Squaw sands of the southern fields. It was claimed by geologists that the Berea sand did not exist as an oil sand east of the eastern flank of the Burning Springs anticline, yet the Yellow Creek field of Calhoun county, West Virginia, is located stratigraphically where the Berea belongs. The sand, however, instead of being of the close texture of the usual Berea sand, is a white pebble sand. This change in its structure has puzzled operators, but the fact remains that a sand was deposited far to the east at the geological level of the Berea sand, and it is a sand rich in oil and gas. The Gordon sand, it is supposed, does not exist west of the Ohio river, yet one well was found at its proper level in the Macksburg, Ohio, field. It was called a freak because further drilling failed to develop another well. Yet that one was a good producer, and is a hint of other possibilities.

The Bradford field sands are supposed to have been washed in from the east, and thin out to the west and south. Very few wells have ever been drilled to determine this, and these few tested only a few feet square. It is not at all improbable that isolated beaches or banks of these sands might have been carried farther west, and if so they are likely to contain oil. As is the common expression of the oil producer,

## MOVEMENTS OF MINING MEN

MINE AND OIL OPERATORS ARE INVITED AND URGED TO SUPPLY ITEMS FOR THIS COLUMN.—ED.

Hedge's Laboratory has removed from 235 San Pedro St. to 108 N. Spring St.

Richard Marsh an assayer of Spokane, Washington, is now on the staff of the Republic Mines, at Republic, Washington.

Leo Von Rosenburg, a mining engineer of New York City, has been lately in the Hassayampa District, Arizona on business.

Wilber L. Libbey has been appointed manager of the Haile gold mine, a large low grade proposition which has been operating for many years at Kershaw, S. Carolina.

W. J. Hamilton of the American Smelting & Refining Co., has gone to Lima, Peru, S. A., where he will have charge of the smelter of the Pasco Mining Co.

Norman Carmichael, who is on the staff of the Arizona Copper Co., at Morenci, Arizona, has been visiting in British Columbia where he was formerly engaged in mining.

Jim Stewart, Geo. Mood and other Colorado mining men who have taken up claims in the Canyon Creek district in western Josephine Co., Oregon, where several telluride strikes have recently been made, say that it will become a second Cripple Creek.

W. Hall who is driving a tunnel on a gold bearing vein behind his residence at Sumas, B. C., was one of the corps of Royal Engineers who were sent out to that country by the English government after the Crimean War to construct roads and bridges. He is 84 years old.

C. J. Kanrohat who is working a mine in Jefferson Canyon in the Tonopah field has opened up more than

a mile of tunnels and drifts with a wheel barrow. He now has a small mill and will be able to handle his property to better advantage.

T. Walter Beam of Denver, Colo., has been negotiating for the purchase of the Nugget Mine at Sheep Creek, B. C. The examination was made by Walter H. Wiley, of Los Angeles.

J. Otis Johnson; P. J. Smith, vice-president; together with T. White Eastman, director, of the Seven Troughs Mammoth Mining Co., all of San Francisco, have recently completed a twelve-days' inspection of their property located at Farrell, Nevada. They decided that it would be profitable to drive a tunnel and prospect the ground at a depth of five hundred feet. The ore in the upper workings is satisfactory.

St. Louis capitalists have bonded mining claims in the Casa Grande District, Arizona, for \$150,000.

A. C. Barcke, formerly attached to the Los Angeles office of the United States Smelting, Refining & Mining Co., now represents that corporation in the state of Washington.

F. L. Wright, who has recently come

to Los Angeles from his Swastika mine in the Bradshaws, Arizona, says that good ore bodies are being developed and that he is satisfied with the outlook.

Samuel Parker, owns the Pickaway mines near Turkey, Arizona.

A. N. Bradshaw, Jr., of Los Angeles, is interested in mining property at Luning, Nevada.

W. H. Bradford, is engaged in placer mining at Skull Valley, Arizona.

C. Dixon is manager of the company which has taken over the big coal deposits at Coaldale, Nevada.

B. F. Batesman of Goldfield, Nevada, has been at Prescott, Arizona, examining mining property.

### SEEKING DEEP OIL SANDS.

(Continued from Preceding Page.)

"Nothing but the drill will tell," and so far the drill has not been used enough to give any satisfactory conclusions. The same is true of the possibilities in the western fields. The section covered by the new Osage pool was condemned at the depth to which wells had been drilled until last August, when deeper drilling developed a rich producing sand. The oil secrets of the earth are carefully hidden, and to discover them requires not alone the expenditure of money, but patient and unremitting research. —Oil and Gas Journal.

## WANTED

### All Your Old Pipes to Fix

Remember that W. F. BALL, established 28 years at 110 North Spring Street, Los Angeles, is HEADQUARTERS for FINE PIPES and REPAIRING. Finest and Largest Stock on the Coast. We would like to have you see it, and will guarantee satisfaction.



CALIFORNIA UNION OIL CO., Incorporated March 16, 1911, in Arizona. 1,000,000 shares. Par value, \$1.00. Non-assessable. PRICE NOW 15 CENTS; WILL ADVANCE AS DEVELOPMENT PROGRESSES. We control by lease and otherwise 960 acres of land for oil development and are selling treasury stock for development purposes.

For further information write for map and particulars, or send in check for amount you want, or we will sell for one-fifth cash and four monthly payments.

## OIL & METALS BROKERAGE CO.

Fiscal Agents

409 LISSNER BLDG.

Chas. Berry, President

LOS ANGELES, CALIFORNIA

J. E. Crouch, Secretary

GENTLEMEN:—I am enclosing \$.....herewith in full payment for..... shares, AT 15 CENTS EACH of the Treasury Stock of the CALIFORNIA UNION OIL COMPANY. It is understood that the shares are to have a par value of \$1.00 each.

Name .....

Address .....

PLEASE MENTION THE MINING REVIEW

### MINING PROPERTIES PAYING DIVIDENDS.

The mines of California and Nevada continue to furnish copious reports of their operations, which are unusually active this summer. The California districts leading in activity are Tuolumne, Sierra, Amador and Plumas. Among the Amador mines, Kennedy is prominent, having taken out a large quantity of high grade ore during July. Among the Plumas mines the Plumas-Eureka and Jamison mines stand out prominently, the former having a dividend record to date of \$2,881,294, on an original capitalization of \$1,400,280, and its gross production since discovery is estimated at from \$13,000,000 to \$15,000,000. The Jamison has a dividend record of \$378,300, and has paid a dividend of \$7,800 during the current year.

A rich strike is reported in the Haskell Peak mine, in Sierra county.

The Central Eureka mill, in Amador county, yielded the company about \$7000 above all expenses in June. The Bunker Hill mine at Jackson has declared its sixty-first consecutive dividend. During the first six months of the year the mill crushed about \$5 per ton. The dividend of 5 cents per share is likely to be increased in the near future.

### ONE MORE.

San Bernardino.—"Failed to find water, am in bad way. This torture is terrible. Hope to find water to-night."

This brief message, dated June 9, and following others for several days previous, tells of the desert tragedy which claimed Al Williams, prospector. His body was found after a long search in a narrow canyon, 15 miles northeast of Johannesburg.

In the pockets of the dead man was found the diary. His last entry is dated June 9. The three following days the dying man simply recorded the dates.

The body was buried where it was found.

### NEVADA HILLS MILL TO START.

President George Wingfield has just issued a statement regarding conditions at the Nevada Hills properties in Fairview. He says that the mill construction work is well in hand and that the officers expect to begin operating by the middle of August. They will limber the plant up by running through the lower grade ores, and after it has been regularly commissioned it will be operated on

the average output from the mine. The mill structure is of concrete and steel throughout, and is described as one of the most modernly equipped reduction works in all Nevada.

Patterned after the Goldfield Consolidated mill, it will have still more modern appliances installed, which will give it a number of advantages. The capacity will be 150 tons daily.

E. A. Julian, who was superintendent of the Combination mill and later assistant superintendent of the Consolidated mines at Goldfield, will have charge of mill operations at the Nevada Hills. A considerable amount of ore is now broken down in the stopes, and ready to keep the mill supplied. In addition to this a good tonnage of ore has been raised to the surface and placed in the bins at the mill.

The mine development has been most satisfactory, according to Wingfield's statement. The ledge for which they were driving in the old workings of the Nevada Hills has been tapped on the 570-foot level, but not enough work has been done to determine the extent of this find. This strike is considered important, as it is the continuation of the richer ore body for which the management has been driving for several months. Ore is making its appearance on several of the levels where development is being carried on, and some liberal deposits have been exposed. The company will make arrangements to secure a permanent water supply.

### BEAR CREEK MINE IN HIGH GRADE.

Four-Foot Pay Chute Runs \$400 in Gold.

A rich strike has been made in the Bear creek mine, near Graniteville, which has created much excitement in that district.

Prospectors and miners just arriving here from Milton basin report a rich strike in the Bear Creek mine, situated in southern Sierra county, six miles northeast of here. A four-foot pay chute, running \$400 per ton in gold, was struck in the winze shaft sunk from an adit level at a depth of 50 feet.

Water pouring in, the miners were driven out, but an order was telephoned from here to Sacramento for a gasoline engine, and a station is now being cut out in the tunnel at the collar of the winze, and the mine will be unwatered with an ejector and siphon operated by the gasoline engine.

The Bear Creek mine which is

owned by John Andrews of Quicksilver, was purchased two years ago as a mere prospect from W. W. Cassmoor of Camptonville. It carried two ledges, one of them averaging only one foot wide, yielding quartz which milled five ounces of gold per ton. The other was five feet wide, but milled only half an ounce of the precious metal to the ton.

It is the larger ledge that the new pay shoot was encountered in, the quartz returning twenty ounces of gold per ton including some silver values. The strike in the Bear creek has started a boom in the Milton basin canyon of the middle Yuba river, from the mouth of Bear creek up for ten miles.

It is all virgin territory, but is now recognized as a southern extension of the Sierra Buttes gold belt, continuations of the veins and ledges of the mines of that district which are now being sought for.

An attempt was made forty years ago to open a lode by what was called the Savage tunnel, but abandoned, and the region has since been the haunt of bear and deer, and was seldom visited by man except for hunting and fishing. Last year the Yuba Hydro-Electric Power company cut a road and ditch line through the region that opened the way for the prospectors, and several new locations of claims were made last fall, very rich float and outcroppings having been found.

The northern boundary of the region is traversed by the Henness pass wagon road which, during the Comstock boom and before the completion of the Central Pacific railroad, was the chief thoroughfare between Sacramento and Virginia City, and is referred to as "the old emigrant road." It is in good condition from Milton westward, and the machinery and stamps for a 10stamp mill are now being hauled in over it from Forest for the San Luis mine at the head of Keystone Gap.

Los Angeles capital is backing the Cogley brothers in the development and improvement of the San Luis mine, the ledge of which cuts across the ridge from the Sierra Buttes district into the Milton district.

A petition is being circulated asking for the repair of the road from Milton to Reno, and if successful an automobile service will be established by men of Reno from the latter place to Bear Creek via Milton.—Nevada City, Calif., Transcript.



The Oil and Metals Brokerage Company are making arrangements for the California Union Oil Co., to commence work on the 640 acres of oil land recently secured in the Ventura Co. oil field, and are satisfied they have a good location for oil at shallow depth. Only a short distance from the land a flowing well was recently brought in at less than 800 feet depth. They hope to be drilling soon and prospects are looking good.

Several good discoveries have been lately made in the neighborhood of Walker Lake, Nevada.

Cal and Ned Terwilleger, old time Goldfield mining men have taken up property in the Rawhide camp, which they have started to develop.

Frank Widing, superintendent of a construction company doing work near Singapore, in the Malacca Straits, off the coast of China was formerly with the smelter at Humboldt, Arizona. With him is William Hildenburg who was also from Humboldt.



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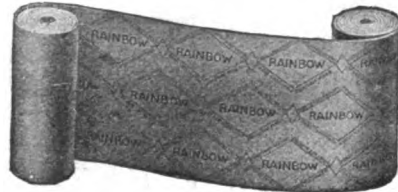
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## OIL NOTES.

A new discovery of oil is announced in northwestern New Mexico, at Seven Lakes, 75 miles north of Gallup.

H. M. Stanley, an Oklahoma oil man, has been given charge of an oil station in the Devel's Den.

On the Island of Timor in the Malay Archipelago, oil has been struck at 1000 feet elevation above the sea and the product can be carried to the coast by gravity.

Jack Ellison who is manager of the Pantheon Oil Co. in the Coalinga field has returned recently from a trip to New Mexico where he was looking after some mines.

Near Washington, Pa., three pipe lines broke belonging to the United Pipe Line Co. There was a discharge of about 5000 barrels of oil into a coal mine lying below the break and 200 miners working therein had a narrow escape from drowning.

The Pyramid Oil Company's well on Section 18-32-25 is 3400 feet down at the present time and has been in an oil bearing formation for about 300 feet. A strong gas pressure has also been present. A brown shale was encountered Thursday afternoon which contained a great deal more oil than anything that has been found yet in this hole. The management of the Pyramid Oil Company is expecting to complete this well daily and with the strong showing of oil and gas at the present depth they feel certain of having a well that will be in the gusher class.

The Standard Oil Co. has brought in a new well on the Buena Vista hills in the Bakersville section at 3400 feet. It is estimated to be flowing between 5000 and 10,000 barrels a day. It is the first strike in that vicinity.

The Union Oil Co. of California is having another large oil tank steamer constructed. It is being built in England and is to have a capacity of 93,000 gallons.

The Coronation Oil Co., in the Maricopa field, has struck oil at 2400 feet.

The K. T. & O., operating in the Coalinga field, has shut down absolutely on liquor and will not permit it to be kept on the job in any form. Other companies have the matter under consideration and will probably adopt the same rule.

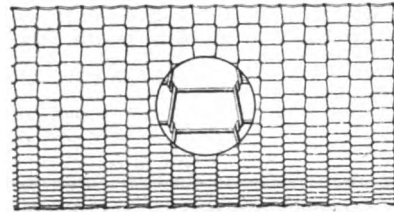
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