

Oroville Mercury

1-18-1902

NO TROUBLE WITH GABLE.

Bay Counties Power Company can go
Ahead.

Since the Bay Counties Power company ceased operations at French Creek last fall it has been rumored persistently that the scheme of utilizing French Creek waters to generate power for electrical transmission was to be abandoned. Among the causes assigned for abandonment by those who believed the rumors, was the alleged fact that George Gable claimed some adverse rights on the stream and was "holding up" the company for a stiff price.

Mr. Gable was in town today and in reply to an inquiry by the Mercury said he had had no trouble of any kind and held no claim on French creek adverse to the company's interests in any way. He says he owns some dredger land near Oroville and has been negotiating its sale, but all stories that he had in any way interfered with the Bay Counties Power company on French creek were false.

When work was suspended it was given out that it was merely on account of the lateness of the season, and the presumption has been that work would be resumed in the spring. There is every reason to believe that work will be resumed. Material is on the ground, more is stored at Oroville, and, more than all else, electrical transmission has proven a wonderful success. There is an almost unlimited demand for cheap power and the dividends paid already by the Bay Counties lines are enormous.

Oroville Daily Register

2-10-1902

EYESIGHT RESTORED.

Guy B. Morrison's Sight Restored by Dr Redmond Payne,

Mrs Anna Morrison Reed, who has been the guest of Dr and Mrs Benjamin for some days, goes to San Francisco today to take her father, Guy B Morrison, home from the eye and ear hospital of Dr Redmond Payne, where he was submitted to an operation for senile cataract last November. Mr Morrison is 87 years of age and his mind and body have been wonderfully preserved, with the exception of his eyesight, he having been blind for the past four years. The vision of his left eye has been restored and he can see to read common print.

Mr Redmond Payne is a specialist of great skill. He is the son-in law of John Sabin and a nephew of one of Butte's favorite earlier citizens Louis Glass,

Mr Morrison will be remembered by old timers in Butte. His brother H J Morrison, served Butte for sometime as Supervisor and also represented this county in the Legislature during the early fifties.

Old friends of Guy B Morrison will be glad to learn of the restoration of his sight after having suffered from blindness for some years.

THE POWER COMPANY BOYS CHEROKEE WATER

Another Power Plant For
Butte Creek.

WILL GIVE THEM
20,000 HORSE POWER

W. P. Lynch and L. J. Hohl Have
Just Concluded the
Big Deal.

A deal has just been concluded whereby the Bay Counties Power Company becomes the owner of the entire Cherokee water system.

The Cherokee system consists of a great chain of ditches, pipe lines and inverted siphons and its sale to the Bay Counties Power Company indicates that this company, which already owns the longest transmission line in operation, and is furnishing thousands of horse-power to patrons scattered over an area extending from Butte county to the Bay, finds the power of mountain streams a valuable property.

The deal was promoted and carried through by W. P. Lynch and L. J. Hohl, and from Mr. Lynch we learn that it is the intention of the company to divert to Butte creek the waters of the Cherokee system now carried across the west branch of Feather river by inverted siphon. This stream approximates 3000 miners' inches and will be utilized at a point above the present dam from which the Butte creek plant receives its water supply, under a head

Oroville Mercury 3-24-1902

of 1600 feet which will give 12,000 horse power. The water will be discharged into the dam and may be again utilized at the present power house lower down and will enable the company to generate at this point 4500 horse-power in addition to the present capacity.

The water from the Cherokee system will make Butte Creek the greatest source of developed power in the State. With the great volume of water and a fall of 1600 feet the new plant will be larger than that at Colgate.

The purchase includes the Concow system and the Banner Mine ditch and pipe line. Just what effect it may have on the Cherokee mine we are unable to state at this time. The Concow system will furnish sufficient water to mine on a not too extensive scale.

IMPORTANCE OF OUR MINES

In Summing Up the Resources
of Oroville.

MILLIONS OF DOLLARS TAKEN OUT

We Believe It a Fair Estimate to Say That More Than
One-Fifteenth of the People Are Directly or Indi-
rectly Dependent on Mining for a Living, Ex-
clusive of Those Employed on Dredgers.

One of the first places in California where gold was discovered was a few miles south of Oroville at the old town of Hamilton on Feather river. General John Bidwell discovered this gold and assuming if there was some gold this far from the hills there must be more nearer the mountains he went to what is known as Bidwell Bar and began mining there.

From that day to this gold has been mined in all the mountainous portions of this county. In summing up the resources of Oroville, what supports the town, and sends a stream of precious metal into the coffers of the business men of this place, mining is of the first importance.

Not of One Character.

The mines of Butte are not all of one character. The original placer or surface mines have been worked out to a great extent. To get gold at the present time some thing more is required than hard work and a pick and pan. Men can no longer find gold nuggets on the surface but must dig and delve for them.

Where the banks covering the earth are of considerable extent and water can be readily obtained hydraulic mining is resorted to. In some cases ditches are dug for miles to convey water to the mine and in a few instances, these ditches are of great length and cost large sums of money. Such is a ditch dug from about Enterprise to Oroville. Another long ditch and series of flumes bring water from the mountains to Oberckee and others of the same kind might be noted.

The mountains of Butte rise to 7,000 feet in altitude and in winter are covered with snow affording a large supply of water for mining purposes. The hydraulic mines are situated at all altitude from about 300 feet above sea level to 5,000 feet in altitude. Owing to active legislation against such mines as were damaging rivers, considerable of this kind of mining has been stopped.

Drift Mining.

Drift mining is of two kinds, one is where drifts are run for the purpose of getting gold from near the surface, or where the banks are too high to be readily washed down with water, or where water cannot be obtained for hydraulic purposes, and the other is where drifts are run to tap ancient channels.

In the first form of mining the tunnels are not very deep below the surface nor are they so extended as in the other class of drift mining. A channel is followed or a bed of gravel mined out leaving the top dirt which would not pay to wash, untouched. In following one of the ancient channels the drift or tunnel is run beneath what is termed the lava cap. This cap may be from 50 feet to 700 or 800 feet in depth. The tunnels are run for long distances, in some cases a mile or more. The windings of the ancient streams are followed, water is kept down by pumping and the gravel is brought to the surface and washed in sluices. Few portions of California afford more extensive mines of this kind than Butte. They have been very profitable for years here but they require good management, plenty of capital and a mine extensive enough to afford the expenditure of thousands of dollars.

Quartz Mining.

Quartz mining has been carried on in Butte from a very early day and is at the present time more promising than ever. It is not confined to any particular section of the mountains but paying quartz mines are found on the ridge from Oroville to Forbestown, on the ridge between the South and Middle Fork of Feather river, on the ridge between the Middle and North Fork and on the ridge between the North Fork and Butte Creek.

The old style of working rock with an arrastra is now seen but seldom. The gold bearing rock is crushed in quartz mills and as it requires a good sized ledge with plenty of water or steam power to run such mills there are numerous ledges which are known to contain gold that are not worked at the present time.

Should the day come where electric wires cross the hills in many directions and power for mining and for pumping is cheap there will be many ledges in Butte opened and developed that now lie idle.

The best quartz mining district in the county is near Forbestown and Enterprise. Here there are a number of very valuable mines, among which are the Goldbank, Miller, Denver, Hazleton and others.

Extensive works have been erected on some of these, notably the Goldbank and some mile further up the Golden Trout, and large numbers of men are employed in the mines and mills.

So cheaply can rock be worked under very favorable circumstances that quartz which will yield \$2.50 or \$3 a ton, is considered a paying proposition.

Valuable quartz deposits bearing gold in such quantities as to be worked at a profit, are found near Hazleton, in the vicinity of Inskip, near Powelton, in the Kimshe region, on Berry Creek and in various other parts of the county.

Capital and Experience.

Gold mining requires experience and needs capital so that it does not offer an inviting field for the poor man, except as he may be able to work for wages. Occasionally mines are leased to a number of miners to work on shares, but this is an infrequent occurrence.

Although mining has been carried on in this county for more than fifty years, yet the best miners think this is only the beginning of mining. They consider the deep channels will continue to be mined for many years, and that new channels will be discovered and worked from time to time. They are sanguine that quartz will be mined for perhaps hundreds of years in this county.

The beds of the creeks and the bed of Feather river has been almost continuously worked since gold was discovered in the county and men still find paying spots.

Dredger Mining.

Dredger mining is now one of the most important forms of mining in the county requiring large capital and giving employment to many men. This kind of mining is too important to be touched upon in a general way and will be made the subject of the last of these articles upon the resources of Butte county.

Noticeable Points.

Some of the points most deserving of notice in connection with mining in Butte is at Bangor where the Blue Lead is the principal source of wealth.

At Cherokee is the most extensive hydraulic mine in the county. Two thousand inches of water are used and the banks that are washed down are over 400 feet in height.

On Morris Ravine are several very profitable mines, such as the Yuba, Old Glory and Goodall & Perkins mine. All of these are worked by drifts and contain coarse or nugget gold.

(Continued on 2nd page.)

IMPORTANCE OF OUR MINES

(Continued from 3rd page.)

On the Magalia ridge are very extensive gravel mines and along Butte Creek is one of the richest sections of the county.

To give anything like an adequate and clear description of mining in this county would require far more space than we can give to it. Many millions of dollars have been taken from the mines of Butte and they have built up and made noted a number of towns and mining camps. We believe it a fair estimate to say that more than one-fifteenth of the people are directly or indirectly dependent upon mining for a living. This is exclusive of the men employed in dredger mining near Oroville.

In the concluding article upon Butte which will be next week we will take up dredger mining by itself and give some idea of how extensive it is in this section.

4-8-1902

DAILY REGISTER.

OROVILLE, CAL., TUESDAY MORNING, APRIL 8, 1902.

YANKEE HILL.

Sent in by Our Correspondent in That Section,

ED REGISTER: This being one of Prof. Hicks' vulcan storm periods I will say it is upon us in good earnest,

The farmers in Oncow Valley are not done seeding as it has been too wet to plow. The early sown grain is looking well. Fruit buds are backward yet which is probably a good thing.

Messrs Simmons and Stone are making nice turpikie roads,

At old Frenchtown Andrew Armbruster is making some good improvements on the Nelson Bar road:

Robert Hendricks is putting the main road by Yankee Hill in good shape but all will stop now for awhile on account of the rain.

At Big Bend the neighbors have their new school house about done, except the desks and seats.

John Mullen is putting out more vines, French walnuts and some choice late apples.

Grain and feed are looking well. Fruit blossoms are backward yet; some cherries are in bloom, also peaches, nectarines and apricots. Almonds have been blooming here all winter.

The miners have water again and some are cleaning up and doing well,

The quartz mill at the Pinkston mine has shut down for a season, as they have no dry wood to get up steam.

The rainfall for the season has been as follows;

Month	Inches.
September.....	2.13
October.....	4.76
November.....	6.77
December.....	4.75
1902.	
January.....	1.17
February.....	21.14
March.....	5.14
April, up to the 7th inst.....	2.37

Total up to date..... 48.26

It is said there are parties going to pump out the water from the old Rainbow mine at Jordan Hill and a party is going to operate a mine on the West Branch near Cape Horn. I understand that it is the old Doc Thompson claim

Respectfully,
MULLEN.

DREDGER MINING AROUND OROVILLE

Leading Dredger Mining District
in the United States.

DISTRICT COVERS ABOUT 5,000 ACRES

The Number of Dredgers That Have Been Built Have
Caused the Expenditure Here of Large Sums of
Money, and Have Brought Mining Men From
All Over the World to This Locality.

The conditions for successful mining for gold by means of dredgers is so exacting that only a limited number of localities can be worked in this manner. If the ground is too shallow ere bedrock is reached a dredger cannot operate. If it is too deep to auriferous gravel then the dredger is placed at so much disadvantage that it cannot operate profitable. The field must be extensive, the ground must be of the right depth, and it must not be broken or interrupted with ridges of bedrock.

Early Operation.

The first idea of mining by means of a dredger near Oroville was conceived by W P Hammon, who at the present day stands as the foremost dredger mining engineer in the world.

Seven years ago, or in the fall of 1895, Mr Hammon's attention was called to the operations of Mr Treat, on the west side of the Feather some miles south of Oroville. Mr Treat knew, as did hundreds of other men, that the land south and west of Oroville contained gold. He knew that this land had been worked by Obinese, who obtained large sums from the rich gravels. He worked a pit using wheel barrows after the Obina style and then used scrapers and wagons. Mr Hammon furnished a centrifugal pump for keeping down the water and from less than one acre he and Mr Treat took out over \$8,000.

Tests To Be Made.

Mr Hammon about this time conceived the idea that to make a success out of this form of mining tests should be made so as to show before hand what ground was rich enough to work and whether the gold was uniform through the gravels. To arrive at the desired results shafts had to be sunk at considerable expense. This gave a good idea but still not perfect enough for what he desired and later steam drills were substituted as being cheaper and more reliable.

Records were kept of the different strata and the exact amount of gold taken out so that after an acre had been prospected it was possible to tell within a small sum the quantity of gold contained in the gravel.

This was the secret of Mr Hammon's success in dredger mining. He could tell before working the ground whether it would pay or not and under no consideration would he recommend a section unless he was certain that it contained gold in sufficient quantities to make it profitable to work by means of dredgers.

First Dredger.

It took him nearly two years to learn the facts he desired and to induce capital to take hold of this form of mining. Capt Thos Crouch, representing a Montana company, was interested largely through the efforts of Frank T Sutherland, a mining expert. Mr R H Post, who has designed a successful mining dredger in New Zealand, visited the district, learned the requirements and for the Riadon Iron Works of San Francisco designed a dredge that proved a success on Feather river.

Major A F Jones became a partner with Mr Hammon in mining lands and dredger mining and has been an active and energetic worker in the cause for the past four or five years.

Electricity Introduced.

When the dredgers first began operating they worked by steam power and large quantities of wood were consumed. Messrs Hammon and Jones seeing the value of wood would enhance rapidly, and noting the difficulty of getting sufficient wood to operate the number of dredgers which were being built, conceived the idea of inducing electric lines to build to this locality.

They and others got the Bay Counties Power Company and the Butte Creek Power Company to build lines from Colgate in Yuba county and from Centerville in Butte county to the Oroville or Feather river district.

At the present time all the machines operating in this district are run by electric power which has been found cheaper; more convenient and more reliable than steam.

Leading District.

The district was gone over with care, new tracts were brought up, new dredgers built, until at the present time it is the leading dredger mining district in the United States.

Two forms of machines are used, one being what is known as the dipper dredge, and the other the bucket or endless chain dredge. The former lifts the gravel with a huge dipper, swings it back upon the boat and the gravel is then washed in sluices on the machine itself. The other brings up the gravel in iron buckets attached to a strong iron ladder, so as to keep continuously at work. This style is conceded to be the best form for dredger mining and to work ground more cheaply than the dipper dredge.

The mining district occupied by the various machines covers about 5,000 acres and lies on each side of the Feather river.

Advance in Value.

The first lands sold for mining purposes brought \$50 an acre but they gradually increased in value as more dredgers were added, until at the present time it would be difficult to get good mining land at anything like that sum.

This district and the number of dredgers that have been built have caused the expenditure here of large sums of money. They have brought here mining men from all over the world. They have caused the erection of several large machine shops and numerous buildings and have given this locality widespread advertising in all parts of the country.

Successful Miners.

We have mentioned but a few of the names of those largely interested in making dredger mining a success. Among those who have been active, pushing and energetic in this line are Henry E. Vail, Frank Griffin, P. B. Eteson, J. J. Hamlyn, E. B. Kimball, J. W. Goodwin, A. U. Marsh, O. B. Perry, O. C. Perry and others.

DREDGER MINING AROUND OROVILLE

Leading Dredger Mining District
in the United States.

DISTRICT COVERS ABOUT 5,000 ACRES

The Number of Dredgers That Have Been Built Have
Caused the Expenditure Here of Large Sums of
Money, and Have Brought Mining Men From
All Over the World to This Locality.

[CONTINUED FROM YESTERDAY'S ISSUE.]

The dredger mining at Oroville is causing inquiries from all parts of the world. It is advertising Oroville and Butte county more widely than any other means that could be devised. It is attracting some of the most solid and substantial mining investors of the whole country. When it will attract the attention of so prominent a mining man as John Hays Hammond it means much for this section.

Already about one million dollars have been invested in land, boats, machinery and development work in this locality—and the work has just begun.

Machine Shop.

The Boston & Oroville Co is building a machine shop that will turn out any part of a dredger, and in fact could build one. The most modern and up-to-date machinery will be used in this plant and twenty five or thirty first class mechanics will be employed. These men and others employed on the dredgers will save money and build homes and in the end will plant groves or make other investments in this locality.

Dredger mining is not a wildcat or stock speculating scheme, but is a safe and reliable investment. The stock of the Feather River Exploration Company is worth today five times its par value. It will readily sell for that. Dredger mining calls for close and careful management but with that it will give profits which will suit any class of investors.

Permanency.

There is no question of its permanency for at least thirty years. When the present gravel gives out there is yet another body beneath which will be worked by some means and appliances yet to be invented for it cannot be handled by the present dredgers.

The land that has been mined will be to some extent leveled again. At the Continental dredger they are preparing to level the ground mined over and lots will be offered for sale on this land as soon as it is leveled and covered with sufficient soil to make it acceptable to homeseekers.

No Other Gravel.

There is no other body of gravel known in the world that affords such advantages as this. Gravels are found along the rivers in Montana, Idaho, Siberia and in Alaska that can be worked by dredgers but the climate is against them. Here machines can work every day in the year.

There by October 1st the machines are stopped and the boats cannot be operated till the following April. Montana parties have just left Oroville to return to dredger mining in that region. They spent the winter here as they could not work at home.

The auriferous gravel beds here are in hands that will develop them. There is no stock offered for sale, no attempt to boom the district. The men who own and control these lands are strong investors who are able to make the most out of their properties and this is far better for us than any boom would be.

Prominent Investors.

Dredger mining has enlisted the attention of some very prominent men among whom are the Lewishon Bros. of New York, C J Platt, Treasurer of the Tiffany Colored Glass Works, Eben Smith, of the firm of Moffitt & Smith, bankers and brokers of Denver, R D Evans, ex-President of the American Rubber Trust, E O Clark, a leading broker of Boston, Mass., Mellin & Son, the Aluminium Wire manufacturers of Pittsburgh, and others.

Twenty thousand dollars a month will be paid out here for labor and supplies; Every man who has anything to sell will get a cash price for it. No laboring man and no dealer has lost a cent by any of the dredger companies. All bills have been promptly paid.

This form of mining has given employment to many carpenters, teamsters and laboring men in general. It has stimulated building and caused the erection here of fully fifty houses in the past year.

Under the stimulus of this mining new building tracts have been opened up and real estate has enhanced in value.

Using the Water.

The water running to waste in the mountain streams has found a market and gigantic electrical plants have been built to furnish electric power for running the dredgers. This in time will be utilized for other purposes and Oroville will ultimately become a manufacturing town.

From a recent article in the Oroville Mercury we obtain the following data concerning the number of dredgers now at work and the acres of land owned by the different companies:

Number of Dredgers.

"The Feather River Exploration Company owns 1,200 acres of land, has three dredgers at work and is building two more; Boston and Oroville Company owns 643 acres and has three dredgers; Oroville Gold Dredging and Exploration Company owns 360² acres and has one dredge; the Oroville Gold Dredging Company owns 50 acres and has one dredge; the Indiana Gold Dredging Company owns 134 acres and has one dredge; the Lava Beds Dredger Company owns 300 acres of land and operates one dredge; the Leggett-Wilcox Company owns 350 acres of land and operates one dredge, The Manigold Dredging Company owns 462 acres and operates two dredgers; the Kio Oro Company owns 153 acres and operates one dredger; the Pennsylvania Gold Dredging Company owns 155 acres and is building a dredge; the American Gold Mining Company owns 73 and is building a dredge; the Butte Gold Dredging Company has contracted for a dredge; the Cherokee Gold Dredging Company owns 400 acres of land and is building a dredge; the Sunset Gold Dredging Company owns 110 acres of land.

The following companies are placing orders for more machines: The Leggett-Wilcox Company, the Boston & Oroville Company, the Oroville Gold Dredging and Exploration Company, the Lava Beds Gold Dredging Company, the Cherokee Gold Dredging Company and the Indiana Gold Dredging Company."

We need only say in conclusion that dredger mining is here to stay and has become an important industry for Oroville.

Oroville Mercury


4-15-1902

Summer Resort

IN BUTTE COUNTY.

Deadwood

Board and Lodging \$1.00 per Day.



Who has not heard of it? The most healthful spot on the globe; the most delightful place for a real outing. Right in the midst of nature's paradise. Grand mountain scenery, fine hunting and trout fishing. Running springs of delicious, health-giving water. Abundance of fresh fruit--orchards on the grounds. Table supplied with the best of everything, including finest of mountain fruit and vegetables.

Only 20 miles from Oroville. Daily Stage.



J. C. EVANS, Proprietor.

Oroville Mercury

4-15-1902

YANKEE HILL.

The weather is lovely, everything is blooming and the prospects are good for a booming business. It seems that water power is in great demand now, and here on the North Fork is the place to find it. The opportunities here afforded are only second to the Niagra Falls.

It is said that there are two parties opening up mines on the West Branch of the Feather at Jordan Hill.

The Weeks boys at Lattimer Bar did not develop the pay streak they expected and Walter is off for Alameda, the other two will stay here a while longer.

The Mun brothers and Stone brothers of Gridley have laid their claim up till next winter, when they will return from Gridley, where they have gone for the summer. They have a good claim which they bought from Wm. Sweetman.

The Clark claim is in full blast once more.

A surveying party is at Flea Valley surveying for sugar pine in the interest of the Diamond Match company. It is understood that they have rented the Hartman house for awhile and make that their headquarters.

Why is not some company surveying for the North Fork railroad from Beckwith to Oroville, the best route into the State.

The new school for Big Bend opened this morning with twelve pupils, so Mr. Cleveland says. Hip, hip, hurrah! for Big Bend, it is coming to the front once more.

W. H. M.

Yankee Hill, April 14, 1902.

Oroville Mercury

5-5-1902

CHEROKEE BRIEFS.

There was quite a good attendance at the dance at Oregon City Friday evening. The people of Pentz also danced, but we did not learn if they had a large attendance or not.

The wind on Saturday night was the most violent that this section has experienced in years. There were not many buildings blown down for the reason that most of the buildings that could not stand before a strong wind were blown down by last winter's gales. But a great many trees were brought down and some of them were live sound trees too. One of the latter, a digger pine a yard in diameter, standing near the Banner company's flume on Scotch Flat, was broken square off and it came within two or three feet of smashing the flume into toothpicks.

John Clark was down from his mine in the Big Bend vicinity a few days ago. He informed us that a slide had skated all his buildings at the mine down the hill and buried them Thursday. He managed to save all his household goods and movable property as it was evident for a couple of days that the earth was settling for a slide, and he had plenty of time to move everything out of the track of the avalanche.

There is more snow on the Coast Range mountains now than for several years. Even the lower foothills are covered.

It is reported that the Cherokee company will soon resume operations.

W. THUNEN.

Cherokee, March 5, 1902.

5-20-1902

OF DOCTOR DON SANG

He Formerly Conducted a Sanitarium at Deadwood and Had Patrons From Far and Near to Sing His Praise.

A SCHEME TO SECURE HIS FORTUNE.

DOCTOR DON SANG, the one time famous Chinese physician of Butte county, who of recent years has been practicing in Chicago, is, according to a newspaper of that city, the center of a sensational episode in which the police have taken a hand.

Dr. Sang will be well remembered by Butte county people. He established a sanitarium at Deadwood in the foothills near Yankee Hill and for a time had as many patients as he could well attend to. In many particulars his methods of practice were peculiar and successful and people with all sorts of ailments came from far and near to submit themselves to his treatment and take his mysterious decoctions.

While here he was married to a very pretty and intelligent Chinese woman and their children had an American nurse and were dressed and educated as Americans. Dr. Sang made money at his sanitarium but as a money-saver he was not a success and was a "good thing" for every scheming white man with whom he came in contact. So ten or a dozen years ago he left the county not much richer than when he came.

Dr. Sang next bobbed up serenely in Chicago and soon acquired a reputation and a big practice and a fortune of about \$40,000.

The Chicago paper says that to obtain this \$40,000 and the pretty Mrs. Sang was the incentive which prompted two other Chinese to enter into a conspiracy against the doctor.

Dr. Sang was kept under the influence of drugs placed in his tea. To such an extent was he affected that he became mentally unsound. Their plan was then to abduct Mrs. Sang, sell her into slavery and divide his fortune. The plot was discovered, Dr. Sang rescued from the dope-steeped tea, and the plotters arrested.—Chico Record.

POWER COMPANY ORGANIZED

Will Bring Electric Fluid From the Feather River to San Francisco

SAN FRANCISCO, May 28.—After two years of negotiations the most extensive power company in California has been formed. Final details were settled and papers of incorporation were filed today.

The corporation will be known as the Feather River Power company. The properties are located at the Big Bend of the Feather river, twenty miles from Oroville, and within one year the company will furnish 20,000 horse power in San Francisco.

The officers of the company are men of wealth. The president of the company is Charles Webb Howard. Charles L. Fair is the vice president and the directors are J. Downey Harvey, W. J. Dingee and Major J. Frank McLaughlin. The capital stock of the company is \$5,000,000.

Within the last few days the new company has purchased from the Big Bend Tunnel and Mining company of Buffalo, N. Y., all the properties of the Big Bend tunnel, its United States patent rights on the Feather river, which extend for fourteen miles and which were granted in 1881, and some 4000 acres of land.

Work will be commenced at once to tunnel from the terminus of the Big Bend tunnel, which is two miles in length, through a small mountain to the Feather river, half a mile distant. When this is completed and the water rushes down the steep canyon, the officers of the company feel assured that they will easily generate 40,000 horse power.

The company has decided that it will only furnish power in San Francisco. The route chosen for transmitting the power to this city will be through many towns, including San Jose, but the wires will not be tapped along the route. Major McLaughlin, speaking of the company today, said that it was estimated that the cost of the plant could be estimated at \$2,000,000.

MAPPING ANCIENT RIVER CHANNELS

Syndicate Plans Unique
Mining Venture in
Butte County.

Hopes to Find Gold Under
Lava That Once Flowed
From Mt. Lassen.

Special Dispatch to The Call.

REDDING, June 7.—Fred H. Dakin, the Redding-Berkeley mining man, is here directing what is perhaps the most ambitious mining scheme ever attempted in Northern California. With a corps of assistants he is visiting every mine in

Butte County, obtaining data as to the depths reached and what is shown by the strata. All this information is being used in compiling a map, which it is hoped will, when completed, show at least in portions the ancient river channels of the county, which Dakin and the company he represents firmly believe contain more gold, easy of access when located, than has ever been taken from all the gold mines of California combined.

The company of Eastern men has made a careful study of the geography of the Butte County foothills. It is satisfied that the ancient water channels were affected by the last eruption and flow of lava from Mount Lassen, which the crater itself indicates to have occurred within 200 years. The capitalists believe that the geological phenomena in the mine shafts will show the general directions of the river beds, presumed to be from northeast to southwest, and will aid them in locating portions of the auriferous channels, now covered thinly, if at all, with lava. Their map is the first of the kind ever attempted in California.

These channels when found, it is believed, will produce great mines in exactly the same state as the Sweepstake bonanza in the old channel near Weaverville. When the ancient channels are encountered they are easily identified by the round pebbles of the old wash of a geological formation entirely different from any pebbles of the surrounding country. The theory is that the fine gold now dredged along the river at Oroville left the channels as nuggets, which were broken and ground up in transmission.

The famous Cherokee mine, from which \$13,000,000 has been taken by washing down a bank with streams from pipes, comprised 4000 feet of an old channel. The Magalia mine, which has yielded \$2,000,000, was in a lateral channel running into that of the Cherokee. Here the peculiar pebbles were followed into the bank and a shaft was then sunk through the lava.

Dakin says that the old river channels ran in a different direction from the present streams.

JACKSON, Mrs. Emma

Chico Daily Record

6-26-1902

MRS. EMMA JACKSON DIES AS A RESULT OF HEAVY LIFTING

Mrs. Emma Jackson, than whom there was only a few older natives of Butte County, died yesterday evening at 5:30 o'clock, her serious illness having been of but two or three days' duration. Two or three days ago Mrs. Jackson lifted a tub of water, and so strained herself as to cause the fatal effect on a rupture from which she had suffered considerably for a number of years past. Dr. Stansbury was called to her bedside Tuesday, and found that there was but little hope to be entertained for her recovery.

Deceased was a native Indian woman, having been born at an Indian rancharia located on Feather river near the old Hamilton Ferry. She was aged 62 years. Peter Jackson, the pioneer colored barber of Chico, came to California in early days, and became acquainted with her with the result that they were united in marriage in 1860 at Cherokee, Squire Glass performing the ceremony.

In 1864, Mr. and Mrs. Jackson moved to Chico, where Mr. Jackson has since been engaged in barbering, and is respected by both white and colored people generally.

Mrs. Jackson was the mother of nine children, five of whom are dead. The living are Eugene, Josephine, Peter Edward and William. She was a member of the Colored Order of Eastern Star, and generally admired by the colored people as a kind, hard-working mother.

The funeral will take place tomorrow afternoon at 2 o'clock from the African M. E. Church.

San Francisco Call July 2, 1902

**RAILROAD MAY STRETCH
ALONG PLACER CLAIMS**

**Wholesale Filing on Mining Land
Believed to Be in Interest
of Company.**

OROVILLE, July 1.—What may prove the first step toward the building of a long-expected railroad up one of the branches of Feather River, connecting with the overland at either Reno or Boca, is the filing in the Butte County Recorder's office yesterday and to-day of eighty-four placer mining locations. The locations are all signed by the same persons and embrace a tract lying along the north fork of Feather River.

The filing of the locations has caused much speculation as to the probable object of the locators, but the theory that the object is to gain possession of land suitable for railroad building is generally accepted. This theory is strengthened by the fact that a large surveying party is at work on the north fork near Big Bend.

Oroville Register

7-3-1902

FRED AND FRANK.

THEY LOOK ALIKE.

Fred and Frank Faul, twin brothers, have had fun all their lives because they look so much alike that people are all the time mistaking one for the other.

Fred, on Saturday last, was fighting fire just south of his home and got over-heated and used up and on Saturday night he was so bad that Dr. Gates was called to attend him.

Yesterday Frank came to town looking as hale, rugged and hearty as Fred or himself generally do, and for an hour on the street he was receiving the congratulations of his friends over his speedy recovery. It is needless to say he did not enlighten any one of his own accord as to which of the brothers he was.

Frank said when they were babies his mother used to have to keep a red string tied on one of them so she could tell which one was Fred and which was Frank. In size, build, color of eyes and hair, tones of the voice and general appearance, they are now so near alike that their best friends can hardly tell them apart.

IN DANGER OF BURNING

SO COW WAS SHOT:

Fred Faul a few weeks ago bought a fresh milch cow and paid \$50 for her. He was away from home and shortly after the cow was turned into his pasture. While there she fell into a shaft and for a few days remained there before she was found and dug out. From the effects of her fall and her starvation she was quite weak and Fred carried hay and water to her. On Saturday last when fire broke out between the home of James H. Legget and the railroad track it swept rapidly in the direction of the cow and Fred saw, that as she was unable to walk, she would be burned to death. Rather than have her perish in the flames he got a gun and killed her.

7-8-1902

DAILY REGISTER.

DROVILLE, CAL. TUESDAY MORNING, JULY 8, 1902.

THE GRUBBS REUNION.

FORTY-SIX PRESENT.

R. C. Grubbs and Wm. J. Grubbs of Wyandotte, with their families have been residents of eastern Butte for many years, nearly forty in fact. They have raised families and the children have married and now have children of their own. Recently some relatives came from Texas and it was suggested that they have a Grubbs reunion. This reunion took place at the home of Mrs. Nancy Bills, a daughter of W. J. Grubbs, and a dinner, such as was suitable to the occasion, was prepared. We have no details of the dinner, but those who know the women side of the Grubbs families will realize that it was a meal long to be remembered.

There were present the following: Wm. J. Grubbs and R. C. Grubbs (the oldest members of the two families). They had a brother named Silas, but he died some years ago in Texas. Silas Grubbs, Jr., was, however, present from Dallas. and his sister, Mrs. C. T. Rather of Gonzales, Texas, Mrs. R. C. Grubbs, Boen Grubbs and wife, Hood Grubbs and wife, Richard

Grubbs and wife and one child, John M. Grubbs and wife and three children, Elisha Grubbs, Mrs. J. E. Riehl and husband and three children, Mrs. Nancy Bills and two children Roy and Arthur, Mrs. M. T. Frishholtz and husband and two children, Rocco Grubbs John Grubbs and wife and two children, Mrs. A. S. Riehl and husband.

There were four families and children not being present. The children in those families number seventeen.

Wm. J. Grubbs has eleven children, twenty-five grand-children, and one great-grand-child.

R. C. Grubbs has four children and six grand-children.

The reunion took place on Sunday, July 6th, and forty-three members of the different families were present.

R. M. Grubbs came from Calaveras County, John M. Grubbs came down from NimsheW and John Grubbs came down from Mohawk, in Plumas County to attend the reunion.

Oroville Register

7-17-1902

Mountain Products.

John Mullen and R. L. Bohannon were down from Big Bend on Tuesday and Wednesday and brought samples of their delicious fruits. Delicious red raspberries, grown by Mr. Bohannon, and splendid big black cherries, grown by Mr. Mullen, were among the samples. Elegant cherries were brought down, with other fruits, and they told us a number of very fine varieties of cherries were grown there. We once heard Mr. George Weeks say that the finest grapes he had seen in the State were grown at the Mullen place at Big Bend. Mr. Weeks was agricultural editor of the San Francisco Chronicle for years. We doubt if better fruit can be found in the State than in the Big Bend country.

R. L. Bohannon of Big Bend, has about five acres of clay ground that is as good as can be found in the State. He desires to have the Knights of Pythias make an exhibit of this clay in San Francisco next month and will send down a quantity for this purpose if the committee will make use of the same.

7-18-1902

THE BIG BEND TUNNEL

Reported That Standard Oil People Have Bought It

MARYSVILLE, July 17. — Though a large force of surveyors has been in the canyon between Big Meadows and Oroville for weeks, the purpose of their work cannot be definitely learned. The purchase of several thousand acres in Butte valley and the Big Meadows over a month ago was taken to mean the construction of an immense reservoir and power plant. While this has since been learned to be true, the surveyors refuse to say whether they are picking out a route for a railroad or a power line, with San Francisco as an objective point. In

either event, it is given out on good authority today that men high up in the Standard Oil company are backers of the enterprise, and that Major Frank McLaughlin, on a recent trip to the east, got them to also purchase the Big Bend tunnel, in the construction of which Dr. Pierce sank over \$1,000,000. He will get \$500,000 for his property.

An Old Resident.

James Day, father of Dow Day of this town, is down from Brush Creek or Mountain House, on a short business trip. Friday, while chatting with him he spoke of some of the changes that have taken place on that Ridge since he moved there, forty-nine years ago.

He is now the oldest resident, in point of residence, on the Ridge. In early days he used to pack beef from Bidwell Bar, and later moved to what is now the Zink place on Berry Creek, and still later moved up to Brush Creek.

He tells us that French Creek obtained its name from the number of Frenchmen who went from Bidwell Bar to that stream to mine. Of the first ten who went in one party every man died with his boots on. There were no serious accidents, no violent deaths, but at their work, or around their camp fires, one after another of the men died until of the first ten who went in the party, not one was left.

Daily Register 7-26-1902

French Creek used to go by the name of Peavine, but later the name of Peavine was confined to what is now Merrimac, while French Creek was given as the name of the Creek.

Charles Moody has been a resident for nearly forty years; James Bierce has been in the vicinity since 1854; George Gunn is another old resident; John Bendle, now of Bidwell Bar, has also been in that section since about 1854; Joel Flynn, although a long resident, has not been there so long as some of the others. All of the Zink boys, except the eldest, was born at Berry Creek. R. P. Grace has been at Mountain House between twenty-five and thirty years.

Most of the others now residing along the Ridge have been there all the way from ten to thirty years.

Oroville Register

8-4-1902

Concow Stage Line Changed Owners.

Frank and Ed James have bought the Oroville and Concow stage line from J. M. Hottman. The trade was made on Saturday afternoon, and the new owners took possession this Monday morning. Frank will drive the stage, which makes daily trips from here to Yankee Hill and back. The mail is carried in a separate rig, we understand, from Yankee Hill to Concow. Frank drove on this line for a number of years and is very popular with the public.

Mr. Hottman will devote himself to his business in Flea Valey.

San Francisco Call

8-16-1902

The Call.

DISPLAY DRAWS CROWD

Interest Continues in Exhibition of California Products at Ferry.

The exhibition of California products in the nave of the Ferry building continues to draw large crowds. Hundreds of people promenaded up and down admiring the various booths yesterday and listened to the music. All the booths are completed and the display of fruits, both dried and green, are attractive.

The Solano County booth has on view the \$5000 gold cup awarded it at the Midwinter Fair in 1894 for the best display of general products. The managers of the booth state, however, that they do not value the cup as much as they do their fruit, of which they exhibit splendid samples. The Fresno booth is exhibiting boxes of Malaga grapes sent to it from the Barton vineyard at Fresno as samples of shipments being sent East by the carload. Butte is showing some olive oil from the Ehmann Olive Company of Oroville and from Curtis & Co. of Pentz; also some pickled ripe olives. The Tahoe booth showed yesterday a nine and a half pound trout found at Lake Tahoe in a solid block of ice.

FOUND AT PENTZ

Von Guffenberg Ar- rested Yesterday

ARRESTED BY WILSON AND DAY.

The Arrested Man Does Not Deny His
Guilt, But Claims That He Can
Only be Prosecuted for Petty
Larceny.

From Tuesday's Dally.

Readers of the Register will recall that Tuesday morning we had an item about a man named Hugo Von Guffenberg who was wanted in San Francisco for stealing articles of clothing from the store of S. N. Wood & Co., of that city.

Von wrote a note which he placed in a boat, saying that he had committed suicide. The police did not believe this, and when they noted that the envelope in which the note was placed had come from Pentz in Butte County, they reasoned he might have friends there and that he would come to Pentz for safety.

A dispatch to Sheriff Wilson yesterday caused him to go to Pentz in the afternoon. He was accompanied by Constable Dow Day and the two reached the home of W. J. Lockerman about half past three. Mr. Lockerman's daughter was Mrs. Nat Irwin, and after her husband's death she married Von Guffenberg.

Oroville Register
8-21-1902
page 1 of 2

True enough, the wrong doing husband had sought his wife, although it is understood that they had not got along well together and that she had left him.

Von was there and when he saw the officers approaching he tried to hide in a woodshed but was speedily found and arrested. When told he was wanted for stealing articles from the store in San Francisco he made no effort to conceal his crime but plainly told the Sheriff the whole story. As related to us by Constable Day it is as follows

"Eight days after I went to work in the store of Wood & Co I began carrying things from the store to my room. I used my overcoat and threw it across my arm. Within the coat or beneath it, I carried out shirts, hats handkerchiefs, and various other articles. Several times the boss was standing by the door as I went out. I took mostly suits of clothing and had enough to last me for five years.

I had left my money in a pocket in my coat in the room I occupied and when the officers began searching for they went to the room. I saw them there but was in hopes they would leave so I could secure my money. I was sitting in a dark stairway opposite the room while they were there. They did not leave but lay in wait for me so I knew it was no use to try and get into the room and get my money.

I came up here on the same train that you were on—this to Sheriff Wilson—Sunday night, and I saw you on the train. When we reached Oroville I hired a rig and drove out here the same night.

Oroville Register

8-21-1902

page 2 of 2

"This hat I have on is one I took from the store and so is this shirt I have on,

They may send me to jail but that is all they can do for I never took any large amount of goods, that is \$50 worth at any one time so they can't make grand larceny out of it. I know that for I went to see a lawyer before I left the city. I did not tell him my name but got his advice in the matter."

He was told by Sheriff Wilson that he better leave what money he had for his wife, but he denied that he had any. The officers did not believe this and searched him carefully, but he did not have a cent. He was brought here last evening at seven o'clock and locked in jail. He will probably be taken to San Francisco today to answer to the charges against him.

Von Guffenberg is a stout young German, by no means bad-looking, and is quite free to tell the story of his wrong doing. The Call of yesterday says that the firm of Wood & Co have lost a large amount of goods probably worth \$10,000 and as another employee of the firm is missing they think the two escaped together.

Von Gufferberg's story is that his peculations were not extensive although he says he had clothing enough to last him for years.

Oroville Register

8-28-1902

FRED LEE BADLY IN-

JURED NEAR PENTZ.

Fred Lee son of Levi Lee of Pentz, about 20 years of age was seriously injured on the Pentz grade Wednesday. He stopped his six-animal team at a watering trough, when the brakes gave way and he was thrown beneath the team. Several of the young man's ribs were broken and he was rendered unconscious. At last accounts he was in a critical condition and his recovery was considered doubtful.—Chico Record.

Oroville Register

8-28-1902

MRS. JOHN EVANS COM- MITTED TO ASYLUM.

Mrs. John Evans, of Deadwood, was detained in jail until Friday, when it was realized that she was insane beyond all question. Judge Gray, with Drs. Gates and Bullington, examined her yesterday afternoon and it was found necessary to commit her to the Napa Insane asylum.

She had been placed in a small room off the jailer's room and here, in her mania, she had torn off her clothing. A blanket was fastened over the cell door and the Commission held its session in the jailer's room, and what questions she answered were from her room and through the covered grating. She will be taken to Napa today by Sheriff Wilson,

Oroville Register

8-28-1902

VON GUFFENBERG TAKEN TO SAN FRANCISCO.

Detective Cody, Policeman Barney Riehl and a Mr—, who is a member of the firm of S. N. Wood & Co., of San Francisco, came up on the late train on Wednesday night. They drove out to Pentz on Thursday forenoon and found that Guffenberg had hidden away there quite a quantity of goods which were found and taken back to San Francisco. The firm knew of those goods because Von G. had shipped them by express before he left the city.

When he was examined it was found that his coat, vest, pants, hat, necktie, shirt, handkerchief and in fact every article of clothing he had on except his undershirt and shoes had been stolen from the store. Mr Cody took Von Guffenberg back to San Francisco last evening, while Barney Riehl will remain up for a few days on a vacation.

Mrs. Von Gufferberg was afraid of her husband as he had at one time threatened to kill her if she should leave him.

The family of Mr. Lockerman and Mrs. Von Gufferberg were glad to see him taken away as from recent events they are now satisfied that this is not his first offense. A year ago \$210 was stolen from Mrs. Von Guffenberg and at the time her husband tried to lay the blame on a young brother of his wife. They are now satisfied that the husband was the real thief.

Von Guffenberg Arraigned.

The San Francisco Call of Sunday says:

Hugo Von Guffenberg was arraigned before Judge Cabaniss yesterday on a charge of grand larceny and the case continued until Tuesday. He is accused of stealing about \$600 worth of clothing and other articles from the store of S. N. Wood and Co., where he was employed. He left a note last Sunday in a boat at the Oakland mole that he had committed suicide, but he was arrested in Oroville, where he had gone to visit his uncle.

FRENCH CREEK

A Number of Men Em- ployed There

BY BAY COUNTIES POWER CO.

The Big Dam Will Not be Begun this Year, but Quite a Number of Men Will be Employed on the Preliminary Work.

The Bay Power Co. has had a limited number of men working for months past on the French Creek property. The number of men of late has been slightly increased, and the work is now broadening out. This electrical proposition is one of the greatest on the Pacific Coast, and no one but the managers know the extent of the same.

French Creek itself is a large stream, and has an enormous snowshed. It is the plan of the company to impound a vast quantity of the water in winter and use it during the summer. Preparatory work has been going ahead for months. Men have been at work cutting off the brush and building trails and roads.

They are now engaged in sinking to ascertain the foundations required for the big dam that will have to be built.

Oroville Register
8-29-1902

The company proposes, in addition to the waters of French Creek, to use the waters of the Little North Fork, Marble Creek and Jordan Creek. In order to reach these streams a tunnel fully 5000 feet in length will have to be constructed under the ridge near Junction House. Four men are now at work constructing trails down the mountain side to the Little North Fork and to French Creek. The mountain is very precipitous, and it is believed the cement and tools, etc., can be packed down on mules to better advantage than to attempt to build a wagon road.

The dam will not be begun this year, nor will any work be done on the tunnel, but from ten to fifteen men are kept steadily at work on the preliminaries leading up to the big construction work which will be started ere another spring.

YANKEE

HILL

Where Good Fruit is Raised

ONE OF OUR FOOTHILL TOWNS.

Some Interesting Facts of a Typical
Town in the Foothills of Northern
California, at an Altitude of About
1200 Feet.

Wm. Duensing, who is down from the North Fork region, where he has lived for the past thirty years, gives us some points about that locality. His home is at the mouth of Flea Valley creek, and is about thirty miles from this town. He lives on the right bank of the stream as you ascend the river, or on the east side of it. His nearest neighbor on the south is eight miles, while his nearest one on the north is sixteen miles. Just across the river, however, and only half a mile distant lives Martin Gramps, who has been there since 1855. Mr. Gramps has quite a family, so Mr. Duensing is not totally without neighbors.

Daily Register
8-30-1902

The altitude is only 1200 feet at the Duensing and Gramp neighborhood, and peaches, pears, grapes, apples, plums and other fruits do well there. Most all the people on the river have some stock, and also work at mining. There is a road leading down between Concow and Flea Valley to the river, which is used in the fall of the year in getting in supplies. In winter the road is cut up considerably, and usually is not fixed up until fall, when they need it. This summer, however, the surveyors who have been working on the stream have fixed up the road in good shape, and teams have been going over it all summer.

Snow rarely falls at the Duensing place, and it never lasts more than a day or two. In winter there is always a good deal of game — quail, squirrels and deer. The banks of the stream close to the river are very rugged in places, while comparatively smooth in others. Higher up and on the east side the cliffs rise up abruptly hundreds of feet in height. Good timber is found all along the hills back from the river.

Mr. Duensing tells us that to get out from the canyon of the river to the Flea Valley and Concow country requires three or four miles of good, hard climbing.

Daily Register

9-1-1902

ONE OF OUR TYPICAL OLD-TIME MINERS.

Martin Gramps and his sons Dave and Henry are down from the North Fork on a business trip. Mr. Gramps is a character that was formerly common, but now fast passing away in California, one of the old-time miners who owned and operated their own mines.

Forty-seven years ago he went down into the deep canyon of the North Fork of the Feather, and there made his home. During all these years he has resided there, built a home and reared a family of children. He owns several mining claims and has accumulated some money.

He likes the North Fork; says the climate is good and as for company, he says that there is hardly a day that some one is not passing up or down. He has planted fruit trees of many kinds, and watched them grow and come into bearing. He has traveled up and down the canyon and knows it well.

Some months ago he was afflicted with rheumatism and went to the excellent springs on Chip's Creek. There are soda, sulphur, and iron springs along the stream and some of these are valuable in many diseases.

He has lived there so long and has seen so many railroad surveys made up the Feather that he has lost all faith in a railroad ever being constructed in his time, but now he says it begins to look as if something was going to be done. He does not pretend to know who it is or what it is for, but from the number of men employed along the stream this summer in surveying, he has made up his mind that a move of importance is under way.

Oroville Register

9-25-1902

NEW DREDGERS BUILDING.

CHEROKEE DREDGE AT WORK.

Three new dredgers are being built in this section at the present time and Mr. Cameron has charge of the construction of all three. The Leggett & Wilcox No. 2 is being constructed near the Faul place; the Butte is being built back of the Boston Machine Shop and the American is being built back of the Welch race-track, two miles south of town.

The Cherokee dredge has put on three crews low and is running day and night.

San Francisco Call

9-27-1902

TRANSFER OF THE BIG BEND TUNNEL INTERESTS

Western Power Company Acquires the Valuable Holdings in Butte County.

OROVILLE, Sept. 26.—An assignment of an indenture and bond executed by the Big Bend Tunnel Company to Frank McLaughlin, whereby Guy C. Earl, Frank McLaughlin and Milton J. Green transfer their interests in that instrument to the Western Power Company, was to-day filed in the office of the Recorder of Butte County. The assignment is attached to the original bond that was given to McLaughlin by the Big Bend Company, and shows that the purchase price of the property is \$500,000. A \$10,000 payment was made upon the execution of the instrument and the balance to complete the purchase is to be paid in March and April, 1903.

The Big Bend tunnel was dug for the purpose of turning a large portion of the bed of the North Fork of the Feather River from its natural channel, with a view of mining therein. The venture did not prove a success from a mining point of view, but the value of the property for power purposes in the generating of electricity has of late attracted considerable attention. An arrangement was made some months ago for the erection of a large power plant and the transmission of electricity to San Francisco, but the death of Charles L. Fair, one of the projectors, it is understood, blocked proceedings to a certain extent.

Articles of incorporation of the Western Power Company were filed in the office of the County Clerk at this place several days ago. The capital stock of the concern is \$5,000,000.

Oroville Register

10-16-1902

Busy Hotel in the Hills.

Wm. Mullen informs us that the Yankee Hill hotel kept by Mrs. Dora Wells was doing a rushing business on Monday. The officers of the Diamond Match Company, A. F. Jones, W. P. Lynch and others who are connect with the company all took dinner at the hotel. A number of men driving cattle down from the mountains were also there for dinner, and as there were others in addition, Mr. Mullen thinks fully twenty-five travelers ate dinner there that day.

THE INDIAN BURNING AT BLOOMER HILL.

One of the annual customs of the Digger Indians is to have an annual burning, which is a sacred rite and takes place at one of the old burying grounds.

The Bloomer Hill burial ground is one of the oldest in this region, and is used by the Indians for this purpose.

On Monday night a burning took place, and a large number of Indians and quite a number of white people attended the same. In the afternoon the poles, five or six in number, were prepared and adorned with articles. These poles were young pines, from fifteen to twenty feet in length, and which had been stripped of leaves but not of limbs. The center pole appeared the main one, and the incantations were addressed to it. It was evident that this pole, with its adornments, belt and trappings, was the evil spirit.

The leader among the Indians bore the name of Capt. John Chinaman, and before this center pole he placed a bowl of soup during the ceremonies. It appeared as if little companies or possibly families had prepared articles to be burned, and when the time came for the disposal of these the particular company or family advanced and burned them.

The articles this year were nearly all articles of clothing and sacks of flour. All the Indian women the day preceding the burning were at work on articles to be burn that night. Only a few Indian baskets were exhibited this time, and none were burned.

Oroville Register

11-6-1902

Indians were present from Colusa, Chico, Mooretown, Indian Valley and other places. The burning did not take place until midnight or after, and was all concluded before day light. On Tuesday the Indians spent the day feasting and gambling.

There was much excitement when the center pole or evil spirit was destroyed, and both men and women wept freely.

The gambling attracted much attention, and quite a number of white men took part in what is known as the grass game. A quantity of short grass is prepared, and into this short sticks are hidden. The players are arranged in two rows, and those having the grass and sticks play while the others must do the guessing. Our informant did not know exactly what the conditions of the game were, but he saw that each man put up some money, so that when the game was made up there were eight or ten dollars to be played for. When by guessing the position or place of the sticks one side won, that side scored a point and was given a long stick, which was kept in sight. They played until one side or the other won all the sticks, when that side was the victor and was entitled to the money.

SCIENTIFIC AMERICAN

Published at the Post Office of New York, N. Y., as Second Class Matter. Copyright, 1902, by Munn & Co.

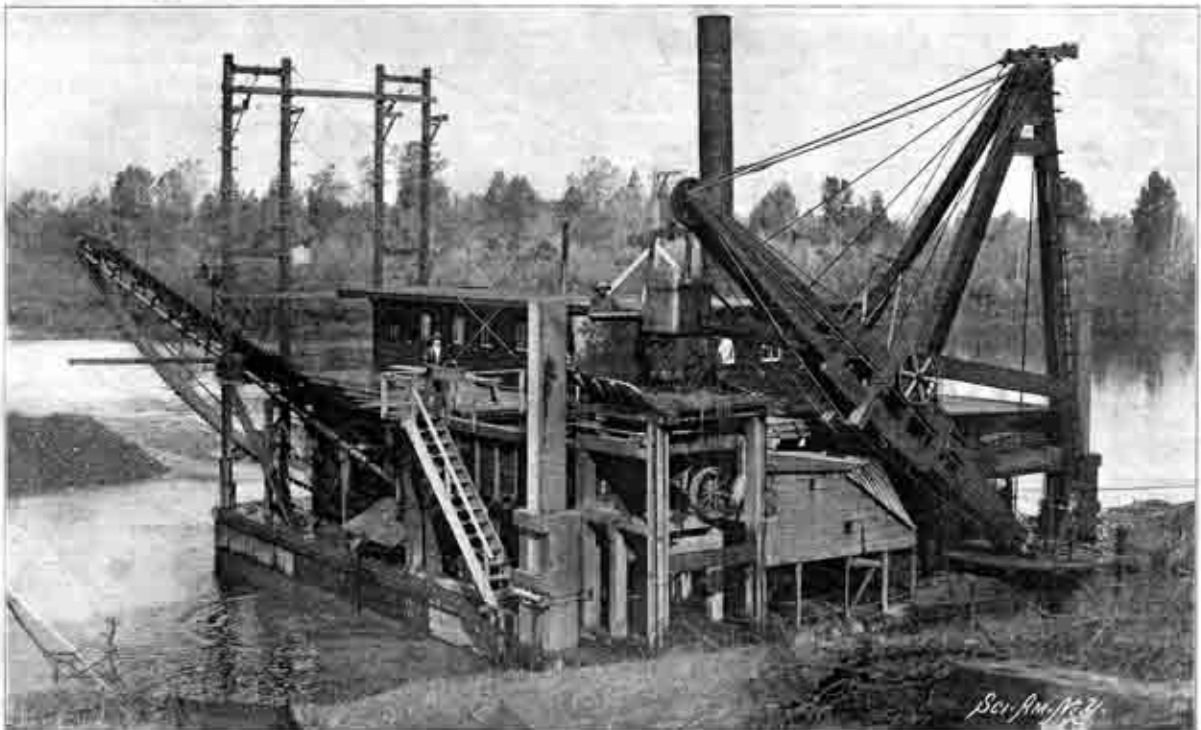
Vol. LXXXVII.—No. 19.
ESTABLISHED 1845.

NEW YORK, NOVEMBER 8, 1902.

\$2.00 A YEAR,
8 CENTS A COPY.



THE DREDGER "INDIANA" PROVIDED WITH A CONVEYOR AND AN AUXILIARY SAND PUMP.



A CALIFORNIA SINGLE BUCKET GOLD DREDGER.—[See page 311.]

By means of this machine the bottom of the river is dug up and delivered into a sluice whence the sand is separated and washed on gold-saving tables and the waste material is conveyed away by an endless carrier.

DREDGING FOR GOLD

BY EDWIN SHERMAN.

Gold dredging as carried on at Oroville, Butte County, California, is as interesting to the expert as it has proved profitable to those engaged in it. The locality has been famous for its prolific output from the earliest period of gold mining in California. A bedrock, so called, underlies the entire district at an average depth from the surface of 30 feet. Below this, it is understood by local investigators, it is useless to penetrate. Theorists assert, however, that underlying the territory are successive deposits each marking successive stages of the river in times far distant.

Over this bedrock has gradually accumulated a heavy stratum of soil consisting of a base of gravel and boulders surmounted by a layer of fertile loam. Naturally the soil nearest the bedrock is the richest in treasure.

The soil above bedrock is the deposit of Feather River, which is the largest affluent of the Sacramento. In its lowest stages the Feather never carries less than 250,000 miners' inches of water a minute. At Oroville the river flows from the foothills of the Sierras through a rocky and precipitous



A LAVA-BED DREDGER.



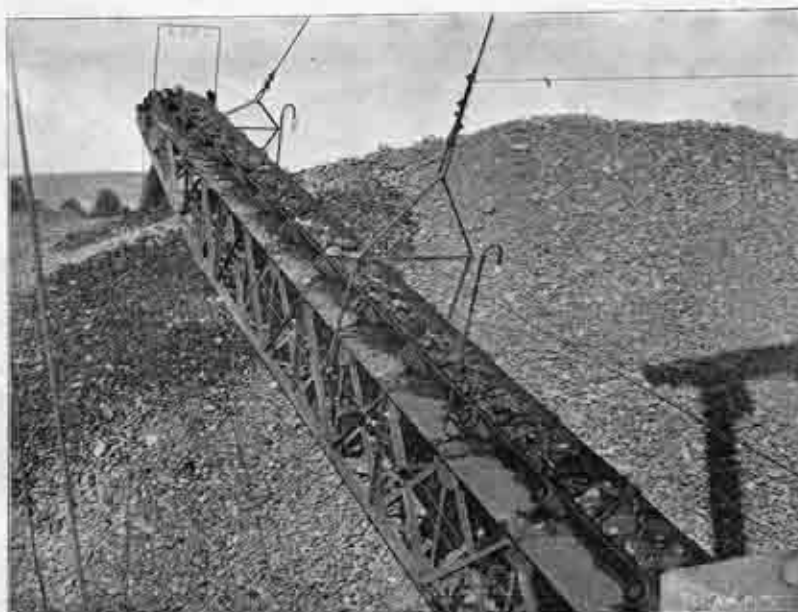
A CONTINUOUS BUCKET DREDGER.



THE GOLD-SAVING TABLES OF A CALIFORNIA DREDGER.

cañon and with tumultuous current. The channel passes through an exceedingly fertile region, in an auriferous sense, and for ages the torrents had been employed in grinding from exposed quartz ledges minute fragments of rock, containing gold, which were carried along with the current and only deposited when a quiet basin and still waters were reached. This happened at Oroville, where a broad plain of 5,000 or more acres spreads out in perfect level. Through this the river has meandered with subdued current, gradually depositing its rich sediment, until after ages of uninterrupted effort it has filled it to a depth of 30 feet and over, not a square yard of which does not contain gold in definite amounts. The basin is generally level and the ground both "tight" and "loose," the difference being well understood, "tight" ground is the most difficult to handle. In different localities there is variation in the richness of the deposit. The gold saved is known as "washed river gold" appearing in small grains and flakes of exceeding purity, realizing \$18.00 and \$15.00 an ounce at the United States mint.

In earlier years the district has not been mined to



THE "STACKER" OF THE DREDGE "INDIANA" PROVIDED WITH A ROBBINS CONVEYOR.

any great extent though known to be rich. The efforts of individual miners being desultory and contracted owing to the difficulty of controlling the too copious flow of water, which was utterly beyond the limited mechanical ability of the placer miner to dispose of. Bedrock, where the richest deposits lay, could not be exposed without some powerful mechanical auxiliary to eject the overwhelming floods. Neither was the value of the deposits great enough to stimulate the expenditure of all the labor required in order to secure it, for the average of gold throughout the basin does not exceed 20 cents a cubic yard.

These obstacles were effective in discouraging individual attempts and reluctantly the miner concluded that the problem was beyond his solution and one which could only be solved by mechanical means. Since then inventive genius has exercised its utmost efforts to overcome the difficulty, but met with no success until within three years past. The region is the grave of a hundred abortive inventions. Mining experts who had exhaustively studied the situation agreed that the extraction of gold could be effected by dredging, provided a process of the required power for working immense masses of material containing such low values as here existed and at a cost that could afford a margin of profit, could be introduced, the aim being to construct a dredger that would excavate, wash, sluice, handle and discharge the waste gravel at a continuous and single operation, to pick up, digest and eject in the same movement. Experimental effort was exhausted on all known methods of gold dredging with but a measure of success, and it was not until 1898 that the difficulties were finally overcome.

The single bucket dredger has been transformed into those astonishing and complete mechanical devices by which the riches of the Oroville district are being made available. To stand by these powerful machines and observe the ease with which great masses of soil containing boulders, some weighing 100 pounds, are torn up from depths of 30 feet by buckets attached to a chain having a tensile strength of 500 tons, each bucket containing 4, 5 or 6 cubic feet and then carried over a gantry 19 feet 6 inches in height, where it is dumped into a hopper and, after being washed, carried into a revolving, perforated cylinder, where the fine dirt is dropped into the sluice boxes below and the coarse gravel and boulders are passed to the conveyor and automatically carried to the rear. Like the bucket chain which is adjustable to greater or lesser depths, the conveyor or tracker can deposit its load to a height, if necessary, of 25 feet above the ground.

The work of the dredger never ceases, but for cleaning sluice boxes. The average amount of earth handled is, according to the size of dredger, from 1,000 to 3,000 cubic yards each day. The monthly capacity of the largest is one acre to a 30-foot depth per month. The cost is 5 cents for each cubic yard, and the estimated expense for running a dredger of the first class, \$1,800 to \$2,000 a month. One of the great dredgers in use by the Leggett Wilcox Company was made by the Risdon Iron Works and is now operating in "tight" ground, and for that purpose is of extra strength. It will dig from 30 feet below to 15 feet above water level. The ladder consists of a heavy lattice girder with $\frac{1}{2}$ -inch side plates 3 feet deep. The bucket chain carries 22 heavy buckets of 5-foot capacity. The main gantry is of steel, 19 feet 6 inches high. The bucket belt dumps 12 $\frac{1}{2}$ buckets a minute, or 150 cubic yards an hour, and is driven by a 50 horse power induction motor. The material is dumped into a steel delivery plate which conveys it to the revolving screen. Under the delivery plates are three sets of bar grizzlies. The revolving screen is 4 $\frac{1}{2}$ feet in diameter and 25 feet long, perforated with $\frac{3}{8}$ -inch holes. The water supply is furnished by two centrifugal pumps, one delivering 2,000 gallons a minute into the screen through a perforated pipe, and the other supplies water into the distributing box. The gold and fine material passes through the perforated screen into the distributing box and over 300 square feet of standard tables. The sand and small gravel is then delivered behind the dredge by a sluiceway.

The Bucyrus dredger, operated by the same company, is of somewhat larger capacity, and is working efficiently in "loose" ground, which it handles at the rate of 3,000 cubic yards each 24 hours. The distinctive feature of this dredger is the close-connected bucket principle, and also the peculiar shape of the buckets, which admit of side digging. The conveyor belt is of rubber. The dredger is driven by a 110 horse power motor, and the buckets hold each 5 cubic feet.



FAC-SIMILE OF THE NEW UNITED STATES LETTERS PATENT.

A dredger known as the Marion steam shovel has been introduced and is in successful operation.

Altogether there are now fourteen of these great dredges operating in the Oroville basin, with six others under construction, which will give a dredging capacity of twenty, handling 30,000 cubic yards of earth daily.

None of the dredges of this district operates in the river, the anti-debris laws of the State preventing. A location is selected within the tract, and upon this ground the hull of the dredger is built. When ready to launch, a small basin is excavated and filled with water from a local irrigating ditch. Into this miniature lake, of dimensions just great enough to float the dredger, it is launched, and operations begun. It there remains until the ground available is washed over. A dredger of the greatest size exhausts about twelve superficial acres of gold-bearing ground a year.

The monthly profit of the larger dredgers, though not publicly reported, is believed to be in excess of



COL. J. J. ASTOR DEDICATES HIS MARINE TURBINE PATENTS TO THE PUBLIC

\$12,000. Values from the borings referred to are sometimes less than 60 cents; the highest ever known was \$2.71.

Jerusalem is supplied with water from King Solomon's "Sealed Fountain," seven miles south of the city. The water is conveyed partly through modern iron pipes, but partly by the old aqueduct known as Solomon's Aqueduct.



THE NEW COVER DESIGN FOR UNITED STATES LETTERS PATENT.

The United States letters patent for inventions, granted on October 28, 1902, appeared in a new dress. The terms of the grant have not been changed, but the cover on which the grant is engrossed, bears embellishments of new design. To those who are familiar with the appearance of the old patents, the accompanying fac-simile illustration will therefore be of little interest. The new design presents a curious optical illusion. At first sight it appears as if the new cover were smaller than the old, although both are exactly the same size. The illusion is doubtless created by the ornamental border.

COL. J. J. ASTOR DEDICATES HIS MARINE TURBINE PATENTS TO THE PUBLIC.

To the Editor of the SCIENTIFIC AMERICAN:

All my patents on marine turbines having been granted, I hereby dedicate them to the public, in the hope that the development of the ideal turbine may be hastened thereby.

The turbine is shaped like a funnel, and comprises an outer shell or drum and an inner shaft running axially through it, these parts being relatively rotatable and each having oppositely set spiral blades. The steam is admitted into the outer shell at the small end and passes through the turbine, expanding into the large end of the shell and acting on the spiral blades to rotate the shell and shaft simultaneously and in opposite directions. By allowing both the inner turbine and the outer case to revolve, the speed necessary to insure efficiency, which in ordinary turbines is often inconveniently high, is cut in half. As a result of this construction the weight is reduced practically fifty per cent.

By passing the inner solid shaft through the outer hollow shaft or drum, the structural advantage of running both through the sternpost of the ship is obtained, this being the strongest part. Moreover, the shafts are incased and protected for almost their entire length without changing the shape of the hull. Retaining all the advantages of twin screws, the propellers are little exposed to danger in docking as in a ship with a single screw.

Since both propellers revolve on the same axis, in opposite directions, but little power is wasted in imparting a rotary motion to the water, for after the passage of the ship the water is left entirely dead except for the necessary reaction resulting from driving the ship ahead.

To sum up, the following appear to me the principal advantages: 1, reduced weight; 2, higher steam efficiency; 3, higher mechanical efficiency, by reason of the reduced size enabling the parts to be fitted more perfectly, permitting the diminution of friction and also the reduction of the leakage loss; 4, such a

turbine would seem to be particularly suitable in central station work for generating electricity, in which case the field and armature may be driven in opposite directions. This would improve the efficiency of the dynamo and increase its output for a given weight. This principle is obviously also applicable to gas engines.

Further particulars and details concerning pumps, condenser, etc., may be obtained from the Patent Office at Washington by ordering a copy of patent No. 650,821, granted to me on marine turbines, or from the office of the SCIENTIFIC AMERICAN, 361 Broadway, N. Y. city, through which agency I obtained my patents.

The French patent is dated September 28, 1901; the English patent, October 1, 1901.

New York, November 1, 1902.

J. J. Astor.

San Francisco Call
12-9-1902

Suing for Right of Way.

GRIDLEY, Dec. 8.—The Stockton and Beckwith Pass Railroad Company has begun suit to condemn lands for a right of way up the north fork of Feather River, from Oroville. The company asks for a strip of land 148 feet wide, extending to Big Bend. Most of the land is owned by the Northern California Mining Company, which recently was organized and acquired the land, presumably for mining, but really for railroad purposes. Other suits for rights of way will be filed.

BIG BEND BLARNEY
FROM WM. MULLEN.

Oroville Daily Register
12-11-1902

Oroville Register: The weather lately has been very wet and the rainfall for the season up to the 8th inst. has been as follows:

October, 3.99 inches; November, 7.28 and December 1.96 inches, making a total of 13.23 inches.

Most of the grain which is sown for hay is in and some of it is already coming up, there has been no frost yet to hurt anything.

The mining news is not very exciting. Dick Serville is here with a mining man looking at the Pinkstoun ledge and mine. There are two men working on the Clark Extension in the interest of Mr. Yard and A. Ekman.

J. A. Clark is building a house and getting ready to work his old channel claim as soon as there is sufficient water.

The Mun and Stone boys are working their claim opposite Hupp's Bar.

The Railroad company is still grading on their trail up the river. They had a six-horse team come in the other day loaded with supplies and feed.

We can hear the booming of the blast away up the river from the work of the Golden State Electric Power Company and this makes us think things are going to be bright for us in the future.

Mrs. J. M. Mullen and children have gone to Arizona on a visit to friends and relatives.

Please note the birth of twins—girls—to Mrs. John Hunter about the 20th of November.

W. M.

Oroville Daily Register

12-11-1902

PENTZ PENCILINGS FROM OUR CORRESPONDENT.

Editor Register: Many of the people were-disappointed in the minstrel show. Posters were up here and elsewhere but the show failed to appear. Quite a crowd gathered at the hall, thinking the show had been delayed and they waited until their patience ceased when they all went to the home of Mrs. J. Gerholdt where they spent an enjoyable evening with singing and music.

A report was circulated that the show had broken down near the ranch of Mr. Parks at Clear Creek and that the troop would give an entertainment at Cherokee on the 4th but I rather think from the looks of disappointment on some of the faces of young men who had dressed in their best and took their best girls to that town that the show must have broken down again before it reached Cherokee.

At least the young men have nothing to say about it and they usually have a great deal to say.

Dave Bennum and Jake Gerholdt visited Chico last week. Dave went, also on another of those famous hunting trips, you know they always return empty handed. I don't know which is to blame, the man, game or the gun. Of course they always lay it to the game.

It seems from all the practice the boys have in shooting around here that they ought to be very good marksmen, but of course you could not prove it by me whether they are or not.

Little Tyson Lockerman met with an accident on Monday. He is in the habit of riding his horse which he drives to school to the watering place for water and on Monday while returning from the trough he was riding his horse at a rather fast gait and on driving him to the stable the animal became frightened at a stick that a little boy threw at him and threw Tyson off. He fell striking on a board and his back was injured by the fall, but as yet it cannot be learned how badly he is injured.

On account of the storm no lodge or church was held this week.

Our teacher Miss Lizzie Potter was ill on Friday and no school was held on that day.

Mr. John Graves killed a number of big hogs last week and has been peddling the meat in Clear Creek, Cherokee and Pentz. Mr. Graves is reasonable with his meat; of course it sells fast.

A few weeks ago he killed a fine beef and disposed of it in the same manner.

Members of the Diamond Match Company have passed through here quite often lately.

Mr. C. Bunnell is very busy washing and carding wool. The wool is some which he has sheared from his own flock of goats and he is preparing to make some nice warm comforters of the wool. Very soon he will be running a quilt factory.

There is much good hunting around the country about Pentz ranch and I do not see why so many go away on hunting expeditions.

Jimmie Franco reported four fine deer seen by him on Saturday last, and I can imagine how the hunters will open their eyes when they hear this wonderful story.

Mrs. Tom Bunnell is among the few who visited Chico on Monday.

I must correct an error made last week. It was whispered that there must correct a mistake made last was going to be a dance here on Xmas but the one who whispered it now denies the same so what can I do but follow his example.

In reference to the above article about the deer I will vouch for their having four legs.

X. Y. Z.

Oroville Register

12-25-1902

BUGGY UPSET ON CHEROKEE ROAD.

T. H. Francis and Tom Williams were driving in from the Old Glory mine on Thursday evening when they heard some one in the road ahead of them crying for help. Mr. Williams got out of the buggy and ran to the spot where he found J. D. Williams of Cherokee, lying in the road and holding to the lines of his driving horse. The buggy was overturned and the horse was outside of the road.

As soon as Mr. Williams was helped to his feet he was found not to be severely injured but simply badly bruised and shaken up.

He explained that about forty feet back towards Oroville his buggy had been upset and he was thrown violently to the ground but clung to the lines and in consequence he had been dragged a short distance.

The fall and dragging made him think for a few moments that he was more badly hurt than he really was, and so when he heard the vehicle coming from the Old Glory he feared they would run over him ere he could get up so called for help.

Mr. Tom Williams got him up and he and Mr. Francis righted the buggy and put Mr. Williams into it. Then Tom drove back toward Cherokee with his namesake while Mr. Francis, who had been ill and was suffering with fever came to Oroville.

Johnny has been living in the mountains for a long time and has grown so fleshy that he pulls down the scales at about 240 and when he fell he got pretty badly bruised. Luckily no bones were broken so he got off well after all.