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ARTHUR F. WENDT, E.M., denies the correctness of the statements accredited to him by the Globe Silver Belt, of Arizona, in relation to the Longfellow copper mine. See his note in another column.

THE meeting of the American Institute of Mining Engineers in this city this week, although a great success, did not have the attendance of a number of the prominent members, owing to the activity in all branches of mining, and the great call there is for the services of the mining engineer.

THE increase in the demand for anthracite coal, and the advance in prices, have been so great during the past week, that dealers and producers call it a "boom." With the prospects of strikes in the leading bituminous fields, and under the curtailment of production that will continue among the producers of anthracite coal until April 1st, the outlook is very favorable for the anthracite companies. In fact, it looks as though a combination of causes would put the anthracite trade upon a basis that will enable it to go along profitably during the rest of the year.

MR. R. B. HARRISON, Superintendent of the Helena (Mont.) U. S. Assay Office, has been, for some time, acting with the Commission charged with making the annual assays and tests of United States coins at Philadelphia. The work has been completed, and the results are extremely satisfactory ; even the coins stamped at the New Orleans Mint have been found quite up to the standard, which could scarcely have been expected for new machinery and a new organization.

Mr. HARRISON has attended the meeting of the Institute of Mining Engineers in this city, during the past week. He reports the mining outlook in Montana as extremely favorable, and looks for a large influx of both men and money during this year.

MONTANA mines are looking up. Professor CLAYTON reports enormous wealth in several which he has recently examined, and Professor W. P. BLAKE has also, we understand, reported favorably upon some of the best known mines near Butte City. On the other hand, we hear quite unfavorable reports from the Penobscot, which is said to be now in barren quartz and the new work all in poor ground. This will be a great disappointment to the Eastern stockholders, who had reason to think this would that the receipts during the year amounted to \$7122.65, and the prove a valuable property. Serious complaint has several times been made disbursements to \$6483.44. The membership is as follows : Honorary by correspondents in these columns with regard to the skill with which members, 5; foreign members, 53; regular members, 616; associates, the property has been managed, and it now seems evident that the very large expenditures for mill and other improvements were quite uncalled for until much larger reserves of ore had been accumulated in the mine. paper by W. H. MERRITT, on "The Coal and Iron Field of North Stafford-

We understand that new material has entered the management, and that a competent authority will be sent to examine the property and to advise upon future operations.

THE market value of seats in the San Francisco Mining Exchange has declined from \$50,000 to \$6000, with the demand "weak." The causes named are : First, the new California Constitution, that somewhat interferes with the wilder forms of gambling which have heretofore constituted a large part of the "mining business" of San Francisco; and secondly, the revival of mining in New York, which city is rapidly becoming the great mining center, as it has always been the financial center of the country.

Unquestionably, New York will hereafter always be the focus for mining transactions; but we believe the real cause of San Francisco's decline lies in the infamous system of mine management that has long ruled there. Under this, the mines and stocks have been manipulated solely in the interest of the managers, and the public has been systematically exploited till the whole available capital of the Pacific slope has been concentrated in the hands of a small number of leading operators. The number of pigeons to be plucked has rapidly decreased, and the birds are both in poor condition and very wary, so that " business is naturally dull ;" hence the change of base to New York, where, no doubt, the same games would, and perhaps will, be tried, just as far as they can be made profitable for the insiders.

Moreover, the Comstock mines are not in bonanza, and even now are selling at many times their intrinsic value, which, with a vast number of them, is a good deal less than nothing. No doubt the present managers will make great and systematic efforts to unload these worthless stocks on the Eastern public, and every facility will be given to speculate in them, by lending money on stock, and by running them up and down so as to excite an interest in them. The final result of what may be termed, in a general way, San Francisco or Comstock-Tuscarora management and manipulation, if practiced, would be precisely the same here as it has been on the Pacific slope, where it has made a few men very rich by impoverishing and utterly demoralizing a whole community.

THE MEETING OF THE AMERICAN INSTITUTE OF MINING ENGINEERS.

The meetings of this body began on Tuesday night, at the rooms of the American Society of Civil Engineers. The meeting was called to order and a short address was made by Mr. ECKLEY B. COXE, the President. Papers were read by Mr. E. F. LOISEAU on "The Successful Manufacture of Compressed Fuel at Port Richmond, Pa. ;" by Prof. R. H. RICHARDS, of Boston, "Notes on Battery and Copper Plate Amalgamation, from the Mining Laboratory of the Massachusetts Institute of Technology." Prof. PRIME offered the following resolutions:

PRIME offered the following resolutions: Whereas, The American Institute of Mining Engineers has seen with regret that the work of the United States Testing Board has been suspended, through the lack of an appropriation by Congress, which appropriation does not seem likely to be renewed; and Whereas, It seems most important to the vital interests of our iron and steel manufactures that the experiments commenced by the United States Testing Board should be carried to successful completion; Resolved, That a committee of three be appointed, to act with a like committee to be appointed by the American Society of Civil Engineers, to carry out to com-pletion the work commenced by the United States Testing Board. Resolved, That the American Society of Civil Engineers be requested to coöperate with this Society by the appointment of a like committee. Resolved, That the Committee have authority to request, in the name of the American Institute of Mining Engineers, contributions to a fund to be devoted to the completion of the experiments aforesaid. Resolved, That the Council of this Institute be authorized, whenever requested by the committee so alpointed, to petition Congress for the free use of the testing machine at the U. S. Arsenal at Watertown. On Wednesday morning, a paper by P. H. MELL, Jr., of Auburn, Ala,

On Wednesday morning, a paper by P. H. MELL, Jr., of Auburn, Ala.,

on "The Claiborne Group and its Remarkable Fossils," was read. This was followed by a paper by Mr. JULIEN KENEDY on "Blast-Furnace Working." Mr. A. L. HOLLEY exhibited a very ancient piece of iron, which, according to Dr. WENDEL, of Troy, gave the following analysis :

rbon lphur icon osphorus	1009 Magnesium 1017 Aluminum 1048 Slag	*102 *218 *078 *070 *150
nganese	116 079 Total	0.096

Mr. J. M. HARTMAN read a paper entitled "Notes on the Blast-Furnace," and Mr. PERCIVAL ROBERTS, Jr., one on the "Puddling Process Past and Present." Mr. R. B. HARRISON, of the United States Assay Office, at Helena, Mont., exhibited and described some rare specimens of crystallized gold. Mr. E. B. COXE read a brief paper on "The Use of Carbonate of Soda in Boilers." At the afternoon session on Wednesday, the Secretary read the Council's report, which showed 118; total, 792.

Dr. HENRY WURTZ presented a Paper on "The Strong Water-Gas." A

shire, England," was read by Dr. T. M. DROWN. On Thursday, C. K. BOYD read a paper on "The Resources of West Virginia," and N. S. KEITH read one on "The Electric Light as Applied to Mining.

The social events have been quite a feature of the present meeting. With the receptions, dinners, etc., the members of the Institute have had but little chance to secure their normal rest. On Wednesday night, Mr. and Mrs. JAMES A. BURDEN gave a reception which was very largely attended. On Thursday night, the Bullion Club gave another, at which short addresses were made by several members of the Institute and the Club, and a very enjoyable evening was passed. Last night, the regular dinner of the Institute was given.

The following members and associates were elected :

Institute was given.
g members and associates were elected : MEMBERS.
E. C. Appleton, L. Canal and N. Co., Pa.. Charles A. Bauer, Springfield, Ohio.
Jackson Bailey, New York City.
Theodore A. Blake, New Haven, Conn.
Alfred P. Boller, New York City.
J. B. Brinsmade, New York City.
J. B. Brinsmade, New York City.
Harvey B. Chess, Pittsburg.
Richard E. Chism, Norristown, Pa.
A. W. Crookston, Glasgow, Scotland.
L. L. Crounse, Kingston, N. Y.
Gram Curtis, New York City.
Harvey B. Chess, Pittsburg.
Richard E. Chism, Norristown, Pa.
A. W. Crookston, Glasgow, Scotland.
L. L. Crounse, Kingston, N. Y.
Gram Curtis, New York City.
W. B. Devereux, King's Mountain, N. C.
Charles E. Emery, New York City.
Hiram H. Fisher, Allentown, Pa.
George G. Frances, Montreal. Canada.
Jannes Gayley, Catasauqua, Pa.
Robert Grimshaw, Philadelphia.
John H. Grove, Danville, Pa.
Henry J. Hall, New York City.
J. F. Hantranft, Philadelphia.
Ethan A. Hitchcock, St. Louis, Mo.
W. A. Hooker, New York City.
Frederick T. Hunt, Capelton, Can.
J. E. Johnson, Longdale, Va.
John H. Knox, Andover, N. J.
James G. Lewis, St. Louis, Mo.
Edwin Ladlow, Philadelphia.
A. McComb, Philadelphia.
A. M. McComb, Philadelphia.
A. M. McComb, Philadelphia.
A. M. McComb, Philadelphia.
C. Morgan, Denver, Colo.
C. Morgan, Denver, Kich.
William D. Mullin, Latrobe, Pa.
Charles T. Porter, Newark, N. J.
R. D. Rickard, Middleton, N. Y.
William B. Ridgely, Springfield, Ill.
E. Robinson, S. Albans, Yt.
W. T. Sprague, Scranton, Pa.
C MEMBERS. ASSOCIATES.

F. E. Bachman, Easton, Pa. C. P. Bleecker, New York City. Alexander B. Coxe, Drifton, Jeddo P.O., Pa. Austin Farrell, Easton, Pa. Frank Klepetko, Cleveland, O. W. B. Kunhardt. New York City.

The following officers were elected for the ensuing year :

President-W. P. SHINN. Vice-Presidents-JAMES A. BURDEN, C. B. DUDLEY, PERSIFOR FRAZER, Jr. Managers-J. C. BAYLES, W. S. KEYES, PERCIVAL ROBERTS, Jr. Treasurer-THEODORE D. RAND. Secretary-THOMAS M. DROWN.

THE DUTY ON STEEL BAILS.

The Tribune publishes the following dispatch, with this sub-heading "A formidable opposition to the proposed reduction of duty. Representatives of fifteen thousand miles of railway protest.

"WASHINGTON, Feb. 17.—Memorials having recently been presented to Congress from a number of railroads for a reduction of the rate of duty on steel rails, and it having been asserted at the hearing before the Ways and Means Committee that the reduction was demanded by nearly all the roads in the country, a very extensive counter demonstration of the opposing interests was made to-day by the presentation in the two houses of Congress, through Repre-sentatives and Senators, of memorials from the following railroad officers pro-testing against the reduction as injurious to the railroad interests as well as to the American steel industry. the Am

ne American steel industry : Franklin B. Gowen, President of the Philadelphia & Reading Railroad, 869

miles of road. G. B. Roberts, Vice-President of the Pennsylvania Railroad, 1782 miles of

J. N. McCullough, Vice-President 'Pennsylvania Company,' 1535 miles of road, and Vice-President of the Pittsburg, Cincinnati & St. Louis Railroad, 201

Foad, and Vice-President of the Northern Central, 322 miles; Vice-President of the Baltimore & Potomac, 90 miles; and Vice-President of the Alexandria & Fredericksburg Railroad, 32 miles.
A. B. Stone, President of the St. Louis, Keokuk & Northwestern, 125 miles.
T. B. Blackstone, President of the Chicago & Alton, 678 miles.

T. C. Platt. President of the Southern Central of New York, 114 miles. John S. Barbour, President of the Washington City, Virginia Midland & Great Southern, 360 miles. Robert H. Sayre, President, and R. A. Packer, General Manager, of the Pennsylvania & New York Canal and Railroad. 128 miles. Alexander Mitchell, President of the Chicago, Milwaukee & St. Paul, 1512 miles. mil

James Callery, President of the Pittsburg & Western, 47 miles. Henry Wood, President of the Philadelphia & Baltimore Central, 57 miles. G. St. John Sheffield, Vice-President of the New Haven & Northampton, 109 mil

miles.
Albert Keep, Chicago & Northwestern, 2158 miles.
Le Grand B. Cannon, Director of the Delaware & Hudson Canal Company's Railroad, 665 miles.
E. F. Hatfield, Jr., President of the Green Bay & Minnesota, 244 miles, and the Secretary and Treasurer of the Sussex Railroad, 34 miles.
Sanuel Sloan, President of the Delaware, Lackawanna & Western, 670 miles.

miles

Similar Stoan, President of the Delaware, Lackawama & Western, oto miles.
M. E. Ingalls, President of the Indianapolis, Cincinnati & Lafayette, 195 miles, and President of the Cincinnati, Lafayette & Chicago, 56 miles.
F. A. Comly, President of the North Pennsylvania Railroad (mileage included in the Philadelphia & Reading).
E. C. Knight, President of the Central Railroad of New Jersey, 561 miles, and President of the Delaware & Bound Brook, 31 miles.
William A. Ingham, President of the East Broad Top Railroad, 30 miles, Charles Hartshorne, President of the Lebigh Valley Railroad, 30 miles. Isaac Hinckley, President of the Philadelphia, Wilmington & Baltimore Railroad Company, 207 miles of road.
"These railroads, according to Poor's Manual for 1879, have a total length of 15.125 miles of road.
"The representatives of the above railroad companies here announce that a large number of smaller petitions are on their way."

This is, without doubt, the "thinnest" railroad representation we have seen for a long time. Among the names is the president of one steel company, while we notice a number of prominent stockholders in the various steel companies. The committee considering this subject will do well to ascertain whether, in the majority of cases, the abovenamed gentlemen have not greater personal interests in the profits they will make directly or indirectly on steel rails under the present duty, than from their interests in the railroads which they represent.

HYDRAULIC MINING IN GEORGIA.

EDITOR ENGINEERING AND MINING JOURNAL: SIR: I have recently visited several of the principal gold mines now worked in the vicinity of Dahlonega, Georgia. The processes in use there have been very much modified within a few years past, and in some respects they are novel to me.

there have been very much modified within a few years past, and in some respects they are novel to me. A combined system of hydraulic and mill process seems to be the one best adapted to the extraction of gold from the ores of that vicinity, and is much used, though in some cases the stream of water is used merely as a means of transporting the ore to the mill, and is called "flooding." This is the plan pursued at the Findley mine, at which place fifty stamps are supplied with ore from the mine. I visited the mills on this property, but did not examine the mine itself, which is being developed by tunnels and open cuts. The rock at this place is too hard for hydraulic work with a "Giant;" but the ore mined on the high hill back of the mill is thrown into rock-sluices and washed into the mill below. I did not see any wooden sluices, and I do not think that any quicksilver is employed in the rock-sluice. At the time of my visit, about the first of February, very rich specimens of gold quartz were being taken from the "shoot." This "shoot" is, I am told, a detached branch of gold and galena bearing quartz, so rich that it has paid to work after a string not over a few inches in diameter. A tunnel which had been run about three hundred feet into the hill, to cut this "shoot" at a level about one hundred feet below the point at which work in a shaft had been abandoned on account of water, had just opened into the rich ground when I was there, and beautiful specimens of gold, ac-companied by galena, from it were shown me by Mr. Enos, the superin-tendent of the mine. All the external apper rances of the mine and mill would seem to indicate prosperity to the practiced eye, but I have no data of their work. The large mill (40-stamps) is run by water-power. At the Barlow mine, situated about three miles south of Dahlonega, a small "Giant" nozzle, 1½ inches in diameter, is worked. The schists, in which small lenticular masses of quartz are found, are very soft and easily melted away before the hydraulic stream. A wooden

which forgitudinal mices, cut of the mill, situated a half-mile distant, on Cane Creek. The present mill of twenty stamps, run by water-power from the creek, is in the building of the old "Pride mill," which Mr. Clarence King described as "a distinguished monument of folly." All the old machinery, which consisted of all kinds of fancy stamps, a large engine and boiler (creeted at a point where there was a good avail-able water-power, now used), pans and settlers of various shapes and sizes, has been removed, and a twenty-stamp mill designed by Mr. Hall of Dahlonega put in its place. The plan of this mill is excellent. It is entire in itself, when framed and put together, and could be set down on a gravel heap and worked just as well as on a more substantial founda-tion. However much it settled, it would all go together—mortar-blocks, mortars, stamps, cams and cam-shaft, and the amalgamating plates would all maintain their relative positions. A false front and iron lag-ging to the sides and backs of the mortars, which can not work loose when the mill is running, render access to the interior of the batteries, for cleaning up or for changing shoes and dies, very easy. The sluce terminates in two branches, one of which runs into one side of an ore-shed, and the other into the other side, a longitudinal partition

The sluice terminates in two branches, one of which runs into one side of an ore-shed, and the other into the other side, a longitudinal partition separating the shed into two equal halves. About one third of all the solid material brought down by the current is deposited in this shed, the remainder being carried off in suspension in the water. The shed is about 100 feet long by 50 feet wide. One half is filling up while the ore from the other half is being carried to the mill, about 100 yards off. The material collects on these floors to the height of from 3 to 5 feet, and is simply dug out, and loaded on cars running on a tram-road. A large

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portion of the material milled contains no appreciable amount of gold, it having been thoroughly disintegrated in the sluice, and whatever gold it originally contained having been amalgamated in the riffles. There be-ing no machinery at hand to separate this barren material from the quartz and coarse sand which carries gold, the whole mass has to be willed milled.

milled. The introduction of "grizzlies" and punched plates would remove the larger pieces of quartz, and if the material was then run on to large jigs. like those used in coal-washing, I think that all the auriferous material could be easily and cheaply saved, and the barren portions got rid of without the necessity of putting them through the mill. As the company is now contemplating the addition of twenty more stamps to the mill, in order to enable it to work more material from the cut, I think it would be wall to correiden this guegestion before making the output.

would be well to consider this suggestion before making the outlay. With the arrangement I suggest, I am quite positive that it could mill all the auriferous material brought down in the present mill. The superintendent of the mill, Mr. Weaver, to whom I am indebted for many courtesies, informs me that the cost of milling is but twenty-two cents

courtesies, informs me that the cost of milling is but twenty-two cents per ton; three to three and a half tons per day per stamp being about the usual work. At the Dahlonega mine, situated about six miles southwest of the town of the same name, a two and one half inch hydraulic nozzle, with one hundred and sixty feet head, is employed. The rock worked is quite hard, much of it being too hard to pick. Some giant-powder is em-ployed to shake it up, after which it can be cut down by the stream. The work is slow, and the material worked is "pockety." The pockets are quite rich when struck, but very irregularly distributed. I do not think that the mine is paying very largely.

The Barlow property is well located, and the character of the material is very uniform. The concern is evidently quite prosperous. From what I know of it, I think that they are clearing a couple of thousand dollars per month, as their expenses are light. WILLARD P. WARD, M.E.

THE CLIFTON COPPER MINES, ARIZONA.

Special Correspondence of the Engineering and Mining Journal.

The Clifton copper mines, in Frisco District, Apache County, Arizona, a number of which are owned by Henry Lesinsky & Co., are destined to attract wide attention, by reason of their becoming extensive producers of that metal. They are located in a group of rugged mountains lying northwest of the San Francisco River, 15 miles above its confluence with the Gila River, and are from 5600 to 7000 feet above sea-level. The Long-fellow mine is the best known outside of the district and hes for exceed the Gila River, and are from 5600 to 7000 feet above sea-level. The Long-fellow mine is the best known outside of the district, and has, for several years, been successfully worked by the Lesinsky Company. This lode had so many outlying deposits of ore in its surface works that people talked of it as "a mountain of copper" ore; but in the lower levels, only some 200 feet deep, immense bodies of high-grade ore appear more in vein form than at any point above. The ore, taken as it comes, with scarcely any assortment, averages 18 to 20 per cent in actual copper yield. It is easy for those who know the way, to smelt it, the red oxide and black and other carbonates being mixed in the proportions found most suitable for effective reduction. for effective reduction.

THE OTHER MINES

of the company are only slightly developed. Most of them promise to open and yield well. On what is known as the Coronado lode, lying five

open and yield well. On what is known as the Coronado lode, lying five miles northwest of the Longfellow, there are six 1500-foot locations, all owned by the Lesinsky Company. Every one of these claims shows rich copper glance, and medium-graded carbonate and silicate ore. The vein, a northeast and southwest one, is in granitic rock, and is cased on both sides with porphyry, whereas the Longfellow and adjoining mines are in a red and white colored porphyry with some limestone, shale, and siliceous slate, appearing on one side

The Coronado lode is very strong, well defined for the work done on it, and is likely to prove a great mining property. Its deepest incline is only 65 feet; but in it, and in numerous open-cuts along its course, streaks from 2 up to 30 inches wide of 60 per cent copper glance are seen interlacing the vein-matter, which is from eight to twelve feet in thick-

Unlike the Longfellow ore, the higher grades, at least, of this Coronado ore will have to be roasted in heaps, before being smelted.

THE MINING WORK

THE MINING WORK • On the Longfellow lode is performed by 60 Chinamen and 20 Mexicans. As experience has long ago shown, in other quarters, that Chinese labor in mines—where there are opportunities for skulking and stealing candles and blasting-supplies—is any thing but profitable, I was not surprised to find that eighty men only extracted 17 to 20 tons of ore per day, while twenty white miners could easily have broken down an equal amount. I believe the output has been largely increased of late, but it will be strange if the owners do not get tired of their Asiatic employés at no very distant date. distant date.

Instant date, The mining work has been any thing but skillfully laid out or economi-cally done, and to put the Longfellow mine in a really safe and satis-factory condition, a considerable expenditure is necessary. A narrow-gauge railroad of $4\frac{1}{2}$ miles, leading from this lode to the furnaces, has been recently completed, and once a car-track is laid in the works, so as to save moving ore and waste four to five hundred feet by wheelbarrows, an important saving will be effected in the working expenses.

THE COMPANY'S SMELTING FURNACES,

THE COMPANY'S SMELTING FURNACES, situated at Clifton, on the San Francisco River, are worthy of special notice. There are three 20-ton shaft blast-furnaces, one only, however, being used at a time. They are square in cross-section, 35 inches wide inside at bottom, and 42 at top. From the tuyeres to the bottom of the feed-hole the height is 8 feet, and to the top 10 feet more. The feed-hole is 38 inches wide and 26 high. For 31/2 feet vertically, where the heat is greatest, the furnaces are lined with, or rather built of, copper slabs or molds, cast at the works. These slabs, measured as solid, are 38 inches long, 91/2 wide, and 6 thick. They

are cast with two cavities 16 by 7 inches and 3 inches deep, and each is therefore a sort of shallow double trough, the bottom of which is 3 inches and each is therefore a sort of shallow double trough, the bottom of which is 3 inches thick. When they are placed on edge and bedded in clay, the bottoms form a smooth surface against which the molten contents of the furnace have so little effect that they continue intact from six to twelve months. As only a small part of the copper contained in the slabs is lost, and the expense of casting new ones is but a dollar each, this kind of lining is not costly. By means of iron straps, the slabs are held securely in position. To admit of their being freely exposed to the air on the outside, a gap is made in the brick-work of the furnace opposite to them, the walls above being supported on four hollow copper pillars cast on the spot in short pieces, set one on the other, and secured by iron bands.

A FORTUNATE DISCOVERY.

A FORTUNATE DISCOVERY. Until copper linings were used, the Lesinsky Company found it impossible to run at a profit. Experts at high salaries were employed, but success in producing merchantable copper did not attend their efforts, and ere long the property owed nearly \$150,000. One time, when the lining of a furnace had given way, a copper plate, lying around, was thrust into the opening, and, strange to say, it was equal to the duty required of it. Some one forthwith secured a patent for the principle involved, but I have not heard of its being successfully applied anywhere, save at Clifton. The Eureka Consolidated Company was induced to try the lining for smelting argentiferous ores ; but the slabs were soon destroyed, and Pancake fire-rock was substituted.

SMELTING.

Mr. Louis Smadbeck, the head smelter at the Clifton Works, and who, elong with Mr. Henry Lesinsky, is entitled to great credit for what has been so well done under adverse circumstances, favored me with some particulars as to the mode of operating the furnaces.

When the ore is dry, the charge is 290 pounds of ore to 65 pounds of charcoal, made every ten minutes.

A pound of charcoal, therefore, costing 1% cents, or about 26 cents per A pound of charcoal, therefore, costing 1% cents, or about 20 cents per bushel, smelts 4½ pounds of ore, and 450 pounds will suffice for 2000 pounds of ore—the grade being 20 per cent. The metal, which is known as black copper, containing 90 to 92 per cent, is drawn off every three hours and run into large copper molds of home make. The bars or pigs, weighing about 200 pounds, are shipped by freight teams and cars, to be refined on the Atlantic coast.

Unlike the arrangement adopted in the best lead-smelting furnaces, the three tuyeres provided for each furnace at Clifton apply the blast only on the back, the spaces between them being 6 inches. They are not pro-

the back, the spaces between them being 6 inches. They are not pro-tected by water sheaths. All smelting labor is done by Mexicans, 25 men being employed, at the average wages of \$2 per day. The total cost of reducing 2000 pounds of ore is about \$12.60, but this does not include interest on invested capital. We have many promising copper lodes in Arizona, but probably there are none equal in extent, richness, and value to the Clifton mines. It has been impossibly hitherto to do any thing with copper ores in the San Francisco market, as buyers there offered no inducements to shippers. Fortunately, by the extension of railroads into the territory, mine-own-ers will soon be enabled to ship their ores or furnace products either to rorunately, by the extension of raincads into the territory, inner-own-ers will soon be enabled to ship their ores or furnace products either to England by way of the Gulf of California, or to the Eastern States by overland railroad. If the railroad companies are wise enough to encour-age this business by low freights, they will ultimately reap great advan-tages in increased traffic. J. D. EMERSLEY. EWELL SPRINGS, PIMA CO., ARIZ., Feb. 5.

NEVADA MINING NOTES.

Special Correspondence of the Engineering and Mining Journal.

Quite an excitement is now going on over in Lone Mountain, about thirty niles from this place. Lone Mountain lies in Big Smoky Valley, is surrounded on the north and east by desert wastes, and on the south and west by the great salt marshes of Montezuma and Silver Peak.

Valley, is surrounded on the north and east by desert wastes, and on the south and west by the great salt marshes of Montezuma and Silver Peak. It is a very high and rough mountain, and has always been quite a prom-inent land-mark for prospectors. Lone Mountain is not a new discovery, although we believe that the richest and best ledges have only lately been found. Both gold and silver ore were found there in 1864, by some Mexicans from San Antonio. They sank one shaft 40 ft. deep, built an arrastra, and were preparing to extract the metals, when the Indians, who were mean in those days, drove away their stock, and forced them to abandon their prospects. Some time since, some American prospectors located several promising ledges, which have proved since to be very valuable. It is claimed that one ledge of silver lead averages over 60 feet thick. Other claims of silver chloride and gold ore have been located. Bodie capital is backing the present prospectors, who are well supplied with material to open their claims. Twenty miners are now in camp, and twenty more will arrive from Bodie this week, besides those going in from other quarters. With the present flattering prospects of San Antonio and her mines, which are now being thoroughly developed, and the Pea Vine, Jett, and Jefferson mines on the north, and Montezuma, Silver Peak, and Lone Mountain districts on the south, San Antonio is surely destined to be-come the head-center of the mining interests of Nye County. SAN ANTONIO, NYE CO., NEV., Feb. 6. SMOKY VALLEY.

THE LONGFELLOW COPPER MINES-A CORRECTION.

EDITOR ENGINEERING AND MINING JOURNAL: SIR: In an article in the *Globe Silver Belt* of January 31st, mention is made of the property of the Longfellow Mining Company, which I re-cently had the pleasure of examining. The article referred to was pub-lished without my knowledge or authority, and many of the statements there attributed to me have no foundation in fact. ARTHUR F. WENDT.

EMPLOYMENT GIVEN BY RAILWAYS.—It is stated that there are now nearly 300,000 persons employed on the railways of Great Britain and Ireland. The importance of this fact will be apparent at once to the stu-dent of social science, since this industry has scarcely had an existence of

MONTANA MINING NOTES.

Special Correspondence of the Engineering and Mining Journal

One of the leading jewelers of Helena is now engaged in making two One of the leading jewelers of Helena is now engaged in making two silver spikes from the first silver bar ever turned out at the United States Assay Office, Helena, the silver composing the bar being the product of seven and a half pounds of rock taken from the famous Lexington lead. The spikes are to be used by the Utah & Northern Railroad for the pur-pose of fastening the first rail laid on the track of this road within the boundaries of Montana. This narrow-gauge railroad is the hope of the ore-producers of this country, making available the low-grade ores which at present are absolutely worthless. The bullion shipments from Butte for the past two weeks have aggre-rated \$43.00 - 1 g od showing. taking into consideration the condition of

gated \$43,00.-1 good showing, taking into consideration the condition of the roads

the roads. The First National Bank of Helena, a large buyer of ore and bullion, purchased, during the year ending December 31st, 1879, silver bullion \$400,000; gold bullion, \$250,000; and ores to the amount of \$150,000. This portion of their business is greatly remunerative; for the Bank, in addition to 20 per cent dividends upon its capital stock, \$100,000, has added \$20,000 to its surplus fund. The new discoveries in the Bear Paw and Belt mountains still attract at-tention, and in the spring there is every probability of a stemped occur.

tention, and in the spring there is every probability of a stampede occur-ring for these points. Some new leads in the Bear Paw, 60 miles from Benton, have assayed as high as 600 ounces of silver to the ton. The ore is free milling. There has been considerable difficulty in securing perfect titles to prop-

There has been considerable difficulty in securing perfect titles to prop-erty in Butte on account of underlying mines. Last week, patents for the Carlotta, Pawnbroker, and Maximilian lodes were received, each of which is situated wholly or in part within the limits of the town site of Butte, and each has the following clause : "Excepting and excluding, however, from these presents, all town property rights upon the surface; and there are expressly excepted and excluded from the same all houses, buildings, structures, lots, blocks, streets, alleys, or other municipal improvements on the surface of the above-described premises not belonging to the grantees herein, and all rights necessary or proper to the occupation, possession, or enjoyment of same."

This is a wise provision, and will prevent many vexatious and costly litigations, not only in Butte, but in all the mining camps of the country, if generally used in granting mineral patents. The Gloster mine owners intend adding five more stamps to their mill, making it have a capacity of ten stamps. Their clean-up, last week, net-ted \$150 or about \$27 per top.

The clean-ups to the stamps. Their clean-up, last week, netted \$1350, or about \$27 per ton.
The clean-ups for the Belmont and Penobscot. for January, are about the same as usual. The main shaft of the Penobscot is now down 300 feet, where another level will be run.
Bullion shipments from the Alice mine, in Butte, were \$32,244, for January, or at the rate of \$400,000 per annum.
The Thornton mill is working about 18 tons of ore per day, and its management feels assured of great future success.
On the 1st of May, proximo, a heavy mining sale will be recorded in Butte. Four mines in this city, owned by W. A. Clark & Co., and known as the Stewart Late Acquisition, Late Acquisition Spur, Mount Moriah, and Anglo-Saxon, together with the Dexter mill, were bonded to O. J. Hollister, of Salt Lake City, for Eastern parties. The bond expired January 1st, 1880. An extension was asked for and granted until the 1st of May, as the new company was not fully organized, when the sale will doubtless be made. The consideration is not, as yet, made public.
Active preparations are making for the early starting up of the coppersmelter at Meaderville. As soon as the machinery and bricks, now lying at the terminus, can be hauled, every thing will be pushed to a speedy completion.

completion. TUBEROSE.

PETROLEUM NOTES.

COMPARATIVE STNOPSIS OF REPORTS FOR DECEMBER, 1878 AND 1879, AND JANUARY, 1879 AND 1880.

42 GALLONS = 1 BARREL	1879.	1880.	1878.	1879.
12 GALLONS = 1 DARREL.	Dec. 31 days.	Jan. 31 days.	Dec. 31 days.	Jan. 31 days.
Production for the month Daily average Stock at the wells	57,067	56,423		43,441
ron tank stock Total stock Number of producing wells	8,470,490		4,306,882 4,615,299 10,337	5,064,567 5,297,972
" " drilling wells " " " completed " " dry holes	15	540 320 17	218 195 13	265 136 15
Aggregate daily production of new wells Average Number of rigs building	4.200	4,850 15 560	2,170 13 1-10 246	
Iotal shipments out of the region	1,532,585	1,650,409	992,722	663,998

-Stowell's Petroleum Reporter.

-stowell's Petroleum Reporter. The differences between the oil-producers and oil-carrying companies in the western part of Pennsylvania have been settled in the Supreme Court. On the motion of the Attorney-General, the bill in equity against the United Pipe Line and the Pennsylvania Company was dismissed. A. R. Campbell's suit for conspiracy against the Standard Oil Company has also been discontinued.

FOREIGN PETROLEUM DISCOVERIES.

CANADIAN PETROLEUM LEGISLATION.—OTTAWA, Feb. 19.—Mr. Colby's bill to amend the petroleum act proposes to remove the present discrimi-nation against American coal oil, by making the test more uniform. The test for Canadian oil will probably be increased, and that of American reduced.

Petroleum is found in Australia in large quantities, and of good quality. The Consul-General at Melbourne writes the State Department that several companies have been formed to develop the production of petroleum, found in large quantities, and of good quality, in various parts of the colony.

A dispatch from Berlin says that the borings in the Hanover petroleum region are now sixty feet deep, and the existence of a basin as large and rich as the one in Pennsylvania is regarded as beyond doubt by experts. The deepest borings already yield four hundredweight per well daily. The borings are exclusively in the hands of Hamburg and Bremen firms engaged in the American trade. Says the North American: "It may be well for all who are interested in the petroleum trade of Pennsylvania to be alive to the possible result of the reported petroleum discoveries in Hanover, because the German demand for oil is so great as to give em-ployment to a large fleet of vessels at Philadelphia, Baltimore, and New York." A dispatch from Berlin says that the borings in the Hanover petroleum

The Montreal Gazette says: "The wonder is, that the existence of the substance in Hanover was not long ago ascertained ty practical mineralo-gists. Among the multitude of minerals in which Hanover has for ages abounded, the Hartz mountains being a natural storehouse of almost unex-ampled variety, bitumen, or mineral pitch, is of frequent occurrence."

LABOR NOTES.

QUAKERTOWN, PA., Feb. 10.-Molders who received 5 per cent advance in wages on Saturday, have struck for 15 per cent.

YOUNGSTOWN, OHIO .- The monthly disbursements for wages by thirteen of the principal coal and iron companies is \$188,400.

CONNELLSVILLE.—There is a strike in the Connellsville coke region, and it is more than likely that the next influence to be expected upon the CONNELLSVILLE.—There is a strike in the Connellsville coke region, and it is more than likely that the next influence to be expected upon the trade will be such as is exerted either by a strike or a suspension—pos-sibly both. The strike in the Connellsville region is very general, though some few men may be at work. The coke operators are determined not to grant the advance. They say that the present price—thirty-five cenus a wagon for mining and eighty cents and over for drawing—are higher than were ever paid before, and that, when these prices were agreed upon, only four weeks ago, the men said they would make no demand for any further increase until May. The strike at the railroad mines also continues, and force has been used to keep out the men that were willing to work at 3½ cents. Some of the proprietors have shipped arms and ammunition to their miners, and told their men to defend themselves if attacked. The Railroad Coal Exchange of Pittsburg voted unanimously not to pay more than 3½ cents. Coal was offered to any of the members who needed any, but they were all prety well supplied. The retail price is nine and ten cents a bushel for lump coal, according to the distance of delivery. 6% cents in flats on the river, and 7 cents on cars, at the Union yard. The Clearfield operators expect that the strike will extend and reach that region about the last of next week. It is known that delegates have been sent to the Cumberland region, the idea being to secure a simultaneous strike on the part of all the bituminous coal miners. The operators are not likely to accede to their demands, and will permit a suspension until the men yield or the market sbows such an advance as will warrant the wages that the men ask.—*Philadel-phia North American, Feb.* 14. phia North American, Feb. 14.

PACIFIC COAST.

LEGISLATION.—Mr. Wasson, of Mono, California, has introduced a bill providing for "Courts of Conciliation," for the purpose of settling dis-putes between capitalists and laborers, with a view of preventing strikes. The author claims that this will be a simple and cheap method of settling a very difficult class of cases.

a very difficult class of cases. There appears to be a large supply of laborers in all of the towns and cities of the Pacific coast, at the present time. The contractor of the Nevada Central Railway experienced no difficulty whatever in securing the number of laborers he required, says the *Reveille*, even if the wages offered were much lower than the amount usually paid laborers in this State. A call was made in Virginia City, some little time ago, for thirty stone-cutters, and there were five hundred applicants in a very short time. At this season of the year, the demand for labor is not nearly as great as is the case in the summer time, and it is to be hoped that, when spring opens, there will be a much greater demand than at the present time.

Spring opens, there will be a much greater demand than at the present time. ENGLISH STRIKES OF THE PAST TEN YEARS.—An interesting paper on this subject has been read before the British Statistical Society by Mr. G. iPhillips Bevan. After remarking upon the great difficulty experienced n getting information as to strikes, Mr. Bevan stated that, so far as he had been able to ascertain, there had, during the last ten years, been 2352 strikes, distributed as follows: 1870, 30; 1871, 98; 1872, 343; 1873, 365; 1874, 286; 1875, 245; 1876, 229; 1877, 180; 1878, 268; 1879 (to Decem-ber 1st), 308. Of these, the great majority took place against a reduction, or for an advance, of wages, and out of the total 2352 no fewer than 314 were in the coal-mining trade. Out of the total 2352, 473 have taken place in Scotland; while, in the list of towns in which strikes have occurred, Glasgow stands first with a total of 85 during the ten years, Leeds holding the second place with a total of 73. As to the duration of the results in more than 1096 cases; but estimating the duration of the remaining 1265 at a week each, he arrived at the conclusion that during the ten years 9027 weeks, or 54.162 working days, have been wasted. As to the numbers engaged in, and the results of, the strikes, Mr. Bevan's information is still more imperfect. Only in 110 cases has he any ascertained facts to go upon, and in these, estimating the average loss of wages at four shillings per day, for five days a week, he arrives at a total loss in wages alone of £4,468,000. From these figures, some idea of the loss on the whole 2352 strikes may be gathered. Dealing finally with the question of what can be done to reduce the number of and diminish the loss from strikes, Mr. Bevan confesses to have little faith in arbitration, and counsels rather the creation of tribunals some-what similar to the continental *Conseils des Prudhommes*, to which all labor disputes shall be referred. BAPER BAU WAX CONSTRUCTION — A correspondent of the

RAPID RAILWAY CONSTRUCTION.—A correspondent of the London Times at Cabool said a few days since that the first passenger train had arrived at Sibi. The line has, so far, been completed at the rate of a mile and a third daily, a feat perhaps unequaled in the history of railway construc-tion.—Engineer, London, January 23.

FEB. 21, 1830.]

PROGRESS IN SCIENCE AND THE ARTS.

Technology. Mr. MacTear's Artificial Diamonds.—Mr. MacTear, it appears, is not yet convinced that he has mistaken the nature of the substance which he alleged to be the crystallized form of carbon known as the diamond. He replies to Mr. Maskelyne's unfavorable report, the gist of which we gave last week, by expressing his surprise at the negative results reached by that gentleman, and declares that the statements made by him (Mas-kelyne) do not prevent him from affirming, in the most positive manner, that the material he has produced is veritably diamond. He further af-firms that on the only two occasions that he tried the experiment, he was able to burn the small translucent particles in oxygen gas, and that he was able, with the greatest ease, by means of them, to scratch deeply both the amethyst and topaz. He concludes with the remark, "As I do not despair of convincing Mr. Maskelyne himself of his being, to say the least of it, premature in his conclusions as to the problem of the crystal-lization of carbon having been successfully solved ; and as it has been ac-complished by means very similar to those which, in the concluding paragraph of his letter [see last week's JOURNAL.—ED.] he suggests as be-ing possible. I trust the scientific world will suspend judgment on the case until more ample evidence has been laid before it." We present Mr. MacTear's reply, in order that we may not lay ourselves open to the imputation o prejudging his case without a full hearing ; but it appears to us to be beyond the snadow of a doubt that the crystal-line powder submitted to Mr. Maskelyne for examination was *not* diamond dust, if any one of the three tests to which he submitted it were properly performed ; and concerning Mr. Maskelyne's competency as a mineralo-

dust, if any one of the three tests to which he submitted it were properly performed; and concerning Mr. Maskelyne's competency as a mineralogist and reliability as a scientific investigator, no one has yet presumed to venture a suspicion.

performed; and concerning Mr. Maskelyne's competency as a mineralogist and reliability as a scientific investigator, no one has yet presumed to venture a suspicion. **Dynamo-Electric Machines in Telegraphy.**—The Western Union In Telegraph Company is announced to have lately taken the initiator tory steps to dispense with the old, troublesome, and expensive chemical in batteries which have hitherto been universally depended upon to supply the electrical current for telegraphic purposes, and to substitute in place of them dynamo-electric machines driven by steam. The desirability of effecting this change has long been recognized, and inventors have been busily at work upon the problem for years, but, as it appears, with only indifferent success up to the present time. The importance of the innovation about being adopted by the Western Union Company will be apparent from an inspection of the following facts and figures : In 1873, this company sent 14.456,832 messages, at a scost of \$6,575,055. In 1879, the number of messages transmitted had trisen to 23,079,106, and the cost had fallen to \$6,160,200. By reason largely of improvements in the construction of telegraphic apparatus, it further appears that, while in 1869 the cost of battery per mile of wire fallen to \$0.347_b. By the introduction of the new plan of dispensing with the batterics, and supplying the electric current from dynamo-electric machines, it is confidently believed and declared that even this high conomy will be considerably surpassed by a further reduction of the southy in the short will be the cost of battery per substore with a bing the public will be benefited in the least by the adoption of this or of any other improvements, past or present, by the great company that has hitherto held the virtual monopoly of the telegraphic business of the country if or the only thing that will bring this about will be the competition of a rival company strong enough to hold its own against the other sub of the reach of such considerations, insamuch as it

For the explanation of the details of the system in question, we must refer our readers to the columns of the technical journals. Three sets of these machines and engines are at present in use in the battery-room of the Western Union Company, and have given such satisfaction that a suf-ficient number are now constructing to entirely take the place of the batteries heretofore employed. What this means will appear from the statement that there are now on the top floor of the Western Union building 14,300 gravity battery elements, and in an adjoining building 4600 bichromate elements, all of which will, in a short time, be removed to make place for a dozen or more electric machines and engines driven by steam, relieving the battery-room floor of a weight of 60 tons, which is the difference of weight between the batteries and the new plant. The electric current for the telegraph, in other words, will be supplied in the future by the combustion of coal instead of zinc. The success of this new and remarkable departure in the art of teleg-raphy is due to the inventive skill and genius of Mr. Stephen D. Field, of San Francisco, Cal.

Inorganic Acids as Preservatives.—H. Endemann, in the American Chemical Society's Journal, presents some observations concerning the antiseptic virtues of boracic acid, and the cause thereof. In the course of this article, he notices that many of the acids are powerful disinfectants, destroying the life of bacteria completely, even when present in small quantities. He was led, from this observation, to make experiments in the preservation of food (meat), in which he replaced the boracic acid of previous trials with equivalent quantities of other inorganic acids. He thus ascertained that the same favorable results could be obtained with these as with the use of boracic acid. The best results were reached by the use of phosphoric acid and mixtures of phosphoric acid and hydro-chloric acid. chloric acid

He notices that phosphoric acid, even in dilute solution, acts power-

fully on fresh meat, covering it speedily with a white layer of coagulated albumen, which, however, gradually disappears on standing. Where the phosphoric acid is partially replaced by hydrochloric acid, this precipita-tion either does not take place, or, if it does, the meat soon recovers its

tion either does not take place, or, in it does, the mean sour recovers as original appearance. Meats thus treated are said to keep exceedingly well, at least fully as well as when preserved with an equal quantity of boracic acid. Sulphuric, nitric, and acetic acids gave the experimenter less favorable

sult He found, on trial, that fresh beef, packed with 1 per cent of boracic acid, and a salt pickle of 50 per cent, remained sweet and wholesome for several months, even when the average temperature recorded 80° Fahr. Previously-salted beef, however, it was found, could not be preserved by Previously-salted beef, however, it was found, could not be preserved by the use of boracic acid, from which the inference was warranted that the palting removed from the beef certain substances in the absence of which preservation became impossible. These substances he proved, after fur-ther investigation, to be the phosphates. He draws the inference, there-fore, that it was not the boracic acid which had been the cause of the preservation, but rather the substances which are produced by the action of the boracic acid—the acid phosphates. He is non-committal on the sub-ject of the wholesomeness of food preserved with boracic acid.

Engineering and Miscellaneous.

Another Northeast Expedition.—Prof. Nordenskjöld, in a recent letter addressed to M. Sibiriakoff, one of the most liberal patrons of his previous addressed to M. Sibiriakoff, one of the most liberal patrons of his previous expeditions, expresses his intention to undertake another expedition of exploration to the northern coast of Asia. His letter in question contains the following statements: "After my return, I think of spending a year in preparing an account of the voyage of the Vega, and it is my desire, then, to continue the exploration of the icy ocean along the coast of Si-beria, making the river Lena the point of departure, and the New Siberian Isles the basis of operations. For the object I have proposed to myself— namely, the rendering of the northern part of Asia completely accessible to commercial shipping—the prosecution of these researches is of para-mount importance." mount importance

The Belgian Cable Towing System, according to the recent report of the Auditor of the Canals of this State, is making progress. We referred at some length to this system in one of our earlier issues, as our readers

at some length to this system in one of our earlier issues, as our readers will remember, presenting its advantages in a favorable light. The report in question expresses gratification at the announcement that the company organized to equip the Erie Canal with this improve-ment is making substantial progress. During the past season, we are told, ten additional tugs were con-structed, and fifty-five miles more of cable were laid in time to operate the system from Buffalo to Rochester for a few days prior to the close of navigation. The Auditor is of opinion that there is now no room for doubt, if any before existed, as to the adaptability of this system to the Erie Canal, and that there is every reason to expect that by its means we shall secure much greater speed, at less cost, than by the old-fashioned system of animal towage. By the end of the next season, the managers of the Steam Towing Company expect to have the Erie Canal fully equipped, when the entire tonnage of the canal will be moved by steam. The Report of the Commissioner of Patents for 1879 gives the

The Report of the Commissioner of Patents for 1879 gives the following summary of the business of the Patent-Office for the fiscal year ending June 30th, 1879:

Application		patents	
66	66	design patents	697
66	6.0	reissues	639
6.6	6.6	registration of trade-marks	1.465
6.6	66	" labels	631
Caveats file	ed .		2,674
		, including reissues and designs	
Trade-mar	ks reg	istered	1,144
Labels		44	403
Patents wit	thhele	for non-payment of final fee	828
Total recei	pts o	f office	\$703,146.7
** expe	nditu	res	548,651.4

The Commissioner makes a number of excellent suggestions relative to the more effective working of the office, the most interesting of which is his recommendation to dispense with models in all applications for pat-ents, except in cases where the examiner requests one on the ground that it will be useful in the examination. Such an enactment, it appears to us, is very sensible, as it would relieve the inventors of the country of an encomposite that the control of the country of still enormous tax for models that are often of no earthly use, except to still further crowd the shelves of the Patent-Office.

The Millers' International Exhibition.-An international exhibition of all kinds of milling machinery and appliances is to be held at Cincin-nati, Ohio, commencing May 31st, 1880, and to continue for two weeks. It will be held under the auspices of the National Millers' Association, and, from the elaborate preparations that have been made for it, it prom-ises to be the most complete and instructive exhibition of the kind that has ever been held. One of the features of this exhibition that promises to be of special

interest is the proposed test trials of automatic cut-off steam-engines, which will be conducted under the supervision of Mr. John W. Hill, an expert of high standing. A full code of regulations to govern the pro-posed trial, prepared by Mr. Hill, has been published, and is of such a character as to insure an impartial and thorough series of tests, which ought to yield valuable information concerning the latest improvements of the steam-engine. Six engines have thus far entered for trial, rep-resenting the products of the most famous engine-builders in the coun-try, namely, the Corliss, the Wright, the Buckeye, the Brown, the Wheel-ock, and the Harris-Corliss.

The St. Gothard Tunnel.-The meeting of the two headings of the St. The St. Gothard Tunnel.—The meeting of the two headings of the St. Gothard Tunnel is now expected to take place about the end of the present month or early in the next. This is somewhat later than recent announcements have led us to expect, and is explained on the ground that the progress of the work has lately been greatly retarded in consequence of an unresistant kind of rock having been met with, which exerted great crushing force upon the supports, and which interposed great difficulties before it was successfully passed. It is stated, for example, that during the 51 days intervening from the 11th of November, 1879, to the 1st of January, 1880, the progress made at the north heading was only 34.9 meters; whereas during the 49 days immediately preceding, the same heading was advanced 173.1 meters.

GENERAL MINING NEWS.

ARIZONA.

BURGO MINE.—The Miner of January 30th says:

Parties who arrived a day or two since from Signal, Mohave County, state
that the Burro mine, located on Burro Creek, ten miles from Signal, is twenty feet
in width, with thousands of tons of high-grade ore on the surface. The ledge
crosses a stream of water ; is within two and a half miles of wood, providing all
the necessary articles for successful mill operations. It is estimated that this
mine has ore in sight worth half a million of dollars."

CENTRAL ARIZONA MINE.—The reserve ore now available is stated to be sufficient to keep a hundred-stamp mill running four years. Average yield of ore
is said to be about \$16 per ton, and amount in sight estimated at 200,000 tons.
The Poland mine has been sold for \$35,000 to Chicago capitalists, who are
about to erect a mill for reducing its ore.
SAN XAVIER MINING AND SMELTING COMPANY.—The Stock Report says:
"This company is now fully prepared to erect at once smelting furnaces at
its mines, situated near Tucson ; and, from the large quantity of ore now upon
the dumps and in sight in the present developed levels of the mine, we expect,
before long, to hear of the regular shipment of bullion, and another dividendpaying mine placed upon the list of Arizona companies."
BG BUG DISTRICT.—The Miner says:
"In this district, the Valley Forge Consolidated Mining Company owns a group
of the most important mines in this county. The following comprises a list:
Yalley Forge, Bunker Hill, Saratoga, Edgar A. Poe, Raven, Malstrom, Jesuit,
Connecopia, Rebel, Isabella, and Freeport. Of these lodes, some of them have
been developed to a considerable extent. The Isabella produced quite an amount
of high-grade ore that was worked by C. E. Hitchcock when he was working the
Big Bug District has produced as much if not more bullion than any district in the territory, with the sinchearement of the more bullion than any dis-

Big Bug mill. The Saratoga has an 80-root shalt and 120 tons of ore from it pair \$30 to the ton. "Big Bug District has produced as much if not more bullion than any dis-trict in the territory, with the single exception of the Peck; and we hope to see the new mills now ready to go up in operation early the coming spring, and a yield of bullion put forth surpassing any thing heretofore known in the territory. The ore is there, and it only requires the determination of the capitalist, with the skill of the miner, to work it from the ledges ready for treatment with the

"The ten stamps being added to Yuma mill begin crushing ore about the mid-dle of February."

CALIFORNIA.

THE SPRING VALLEY HYDRAULIC MINING CO.—The Chico Record, Cal., February 11th, says of this company that the bed-rock is being cleaned up, before transfer is completed. The amount of bullion, when they get through with this clean-up, will astonish every body, in its mammoth proportions. The new company will tunnel an adjacent mountain, and carry the tailings to Feather River, fifteen miles from Oroville. It will require 100 men for two years to complete the work.

THE BODIE DISTRICT.

THE BODIE DISTRICT. We condense as below from the *Standard* of February 7th : ADDENDA.—"The work of removing the machinery from the old to the new shaft was commenced on the 10th of January, and pushed with such vigor that steam was gotten up at the new works at 4 o'clock last Saturday afternoon. Sinking was resumed yesterday in the new three-compartment shaft, which had previously been sunk 124 feet. It is the intention of the management to push the work to connection with the 460 level of the old works, where the rich body of ore was struck some three months since. The machinery now in the works has sufficient capacity to sink to a depth of S00 feet, and, with the addition of a No. 7 Cameron pump, which is at the mine and ready to be put in position at any time, any flow of water which may be encountered can be easily handled." BELVIDERE.—" Yesterday the north drift, 400 level, was in 60 feet, and the north drift 50 feet, from the shaft. Since last report, work has progressed with-out material change to note, except a gradual improvement, both in size and quality of the ledge in the south drift." BOOKER CONSOLIDATED.—" Cross-cutting east on the 400 and 480 levels is still being pushed. During the week, a ledge about 2/ feet wide was cut 120 feet east of the shaft on the 400 level. Drifts north and south on this ledge will be started immediately. This ledge carries good milling quartz. The cross-cut on the 480 level, which is now about 35 feet in, will be continued until the ledge is cut. The south drift, on the 300 level, carries a vein about 20 inches in width, which returns fair assays." BLACK HAWK.—" The shaft is now down 614 feet, and well timbered. 18 feet

level, which is now about 35 feet in, will be continued until the ledge is cut. The south drift, on the 300 level, carries a vein about 20 inches in width, which returns fair assays." BLACK HAWK.—'' The shaft is now down 614 feet, and well timbered, 18 feet having been sunk and timbered during the past week. The shaft has come into much more clay and quartz, and some water is flowing in, but not enough to in-terfere with the work. The winze being sunk from the 220 level in the Liberty or west vein is down 56 feet, six feet having been made during the week. The vein maintains a width of about 22 inches, and the prospect is very favorable." DUDLEY.—'' The main west cross-cut, 500 level, was in yesterday 220 feet. An accident to the 500-station pump on Saturday caused a delay of some hours for repairs. The water filled the sump and then the cross-cut, and covered four sets of timbers above the station. The pump was again got under way Sunday evening, and yesterday the water was reduced to a point below the station floor. The station and cross-cut having been well secured, but little damage was done by of water is regarded as a most favorable indication, either of a near approach to a ledge or a change of ground in which the Yerington ledge is looked for at an early day. The pumps are now working admirably, and no further trouble or delay is anticipated, as the sinking-pump was thoroughly overhauled before work was resumed with it." KING BEE.—''A double-compartment shaft has been sunk to a depth of 100 feet, and sinking will be at once resumed nutil the 400 level is reached, at which point cross-cutting will be commenced for the company's veins. The bottom of the shaft is now in vein-matter, showing the close proximity of the 12-foot vein cut in the tunnel."

point cross-cutting will be commenced for the company's vens. The bottom of the shaft is now in vent-matter, showing the close proximity of the 12-foot ven cut in the tunnel." QUEEN BEE.—"The north drift on the ledge, 400 level, is in 40 feet. The ledge in the face is 6 feet wide of a fair character of ore. Every indication points to the belief that a large body of ore is close at hand, as the ledge increases in width and quality as the drift advances. Drifting south on the ledge will be com-menced in a few days." SOUTH BULWER.—"The shaft has reached a depth of 478 feet, with the bottom in a favorable formation, which works well. During the past four or five days, there has been a heavy flow of water in the shaft, which retarded operations somewhat; but the pumps are working smoothly, and handle the water with ease. The machinery for the air-compressor has all arrived, and will soon be put in position." SPAULDING MINING COMPANY.—"The new ten-stamp mill will be ready to start up by the middle of February. The stamps are 800 pounds each, and the mill is expected to crush about 30 tons of ore per day. Every thing about the building and machnery is of the very best character. "The company has, by purchase, consolidation, and government patent, 3000 feet of ground, good steam hoisting-works, a vertical shaft in the center of the claim, and an incline shaft 308 feet deep at the hoisting-works, 300 feet from the mill, 200 feet of drift excavations in the ledge, opening up two levels in the mine, and a fine mill paid for and nearly completed—all without ever having levied a single assessment upon the capital stock of the company. None of its stock is on the market, nor has it ever been listed on any of the stock boards."

STANDARD CONSOLIDATED .- "The main shaft has attained a depth of 75 feet STANDARD CONSOLIDATED.—"The main shart has attained a depin of 75 feet below the 100 level, and contiaues in hard blue porphyry, with a gradual increase in the flow of water as depth is reached. The cross-cuts, 700 level, are still in favorable porphyry formation. The east cross-cut, 500 level, has passed through a ledge 3 feet wide of good ore." TIOGA.—"The shaft has reached a depth of 756 feet. The Syndicate drift is in 659 feet, leaving 49 feet yet to run before the connection is made with the Syndi-cate funnel."

cate tunnel.

GENERAL NOTES.

Gold excitement near Korbell's mills, Sonoma County. A \$55 nugget was recently picked up near Auburn. Coal prospecting is going on at Covelo, Mendocino County. A new rich quartz ledge is said to have been found in New Jackson, Amador Idaho, of Grass Valley, paid this month \$1 dividend. The dividends in 1879 amounted to \$168,950.

COLORADO.

CHAFFEE COUNTY.

THE ANGLE TUNNEL.—This tunnel, owned by Pearce & Richardson, on Mount Princeton, about eight miles west of town, is in 100 feet, and, it is claimed, has a pay-streak 3½ feet wide in the breast, and gives sample assays of 95 and 138 ounces silver and 55 per cent copper. The owners state that they have an offer from the St. Louis Smelting Company of \$150 per ton for the ore, delivered on the track here. They expect to begin shipping soon. WANNAKAER.—From this mine a test lot of one ton was shipped to Prof. Hill, which gave a return of \$590 gold and silver to the ton.

CLEAR CREEK AND VICINITY.

CLEAR CREEK AND VICINITY. We condense from the Georgetown Miner of late dates as below : DUNDERBERG.—"The sixth level from the surface now shows in its breast the largest body of rich ore yet encountered in working the mine. The vein is from twelve to eighteen inches in thickness, and carries, according to sample as-says, from 400 to 500 ounces in silver. The mine throughout has improved ma terially in appearance within the last two or three months, and the reserves now are considered fully one half greater than they were last fall." FRED ROGERS.—"Four tons of first-class ore just brought down returned 397 ounces, and one ton of screenings returned 200 ounces." HERCLLES & SEVEN-THIRTY.—" About fifty men are employed in this mine, as lessees and contractors, and at present there is more development work under way than for a number of years previous." JEWEL LODE.—"This lode, on R. E. Mountain, is located west of the Boulder Nest, near Grant Gulch, and by some is claimed to be an extension of that mine. It is opened by an adit, which is now 60 feet long. The breast shows four inches of ore, consisting mainly of bright galena and carbonates of copper. The last run of this ore milled 145 ounces of silver, and four and a half ounces of gold per ton." per ton." KANGAROO.-

per ton." KANGAROO.—"This claim is located at the apex of Griffith Mountain, about 1500 feet south of the Comet mine. The lode shows about six feet of crevice between the walls, carrying a honey-combed streak of quartz from one to three inches in thickness, that shows large quantities of what appears to be ' black sulphurets' and blue carbonate of copper. The vein is of very high grade, mill-ing between 700 and 800 ounces." WHEATLAND.—" The ore coming out of the breast of the drift is good concen-trating ore, three feet in width, that mills \$25 per ton without concentration. Are working it by contract with three shifts of men. The drift is 140 feet long. The ore is mainly copper pyrites, but carries galena, gray copper, copper pyrites, and oxide of copper." CUSTER COUNTY.

CUSTER COUNTY.

CUSTER COUNTY. The Fremont County Record of February 14th says: "The mines of Rosita and vicinity are steadily increasing in value and devel-opments. Nearly all the mining properties have either been sold or bonded, and a large amount of machinery has been shipped to that place. The Humboldt, Lucille, Invincible, Chieftain, and Victoria are working more or less men, and all are shipping ore. The Leavenworth is placing its hoisting-works in position, and by the 1st of March will be in full working order. At Bassickville, one and one half miles from Rosita, the Maine mine is employing 125 men, and is daily shipping large amounts of rich ore to the sampling-works at Silver Cliff. The Ben Franklin is sold to Eastern parties, who will work the mine to its full capacity. Taking all the prospects for Rosita and her mines, the present year promises to be unusually productive." GLIPIN COUNTY.

GILPIN COUNTY.

GILPIN COUNTY. We condense from the *Register-Call*: CALIFORNIA LODE.—" The Whitcomb Mill Company recently treated a cord and one half of ore from the California lode, Nevada, which yielded at the rate of 15 ounces gold per ton." TRIO MINE.—" This well-known vein, situate near the head of Virginia Cañon, presents a more flattering appearance than ever before. The tunnel level is now in 550 feet from its entrance, the crevice material at that point being fully six feet in width, carrying a very large proportionate amount of smelting material. At this point, the tunnel strikes the vein over 300 feet in depth below the surface. The smelting material, of which there are 50 tons now on the dump awaiting treat-ment, yields from \$74 to \$113 per ton ; the milling ore treated under stamps show-ing a presence of four ounces gold per ton." RUSSELL GULCH.

RUSSELL GULCH.

A 40-stamp mill will soon be erected near the mouth of Graham Gulch, on R ell

Russell. Ground has been broken for the building which is to inclose the new 10-stamp mill of Smith, Beggs & Co. The Whitcomb Mill Company has its 25-stamper full of ore, five stamps being employed on Alps ore, property of the Cleveland Gold Company, five on Califor-nia ore, five on ore from the Hidden Treasure mine, five on Nimrod ore, and the remaining five stamps on miscellaneous lots.

FREMONT COUNTY. The Fremont County Record says: "Coal discoveries are becoming quite numerous in this neighborhood. The dis-covery, about three miles from town, of a solid six-foot vein has been followed by another strike still nearer Cañon City. It will make a good point for smelters in this neighborhood, as coal can be taken out cheaper here than at any point in Colorado."

LAKE COUNTY AND VICINITY.

LAKE COUNTY AND VICINITY. Condensed from Leadville papers : THE ABGENTINE COMPANY.—This is composed of Leadville and St. Louis capitalists and the owners of the Harrison Reduction Works. The property con-sists of five locations, including the Young America, Keystone, Charleston, Camp Bird, and Pine. They are located on the south side of Stray Horse Gulch, half-way between Adlaide City and Leadville. Their discovery dates back several years longer than the great majority of the camp, while the extent of the work-ings welld even startle the old citizen. The tunnel, which is the longest in the camp, has reached a distance of 1040 feet from the mouth. It is solidly timbered with a well-graded car-track, and a slight incline to the mouth. All the working of the property is now through the tunnel; from it the drifts and levels are run, and when necessary, air-shafts connected. ANDY JOHNSON.—A fine new 30 horse-power engine is being placed in position, the boiler being already up. The main shaft is being widened and boxed suitable

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 THE ENGINEERING AN

 For cages, and many other improvements going on indicating extensive and systematic work in the near future. In the mean time, the engine now in use is operating the second largest pump in the camp, one of the walking-beam pattern, and is hoisting about 150 gallons a minute. Their work had decreased in volume in the last few days about one half, but still the flow was irregular. The old engine is also hoisting power for the little output now coming from below. The shaft is about 200 feet deep, is straight and dry, except at the bottom. Thirty-five feet of contact has been cut, showing fine streaks of mineral all through it, shows plenty of ore, such as iron, hard and soft carbonates, and some chlorides. Brecce I kox Mixe. —The shipments of ore at present average but about 75 tons daily. From the fact of so many furnaces having been closed down for the past few weeks, the demand has not exceeded that amount. There is not trouble in the production, as an unlimited amount can be taken out, besides the thousand tons or more already mined. When the furnaces are all kept in operation, probably the demand will be fully double what it is at present, and there will be no trouble with the supply. Some large contracts are being made with some of the larger smelters, the La Plata Company having contracted for three thousand tons, an egotiations are pending for some still larger contract.

 More the properties of the Leadville Mining Company, are models of strength, and have been put up with an exactness for their requirements. On the north divides the chousent to the torn.

 Mathave been put up with an exactness for their requirements. On the north divides the chousent to the torn.

 Mathave been put up with an exactness for their requirements.

tunnel, an fron track has been laid, and cars are run to the dump-pile and ore-plat-form outside. DYER MINE.—A strike of rich mineral is reported in this mine; a vein almost vertical in its dip, with smooth and regular foot and hanging walls, and, at pres-ent, 18 inches of mineral. It is a soft, gray-sand carbonate, with galena and sul-plurets scattered through it. A sack of ore taken out gave an average assay of 474 ounces in silver to the ton. No ore is being shipped from this or other parts of the mine, on account of the heavy snow. DUNKIN MINING COMPANY.—This company announces that an additional en gine, with improved hoisting-apparatus, is being placed on the new shaft, and development of the property will be pushed vigorously forward. KENNEBEC.—This has recently been incorporated as the Kennebee Mining Com-pany. Work on its property is being vigorously prosecuted. Seven mines are now in opera ion, notably the El Paso, Olive Branch, and Kennebee. About all of them have steam-boisting-power, good shaft-houses, and are under efficient management. Water has been troublesome in some of the shafts; but the pumps manage to keep them in a condition that sinking can be continued with-out any serious interruption. At present, the development is mostly confined to sinking; but in the spring the company expects to take a place among the pro-ducers.

sinking ; but in the spring the company expression of one from the Morning Star ducers. MORNING STAR CONSOLIDATION.—The production of ore from the Morning Star continues about the same, or from forty to fifty tons per day. The ore is in great demand among smelters, as it is extremely high in lead. For the month of Jan-nary, the net production of the mine was \$70,600, and it is maintaining about the same average for the present month. On the Forsaken, which is one of the recent purchases of the Morning Star Consolidation, the shafts are being fixed up and the drifts straightened. Some minerel is being taken out, but to no great extent. The Half-Way House is looking remarkably well. All the properties are to be portively worked.

The Half-Way House is looking remarkably well. All the properties are to be actively worked. PENDERY CONSOLIDATION.—This mine shows the same character of work that is now the order of the day throughout nearly the whole district and especially of all new companies and recent consolidations, namely, improvements, prepar-atory work, and developments. The Glass is hoisting some ore, but nothing like what it is capable of out-put-ting, if every thing was in good shape for mining. Water is now being hauled to a tank in the shaft-house for the boiler. Below, some connecting levels are being driven, for which elegant and massive timbers will be used. The Rough and Ready No. 2 is in very much the same condition as the Glass, doing about the same work under as unfavorable circumstances. The Pendery has been shut down entirely for three days. Only three men of the usual force are employed, and they are engaged in filling up the dead-drifts with the waste from the workings.

the usual force are employed, and they are engaged in filling up the dead-orms with the waste from the workings. R. E. LEE MINE.—After running some distance through a sand carbonate, hard carbonates and chlorides have been reached on the R. E. Lee mine. Several feet of the mixture are already exposed in the breast of the drift, which as yet has not penetrated through it. Average assays return 800 ounces in silver to the ton. ScoopER.—The bond on the Scooper mine, located on Yankee Hill, expired on the 17th of February. The mine is in a good body of high-grade mineral, and will, no doubt, add considerably to the shipments of ore when again put in opera-tion. Some ore taken from the mine was exceedingly high grade, being filled with choride of silver.

tion. Some ore taken from the mine was exceedingly high grade, being mileu with chloride of silver. ArrEstAN WELL AT LEADVILLE.—The Denver *Tribune* says: "A company is organizing to sink a hole similar to that of an artesian well in the city of Leadville, and push it down a thousand feet or more, to see if the carbonate bed exists under the site of the city. Some of the leading capitalists are interested in the scheme, and the necessary money is assured. Negotiations are now being pushed to secure the best kind of machinery for the work."

PARK COUNTY.

FANNIE BARRET.—A large train of pack animals are carrying ore every day from this mine, and the ore deposit is said to be constantly improving with de-

A sixty-foot cross-cut tunnel is the means of disclosing the mineral, and for the

A sixty-foot cross-cut tunnel is the means of discound one hundrar, and the workings. Iron Mountain, on Eagle River, is now attracting the attention of prospectors and mining operators. It is situated about two miles from Red Cliff, and is iso-lated from all other surrounding elevations, forming a knoll by itself. Eagle River flows along its western base. The entire hill is supposed to be a deposit, as every prospecting shaft that has been sunk has reached mineral. Battle Mountain, where the most work at present has been done, is said to present three contacts; known as the upper, the middle or Belden, and the lower or quartaite contacts. The middle or Belden contact has, so far, proved the best. It has between hard porphyry and limestone. It is stated that carbonates have been struck in numerous workings, for a distance of nearly five miles. DOLORES DISTRICT.

DOLORES DISTRICT.

The Rico lode has run a tunnel eighty feet. Work has been commenced with renewed vim on the mine, and a fine body of carbonates lies at the breast of the tunnel.

THE GUNNISON COUNTRY.

THE GUNNISON COUNTRY. The Denver Tribune says: "The Silver Knight is a three and a half foot vein, eight inches of which are silver glance, wire and ruby silver, the pay in the other part of the vein being chlorides and sulphuret of silver. Developments on this lode consist of a fifty-foot tunnel, and a mill-run on ore taken from the whole width of the vein yielded eleven hundred ounces to the ton. "The Silver Queen lode is situated on the opposite side of Copper Creek from the Silver Knight, and shows four feet of gray copper, assaying from two to five hundred ounces in silver. A contract is let for a 50-foot tunnel on this mine. "On Mill Creek is situated the Capital, Jenny Lind, and Mineral King, all four-foot veins of free-milling ore, assaying from fifty to three hundred ounces. "The Rock Creek mines are numerous, there being the Whopper, High Tide, Terror, Silver Reef, etc.

Terror, Silver Reef, etc. "There are valuable mines, also, in Rustler Gulch and on Monroe Creek. Gothic City is the supply point for the district."

THE SAN JUAN COUNTRY.

THE SAN JUAN COUNTRY. BONANZA TUNNEL (Animas Forks).—The Silver World says: "The Bonanza tunnel is still in the supposed Norris vein. It has been run over 100 feet since the vein was first reached, and the other wall has evidently not been reached. Six different ore-streaks have been cut, showing galena, gray and yellow copper, iron, etc., in various quantities, but no paying mineral yet. The tunnel is now in over 1000 feet, and at a depth of about 500." BIG GIANT.—The Ouray *Times* of February .7th says: "Last week a six-foot vein of gray copper was struck, running 463 ounces silver to the ton. The tun-nel is in 385 feet.

nel is in 385 feet. CIMMARON (Marshall Basin).—" Drift in 260 feet. Have a well-defined vein showing six inches of galena and brittle silver. Have a good quantity of ore on the dump. CIRCASSIAN (Mount Sneffels).—" Four men are at work. Cross-cut and tunnel in seventy-three feet; whole breast of tunnel in micreal, with eighteen inches pay-streak, six inches of which is brittle silver, zinc, and iron, running from 75 to 400 ounces. There are now eight tons of ore on the dump which averages 215 ounces per ton.

400 ounces. Inere are now eight tons of ore on the dump which averages 315 ounces per fon. GERTRUDE (Imogene Basin).—"Tunnel now in 130 feet, and expect to cut the vein in about fifteen feet farther. The Gertrude shows on the surface an immense body of ore, the vein being thirteen feet between walls. The depth at which the vein will be cut, about 100 feet, will show up the value of the ore and throw the mine open for production." LITTLE ANNIE MINE (Summit District).—The interest of F. H. Brandt and P. J.

mine open for production." Light Trice ANNIE MINE (Summit District).—The interest of F. H. Brandt and P. J. Peterson in this great property, being $\frac{1}{100}$ of the whole, was sold to L. W. Win-chester, Esq., of New York, on February 7th. This transfers the control to New York City, where the entire property is now owned or represented. It consists of 1500 linear feet lode-locations on South Mountain, in Rio Grande County, and forty acres of placer ground adjoining, with a ten-stamp mill, large ore-house, automatic (gravitation) tramway, company office, store, assay quarters, retort-house, bunk-house, mess-house, and other buildings. It is by far the best equipped gold-mining enterprise in the San Juan country, and has been a steady producer of gold during the time of its operations. Over \$200,000 gold in all has been taken from the Little Annie mine alone, and the company's placers have pro-duced the finest nuggets ever found in Colorado. One weighed 5½ pounds avoir-dupois, and yielded in a had-mortar \$365. Nuggets of two, three, and four ounces have been frequent. The company has paid to its owners \$46,282.56 net dividends, besides all expenses of every description. Property all covered by U. S. patents. Average of ore crushed in the Little Annie during four years has been \$33.73 per ton. There are 615 feet of tunneling and shafting on the property. The present owners will put in a large amount of new machinery, and expect, with good reason, to eclipse the hitherto brilliant record of the Little Annie, al-though it has already sent to mint a production many fold greater than all the other gold properties combined of southwestern Colorado. North Star, on Sultan Mountain, is working thirty men and producing about twenty tons of ore daily. Has fully 1500 tons of ore on the dump. Character of ore -galena and gray copper. The *Tribune* says :

twenty tons of ore daily. Has fully 1500 tons of ore on the turp. of ore-galena and gray copper. The *Tribune* says: "There are hundreds of prospectors in Denver spending the winter, and the talk of them all is that the spring will see a tremendous immigration into the San Juan and Gunnison countries. Pitkin and Ruby City in the Gunnison, and Rico in the San Juan, will probably receive the greater part of them when the exceeded boom commences."

Rico in the San Juan, will probably receive the greater part of them when the expected boom commences." THE SALTIEL MICA CO.—A large force of men will be put to work on this prop-erty during the coming season, and the mica shipped to Cañon, where the com-pany will have the most improved machinery for its treatment. RIVERSIDE.—Shaft down 112 feet, showing in the bottom from a foot to fifteen inches of steel galena and pyrites of copper. The mineral has ranged from one to four feet in width from the top to the bottom of the shaft. The depth from top to the tunnel level is 160 feet, there being yet 48 feet to sink to make the con-nection, which will give ventilation to the tunnel workings. The tunnel is now in 285 feet. nection, which will give ventilation to the tunnel workings. The tunnel is now in 235 feet. Red Cloud shows three feet of galena and gray copper. Drift in about 200

feet

SILVER CHORD.—Tunnel now in 150 feet, with 20 feet more to go before reach-bg vein. The shaft is 100 feet deep, upper level 220 feet long; lower level, 90 ing vein. The shaft is 100 feet deep, upper level 220 reet long feet long. ULE.—A very rich strike of gray copper was made this week.

DAKOTA.

 velopment.
 DAKOTA.

 SUMMIT COUNTY.
 BLACK HILLS TUNNEL AND CONSOLIDATED MINING COMPANY.—The Black Hills News says : "This company owns the following mines, located on the extension of the Homestake and parallel veins : The Rattler, Chief of the Hills, Golden Hills News says : "This company owns the following mines, located on the extension of the Homestake and parallel veins : The Rattler, Chief of the Hills, Golden Star No. 2, Atlantic, Golden Wedge, Comet, and the twelve locations of the Star No. 2, Atlantic, Golden Wedge, Comet, and the twelve locations of the Star No. 2, Atlantic, Golden Wedge, Comet, and the twelve locations of the Star Savage Tunnel Company. The tunnel now cross-cutting the claims is in 400 feet, so driven that it will cut under the belt from three to five hundred feet, and will afford ample drainage in working the mine. We understand that Burleigh aircompressors and Ingersoli rock-drills will be immediately set to work driving the tunnel, which will undoubtedly cut several minor ledges before it reaches the Homestake ledge. The following well-known capitalists are interested : The banking-house of McGrath, of London ; J. S. Morgan, of Drexel, Morgan & Co., bankers ; Baron Von Hoffman, Messrs. Hearst, Haggin, Tevis, McMaster, Rigby, and Simmonds.

THE HOMESTAKE Company is steadily driving the large tunnel, which is to tap the main shaft fifty feet below the hoisting-works floor. It will be eight feet high

The HOMESTARE company is status in the second status of the main shaft fifty feet below the hoisting-works floor. It will be eight feet high and ten feet wide. LITTLE RAPID HYDRAULIC MINING COMPANY.—This property embraces eighty-six bar and placer claims, extending from claim No. 25, adjoining Castle Creek Hydraulic Mining Company, above the junction of Castle and Little Rapid creeks, running up the creek to within three miles of Rochford. They have been worked for several years, paying large wages to the men. A company has just been organized to work these claims on a large scale. A bed-rock drain has been commenced, running up the creek about 400 feet, which is to be continued up, till such depth is reached as will take up about two feet of the bed-rock, which will pay 50 cents to the pan. The company owns a water right of 3000 inches, extending from the junction of Silver Creek and Little Rapid to the junction of Castle Creek, a distance of five miles. Improvements, to effectually work this property are to be immediately inaugurated, and by the first day of May the company expects to take out large amounts of gold. The present drain, although not within three feet of bed-rock, the gravel will pay good wages, and nuggets are often found weighing from 25 to 35 cents, and the gravel the additional dis-tance the drain will have to be run to strike bed-rock will pay the expenses of running the drain. running the drain.

IDAHO.

BLACK JACK MINE '(Florida Mountair).—The Aralanche says: "Work is being prosecuted under favorable auspices. Nearly 250 tons of ore have recently been shipped to the Ellmore mill for crushing, and there are, or soon will be, 300 tons more of good rock ready for shipment. A splendid body of ore has been en-countered between winzes one and two, and from this a choice supply of rich quartz is now daily being extracted. The vein has all the characteristics of per-manency and strength, and the rock now being taken out will make a better yield to the ton than any ore which has been extracted from any section of the mine since it was opened. The shaft is down to a depth of 120 feet." CRANE & DRIGGS MINE.—"Twenty tons of ore were recently crushed at Scales & Wacner's arrastra. The value of the yield was \$1454, being an average of

yield to the ton than any ore which has been extracted from any section of the mine since it was opened. The shaft is down to a depth of 120 feet." CRANE & DRIGGS MINE.—"Twenty tons of ore were recently crushed at Scales & Wagner's arrastra. The value of the yield was \$1454, being an average of nearly \$73 to the ton." CHARLES DICKENS MINE.—The Yankee Fork *Herald* says: "The Charles Dickens produces a grade of ore that is worth from \$1000 to \$2500 per ton, and the arrastra, during the running season, yields about \$10,000 per month, reducing from one and a half to two tons per day of the average quartz contained in the vein. It has been worked for three years, and shows better to-day than it ever did. It is opened by tunnels and shafts to about 300 feet in depth. The upper tunnel is in 500 feet on good ore, all the way. The new tunnel, 100 feet perpendicular below the old one, is in a distance of 200 feet, and at this time is advancing in an 11-foot vein of high-grade quartz." The Ell nore Mill started up on February 1st, and will probably run for the balance of the winter. About 130 tons of Florida Hill rock were crushed during the past week, and the mill is now at work on ore from the Lone Tree mine. Nearly 100 tons of high grade ore from the Clearbrook is also awaiting crushing. OWTHEE.—Another bonanza has been unearthed in the Owyhee mine. Work-men recently struck it very rich in the shaft, and it is estimated that there are nearly \$100,000 in sight. The company which recently purchased this mine feels greatly encouraged at the outlook. MONTANA.

MONTANA

MONTANA. The Leadville Democrat of February 1st says : The first mining excitement in Montana began in 1863, when gold was dis-covered on Alder Gulch. At first, the product was from \$100 to \$200 a day for each man. From 1863 to 1875, Alder Gulch yielded more than \$70,000,000. This is said to be the richest gulch ever found in the world. The quartz interests are taking the lead at present. The great mine of Montana is at Wickes, where the Alta-Montana Company has expended large sums in developing the region. The ore is argentiferous galena. Five valuable mines are owned by the company, and it offers to purchase all the ores that it has capacity to crush. The whole region about Wickes is filling up with miners, and many new locations have been made. Mining is being prosecuted on the river beds in some parts of Montana. The Lexington silver mine, of Butte, turns out \$30,000 every month. Butte is the great silver and copper mining camp of Montana. Mountain Boy mine. Work has been suspended on the property at present, as the reopening of freight communication with the railroad. As soon as hoisting-works can be transported to the mine, however, active work will be resumed." The hast 30 feet, the ore-body has been 15 feet thick, and is said to carry two promises of gold to the ton. Sixty feet west of this shaft, a winze, now down about 5 feet below the 200-foot level, has passed through good ground all the way; some samples of the richest carrying as high as forty ounces of gold to the tor. 10 tons of rock were stamped in January, and cleaned up from them \$13,000 . MONTANA QUARTZ MINES FOR 1879.—The Helena Herald says: "The quartz

some samples of the richest carrying as high as forty ounces of gold to the ton. 110 tons of rock were stamped in January, and cleaned up from them \$13,000 in bullion." MONTANA QUARTZ MINES FOR 1879.—The Helena Herald says : "The quartz mining for gold in Montana has shown great and unusual activity in the past year, a large number of new and valuable leads having been discovered. Many new mills and arrastras have been erected, largely increasing the product of gold from this source. There is great activity also in prospecting. Several quite re-cent rich discoveries have stimulated old prospectors to renewed exertions, and as a consequence new 'finds' are being reported continually. The present indica-tions all point to a rapid growth of the quartz mining interests of Montana. There is no doubt but that the country is very superficially prospected, and even dis-covered mines have but a small fraction of the development that the quartz leads of Nevada, Colorado, or even those of the Black Hills, have. "The main range of the Rocky Mountain has, as in other parts of America, opened mp rich leads of gold-bearing quartz in this territory. The Semple District, near Helena, immediately upon the summit or divide of these mountains, embraces a large tract of country, and the most remarkable veins of quartz have been dis-covered in the past year or so. This district, out of many similar ones in Montana, shows the greatest progression, more stamps and arrastras having been erected in the past year than in any one place. "Silver quartz mining has shown wonderful developments the past year. Mining for this metal has been neglected in times past in the cagerness for gold. There is now a disposition to give silver mining the attention it deserves, and with good results. The silver product has greatly increased this year, though the greatest and virty is confined to one camp-Butte. Her marvelously rich mines are located and producing great quantities of silver bullion. Philipsburg and Glendale, ne

NEVADA.

CONSTOCK LODE .- We condense the latest official items from the Gold Hill News of the 11th inst : Orais. - The pumps are running to the 2500 level, and, to-morrow, sinking

will be resumed in the incline. The main north drift on the 2500 level is pene-trating a promising vein formation, its face 156 feet from the incline station. The east drift on this level is in hard porphyry, carrying some water; total length, 47 feet. The joint Mexican cross-cut west on the 2300 level has encountered considerable water, and been discontinued, and a joint cross-cut started

tered considerable water, and been discontinued, and a joint cross-cut started east. CALIFORNIA.—On the 2450 level, the main lateral drift south is cutting hard porphyry carrying streaks of clay, and has its face 95 feet south from the Ophir line. The east cross-cut on the 2250 level, running fr m the main lateral drift north, is in 30 feet, and has not yet reached the vein of ore encountered on the level above. From the main north drift, 1500 level, and 150 feet north of the main west drift, a cross-cut has been streted, and is making good progress west, to explore the ground east of the old stopes on this level. The north drift, 850 level, has reached a total length of 220 feet, and is cutting vein porphyry. Preparations are being made to resume sinking at the C. & C. shaft. UNION CONSOLIDATED.—The east drift from the stopes on the 2400 level is averaging 5 feet per day, and continues to cut the same heavy vein formation, carrying streaks of good ore, which has been heretofore noticed. Total distance of the face from the Union shaft, 283 feet. SIERRA NEVADA.—The south end of the mine is now worked, and men, mate-rials, etc., for that section passed through the Union shaft. An additional shift of men has been set to work repairing the incline. On the 2300 level, the main north drift continues to cut good vein-matter, its face 490 feet north of the east shaft. The cross-cut east, 400 feet north of the east shaft, is in 65 feet and pass-ing through favorable vein meterial.

north drift continues to cut good vein-matter, its face 490 feet north of the east shaft. The cross-cut east, 400 feet north of the east shaft, is in 65 feet and pass-ing through favorable vein meterial. UNION SHAFT.—The pump is in place on the 2300 level, and the work of extend-ing the pumping apparatus from that point on unward has been commenced. MEXICAN.—The north lateral drift on the 2300 level is averaging six feet per day in its progress toward the joint Union winze from the 2000 level. BELCHER.—Repairs to the incline cable and broken pump-rod have been com-pleted, and now work is going on as usual. On the 3000 level, the drifts south, east, and north are being pushed ahead. The east drift is showing some favorable looking vein material as is also that south. On the 3760 level, the north drift from the cross-cut east cuts quartz and bunches of ore. JUSTICE.—The southeast and southwest lateral drifts on the 1650 level, also cross-cut o. 2 west, are all in quartz giving low assays. CONSOLIDATED VIRGINIA.—The joint California cross-cut east on the 2350 level is now in 60 feet, and is penetrating vein-matter carrying streaks of quartz. The stopes on the 1750 and 1550 levels continue their accustomed yield of ore. CHOLLAR.—The west drift, 2400 level, is making rapid progress. Since last report, a large stringer of lively quartz, but of low grade, has been encountered and cut through. YELLOW JACKET.—Good progress is made in extending workings over the line,

And cut through. YELLOW JACKET.—Good progress is made in extending workings over the line, on the 2700 level, to connect with the Con. Imperial. CONSOLIDATED IMPERIAL.—The south drift, 2800 level, is in 96 feet, and en-countering hard rock. It is expected to connect with the drift north from the 2700 workings of the Yellow Jacket, in the course of a week. OVERMAN.—The north cross-cut, 1900 level, has of late been cutting a soft vein material, consisting of quartz and porphyry mixed, through which good prog-ress has been made. UTAH.—The incline has attained a depth of 200 feet on the slope below the 1750 level, and is penetrating soft porphyry mixed with clay. SAVAGE.—The incline has attained a depth of 204 feet on the slope below the 2200 level, and is penetrating hard rock carrying but little water.

SAVAGE.— The include has attained a depth of 204 feet on the slope below the 2200 level, and is penetrating hard rock carrying but little water. ALTA.—Still running north and south on the 1950 level, and in quartz, portions of which give good assays. BULLION.—When the north drift on the 2350 level is sufficiently away from the station, a cross-cut will be sent west into the ledge. Sinking below the 2350 level has been resumed. Both workings are in vein porphyry with stringings of ourst. quartz.

quartz. KENTUCK.—Driving the drift north on the 2700 level. This drift is now in 75 feet from the south line, and is to connect with the Yellow Jacket, to form a thoroughfare from the shaft of that mine through to Crown Point and Belcher. HALE & NORCROSS.—The winze on the Chollar line is down 135 feet. The flow of hot water into the winze continues strong and hinders work. CROWN POINT.—Pushing the cross-cut joint with Belcher east on the 2700 level, and making good progress. It has not yet reached the vein. Sinking the incline below the 2700 level. BEST & BELCUER_THE internet for the strong and hinders work and the strong strong the strong strong strong the strong strong

BEST & BELCHER.—The joint Consolidated Virginia east cross-cut, 1900 level, s now in 63 feet, and cutting vein porphyry. SUTRO TUNNEL.—Excellent progress is being made in the headers of both north and south lateral drifts.

NYE COUNTY.

NYE COUNTY. Condensed from Belmont Courier : JETT DISTRICT.—The Centennial has a five-foot ledge which gives an average assay of \$105 per ton. A furnace of 20-ton capacity is on the ground, which will be in operation as soon as fire-brick can be obtained. GRANTSVILLE.—" The Alexander mine has 40,000 tons of ore mined and in bulk-heads, and a very superior 20-stamp mill, with capacity for an additional 20 stamps, pans, etc. The cost of mining, sorting the ore, and delivering at the mill, including timbers, timbering, blacksmithing, and all incidental expenses and im-provements, and reducing the ore, does not exceed \$0 per ton." NEVADA COPPER MINES.—The Silver State says : "There are extensive copper-bearing leads in the Harmony range of mountains. One of these ledges crops out at intervals for a distance of half a mile, and specimens of the ore taken from the croppings three feet above the surface of the ground carry over 30 per cent of metal. Numerous copper veins are known to exist in the range, only a few of which have been located, and all of which can be had at a trifling cost. How permanent or valuable they may be has yet to be determined, as none of them has been prospected to any extent; but that the ledges crop out boldly and con-tain rich ores at the surface, are indisputable facts." GENERAL NOTES.

GENERAL NOTES.

GENERAL NOTES. About 20 tons of refined lead daily is the present production of the Richmond Refinery. Two years' ore for the furnaces is now in sight. The rock in the face of the Eureka Tunnel is growing softer. No attempt has been made to prospect the streak lately passed through. The shaft at the Hamburg is now down 760 feet, and it is expected that it will be completed to the 700-foot level, and the station cut out, by April 1st. One hundred and fifty men are now employed in the Eureka Consolidated mine. There will be no abatement of this force when the furnaces shut down. The de-velopment of the large territory of unexplored ground will be carried on as vig-orously as ever.

The Sutro Tunnel Company has received from the Comstock mines under con-tracts for January \$50,000. The progress for the month is as follows : North lateral tunnel, 429 feet ; south lateral tunnel, 236 feet.

NEW MEXICO.

WHITE OAKS MINING DISTRICT.—An important discovery of gold in this dis-trict is chronicled by the Cimmaron News and Press. It says : "Gold is found in the gulches, and the miners are taking out about \$300 per day, rocking. Fifty cents are paid per barrel for water, which is hauled about three miles to camp, from White Oaks Springs. There is no doubt, however, but that water will be found near the surface on the location of the town site, about one mile from camp, when the owners of the buildings now being put up, sink wells.

"Attention was first attracted to the camp by the large amount of gold brought 2: to this town from there, on various occasions, by the few miners."

OREGON.

OREGON. GATHERING GOLD ON THE SEASHORE.—The Portland *Bee* says: "The mining of gold on the ocean beach has always been one of the leading productive indus-tries of Curry County. These mines have been found to pay, from the Coquille south to some distance below the mouth of Rogue River, and a large number of these claims are still good property. Not long since, some claims of this kind were sold for \$2000, and much bigher figures have been offered for some of the other beach mines in that vicinity, says the *Coast Mail*. Among these may be mentioned the Ophir Beach mine, a deposit of black sand, on or near the beach, about five miles north of Rogue River. Mr. Will Huntly, the present owner, has (constructed dikes, etc., that supply water all the year for working the beach below high-water mark. It pays from \$3 to \$10 per day to the land, and sometimes more, owing to the freaks of Neptune in throwing up the sand. The bluff mine is twenty-five feet above tide, and is an old beach, in which there is a stratum of sand from then to twenty feet thick, that assays from \$1 to \$50 to the cubic yard. Experts who have examined black sand pronounce this the richest that they have seen in California or Oregon. There are from thirty to forty feet of gray sand above the lead, forming a bluff of from 75 to 100 feet above tide. During the winter season, Mr. Huntly runs the hydraulic under forty feet pressure, using fifty inches of water, five or six months of the year, doing all the work himself, and realiz-ing from \$5 to an ounce a day." It has been many years since the prospects for a prolonged gulch-ming season were better. The miners not only have an abundance of water now, but the deep snow in the mountains promises to keep up the supply until late in the spring. The rains of February and March will also be of great benefit, and we may expect that the miners will have a seven morths" ru.

UTAH. PARLEY'S PARK DISTRICT.

The Empire Company has now at work in the mine thirty-one men engaged in sinking for the 400-foot level, and in running a dritt from 300-foot station. Work has been greatly retarded on account of the extreme hardness of the rock. The Great Basin mine, first east extension of the White Pine, is being worked by a tunnel 200 feet long. Four men are at work, and it is expected that a large body of ore will be struck. It will tap the White Pine at a depth of 1000 feet.

worked by a tunnel 200 feet long. Four men are at work, and it is expected that a large body of ore will be struck. It will tap the White Pine at a depth of 1000 feet. The Marsac Mill has shut down, having completed its long run on tailings. The music of its batteries will be heard in the early spring, when needed reparts shall have been completed. It will work custom ore throughout the summer. E. P. Ferry has commenced work upon his smelter, which will be completed in two or three months. The smelting ores of the White Pine, Utah, and Woodside will keep it busy as soon as it is ready for business. The Sampson mine has, until lately, been lying idle on account of water. Recently the old hoisting works of the Empire were removed to the Sampson, and a force of men is now at work cutting a station at the 150-foot level, where a pump will be placed. From there, it is the intention to run for the ledge, cutting it a distance of 100 to 150 feet. The water is under control. White Pine mine is working thirty-six men. The work of sinking for the 300-foot level will commence in a day or two. On the 200-foot level, the vein averages twenty-seven feet wide, between solid hangung and foot walls. In the ore-house, there are 500 or 600 tons of ore that will average \$75 per ton in silver and 30 per cent lead. During fifteen days in January, over 100 tons were raised. WoonSIDE MINE.—The Park City Mining Record says: "A tunnel has lately been started, which will strike the vein at a depth of 250 feet, 300 feet in. Here tofore, the mine has been worked by a shaft, which is now too deep for further work until hoisting-works are erected. The tunnel is six and a half feet high, three and a half feet wide at the top, and four feet at the bottom. Last year, the owner shipped over \$10,000 worth of ore to Salt Lake, proving this to be no prospect, but a mine in every sense, with a true vein fully developed. Ten men are at work on the tunnel, and a boarding-house is on the premises." *FRISCO DISTRICT*.

FRISCO DISTRICT.

The Chicago and Frisco Consolidated Mining Company contemplates the erection of a smelter, at an early day, in or near Copper Gulch, near Frisco. The concentrating works erected by Mr. Pascoe, of Salt Lake, for the Frisco Smelting Company, are a success, and concentrate the ore without trouble.—Salt Lake Tribune.

VIRGINIA.

The Fredericksburg News of February 16th says : "The purchase of the White-hall gold mines, some months ago, by capitalists of Boston, Mass., has infused new life into mining interests in Spottsylvania. Several valuable mines have recently changed hands, and new companies have been organized. There are now four mines in operation in the region known as the Wilderness, and new shafts are be-ing suvik at three other places. Some of the rock from the new shaft of the Chi-cago-Virginia mine has been assayed, and yielded \$30 per ton. The average of twelve samples was \$14 per ton. One of our bankers says that a large amount has been realized during the past year, from panning and sluice-washing surface dirt."

NEW PATENTS.

	nns relating to Iron, Coal, Mining Machinery, Precious Metals, etc., from <i>The Official Ga</i> - or the two weeks ending Feb. 10th, 1880;
No. of Patent. Title of Invention.	Name of Inventor Residence.
224,056—Gas-Stove 224,068—Electrical Water-Indicator for Sta	Elisha GrayChicago, Ill. altThomas HigginLiverpool, Eng. William A. Turner(a)Providence, R. I. eam-
Boiler	John BoydBaltimore. Md. William R. EckartVirginia City, Nev.
i 1g Ma2bi 19 224,089-Hot-Blast Stove 224,093-Oscillating Engine 224.101-Process for the Manufacture of	Lansing Haight Sonora. Cal. John M. Hartman Philadelphia, Pa. John F. Kingsley Owego, N. Y. Sul-
phate of Soda 224,109—Chemical Fire-Extinguisher 224.138—Electric Speaking Telephone	William J. MenziesSt. Helen's, Eng. James A. Shepard (b). Lexington, Mass. Robert G. Brown (c)New York City. Frank H. CathcartWashington, D. C.

(a) Assignor to the Retort Gis Stove Company, of same place.
(b) Assignor to himself and Elward A. G. Roulstone, Boston, Mass.
(c) Assignor to Samuel S. Waits, Philatelphia, Pa.
(d) Assignor to Guild & Garrison, same place.

224,182-	Apparatus for Making WellsJames W. HammettWillow Island,
	West Va.
224.193 -	PumpDemopolis, Ala,
224.199 -	Topophone Alfred M Mayer South Orange N J
224 237-	Topophone
	Steam-BollersCharles Smith (e)Burnley, County of
	bream-boners
004 040	Lancaster, Eng.
264,340-	Manufacture of Carbonates and Bicar
004.040	bonatesBrooklyn, N. Y.
224,246-	Production of Cold in Ice-Machines,
	etcC. M. Tessié du Motay, Paris, France.
224,263 -	etcC. M. Tessié du MotayParis, France. Electric Deposition of NickelJoseph YatesMott Haven, N. Y.
224.277 -	-Box for Amalgamator Spindles and
	Shafts Ezra Coleman San Francisco Cal
994 300-	Shafts
994 390-	-Apparatus for the Manufacture of Gas. Henry Y. Attrill (f) New York City.
004 200	-Hoisting Machine Horstin Joseph G. AustinChicago, Ill.
644.0/4/4-	Goldenie Geller Gelle
224,328-	-Galvanic-Battery Cell George A. Converse (g). U. S. Navy.
224,329-	Electric-Lighting Apparatus
224,331 -	-PumpBaltimcre, Md.
224,341 -	-Rotary Coal-SifterRockford, Ill.
224.343 -	-Galvanic Battery
	(Officer U.S. Navy)(h) Knoxville, Tenn.
224 352_	-Kiln for Burning Brick, Pottery, etc Francis Raffinetti, Genoa, Italy,
224 357-	Grinding and Pulverizing Apparatus .J. Rutherford San Francisco, Cal.
094 250	Attachment for Machanically Con
441,000-	-Attachment for Mechanically Con- necting Hand-Telephones
004 000	hecting rand-relephones william R. Sawyer (i). Frovidence, R. I.
224,308-	Apparatus for Saving Float-Gold Joseph Wilkins Beltimore, Md.
224,400-	-Microphone Liège, Belgium.
224,404 -	-Galvanic BatteryJohn Doyle (j)Hoboken, N. J.
224,406 -	-Machine for Washing, Sizing, and
	Amalgamating Gold and Silver, Constant Dukem, Denver, Col.
224.412-	-Rock-Drill BitJohn Fleming (k)Spring City, Pa. -Rolling-MillWilliam H. Glover (I)St. Louis, Mo.
221 420-	-Rolling-Mill William H (Hover (I) St Louis Mo
9.04 496	-Manufacture of Hydrogen Sulphide W. E. A. HartmannTrafalgar Terrace,
ANT, TAU	Swansea, Eng.
004 40*	Swansea, Log.
224,421-	-Portable Engine Indianapolis, Ind.
224,447-	-Steam-Boiler Sylvester L. Langdon .New Orleans, La.
	REISSUE.
0.001 0	re-Stamp Feeder

(e) Assignor to William Whittaker, same place.
(f) Henry Y. Attrill, assignee of William Farmer.
(g) Assignor to Walter N. Hill, trustee, Newport, R. I.
(h) Assignor to Eugene F. Phillips, same place.
(j) Assignor to one-half of his right to C. Coles Dusenbury, New York City.
(k) Assignor of one-half of his right to C. Coles Dusenbury, New York City.
(k) Assignor to himself, Oliver B. Keeley, same place, and Enos S. Shantry, Philadel-hia, Pa.
(i) Assignor of one half of his right to Thomas Taylor, same place ; said Taylor assig-tor of one half of bis right to William L. Reynolds, same place.

PROPOSALS.

For the benefit of many of our readers, we compile weekly such proposals and solicita-tions for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, the full name and address of parties soliciting, and the latest date at which they will be received :

For the Purchase of Obsolete and Unserviceable Ordnance Stores;

U. S. Ordnance Agency, cor. Houston and Greene streets, New				
York City	February	22,	1880.	
York City For Building a Bridge ; L. Briggs & Co., Architects and Engineers, 209 Washington street, Boston, Room 35	66	23,	64	
For Tiling, Mantels, and Hardware ; James G. Hill, Supervising Ar- chitect, Treasury Department, Washington, D. C	66	24,	66	
"To Dealers in Iron." For the Purchase of Old Material ; E. N. Mil-	66	24,	66	
ler, Receiver, No. 782 Broad street, Newark, N. J. For the Purchase of Old Material; E. N. Miller, Receiver, 782 Broad	66	25,	66	
street, Newark, N. J. For Gray Granite Entrance Steps ; James G. Hill, Supervising Archi-	46	25,	46.	
tect, Treasury Department, Washington, D. C. For Sewer ; Fred. A. Twamley, Office of Public Works, Grand Rapids,	66	27,	66	
Mich. For the Purchase of Wrecked Light-Houses ; Office of Light-House	**	28,	66	
Engineers, Fifth District, Baltimore, Md	66	28,	66	
Dredging the Manistee River ; Ramsdell & Benedict, Manistee, Mich	March	1,	66	
Alterations and Additions to State House; C. E. Kemble and A. Peebles, Joint Architects, Charlestown, Kaaawha Co., West Va	66	1,	66	
For Leasing or Buying the Rolling-Mill and Furnaces situated in Alle- gheny City ; John Scott, Manchester Iron and Steel Company, 61 Fourth avenue, Pittsburg, Pa.	66	1,	65	
For Finishing and Completing the New Court-House of Eureka; E. R. Dodge, Clerk of Board of Commissioners of Eureka County,	66	2,		
Nev Tenders for Construction of a Railway in the Island of Ceylon, 41½ miles; tenders.sealed and indorsed. "Tender for Nanu-oya RR.;" Penrose G. Julian, Crown Agent for the Colonies, Downing street,				
London, Eng.	66	3,	5.6	
For Water Gates and Fire Hydrants; W. Scott Fritz, President St. Joseph Water Company, St. Joseph, Mo.	**	3,	64	
For Pumping Machinery : W. Scott Fritz, President St. Joseph Water Company, St. Joseph, Mo For Dredging in the Patapsco River ; U.S. E. Office, No. 70 Saratoga	66	3,	65	
street, Baltimore, Md For Proof-Chain for the Great Kanawha River ; Thomas Turtle, U. S.		4,	44	
E. O., Charleston Kanawha, W. Va. For Remodeling Engine-House; C. B. Knight, Niagara Steam Fire-		5,	46	
Grading, and all Work Embraced in Baliasting the Riviere-du-Loup		9,	66	
Branch; D. Pottinger, Chief Superintendent, RR. Office, Moncton, N. B. For Grading, etc. etc., on the Quebec Central Railroad; Bowen &	64	10,	6	
Woodward, Sherbrooke, Ont For Artillery Horses : Department Quartermaster's Office, cor, Hous-	46	10,	64	
ton and Greene streets, New York City	66	10.	6.6	
Bridges ; J. P. Jones Lee, Auditor's Office, Lucas Co., Toledo, Ohio	66	15,	66	
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ASSAY DEPARTMENT OF THE ENGINEERING AND MINING JOURNAL.

This department is opened for the benefit of miners, prospectors, and others in-

The amount should incur doing accurpting and nust always be prepaid. Communications, samples, etc., to be addressed to ENGINEERING AND MINING JOURNAL, 27 Park Place, New York (P.O. Box 4404.)

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Feb. 20. There has been a very large business, but in nearly all cases prices are lower. There has, however, been a reaction from the lowest prices of to-day.

There has been a very liberal business in the Bodie stocks, with an inclination to weakness on the part of most of them. The transactions in Bodie amount to but 305 shares at \$91/@\$81/2. Standard has been the leading feature, selling at \$30 on Saturday, \$321/4 on Wednesday, and closing at \$311/4, with sales of 5842 shares. Although during two days there were no transactions in Bechtel, yet for the week the sales amount to 2500 shares at \$2.10@\$1.95. Belvidere sold at \$1.35 on Tuesday and \$2.50 to-day. with sales of 950 shares. Bulwer has been quiet and weak. The sales aggregate 725 shares at \$9%@8% On Monday, Consolidated Pacific sold at \$3.70@\$4; since then, until to-day, when 3.30 was registered, there were no transactions. The sales for the week amount to 185 shares. Goodshaw records 650 shares at 36@ 39c. May Belle has been steady at 24@25c. with sales of 1925 shares. The sales of North Standard amount to 400 shares at \$1.90@\$1.85. South Bulwer has been quite active and weak. selling from \$2 on Monday down to \$1.50 to-day, the transactions amounting to 6050 shares. South Noonday showed some business early in the week at \$1.85@ \$1.80. Yesterday, \$1.75 was reached, since when there have been no transactions. The sales for the week aggregate 1900 shares. Tioga has ranged between \$3.10 and \$2.90, with sales of 1000 shares.

The Comstock shares have had a moderate business at weakening prices. California shows a large busine The sales amount to 4170 shares at \$3.85@\$3.55. Consolidated Virginia, although not quite as active, was fully as weak. The sales amount to 3985 shares at \$3.85@\$3.55. The sales of Sierra Nevada amount to but 210 shares at 25@224. Consolidated Imperial has been quiet and a little weak. The sales aggregate 2100 shares at 65@61c. Leviathan shows a large business compared with what has been doing in it for months. It has, however, been very weak, declining from 28 to 19c., under sales of 3500 shares. The sales of Kossuth amount to 500 shares at 16.

The Tuscarora stocks have been quiet and without feature Belle Isle sold to the extent of 750 shares at \$1@\$1.05, assessment unpaid, and \$1.35@\$1.30, assessment paid. Independence has been weak, within the range of \$1.30 and \$1.10, the sales amounting to 2075 shares. Martin White re-cords 200 shares at 95c. Navajo was a little weak yesterday, and quite neglected to-day. The sales amount to 1450 shares at 30@25c. On Saturday, Tuscarora sold, assessment unpaid, at 18@20c. and since then, assessment paid, at 33@28c. The sales for the week aggregate 4500 shares.

The miscellaneous San Francisco stocks have been quiet and weak. Eureka records sales of 760 shares at \$161/@\$15. On Saturday, 100 shares of Leeds sold The transactions in Caledonia (B. H.) amount to 225 shares at \$31/4. Tip Top has been quiet but strong. The sales amount to 800 shares at \$4@ \$4.10.

The stocks of our regular lists have been very largely dealt in, but generally at lower prices than week previous. Caribou has been very weak the under a scare regarding a suit lately brought against the company, and the stock forced upon the market carried the price from \$4% on Monday down to \$31% to-day. The sales aggregate 2385 shares. Central Arizona was very weak early in the week, but has since recovered. The sales amount to 27,530 shares at \$71% @\$111%, closing at \$101/2 bid. Climax has been very active, but weak ; the sales amount to 7400 shares at \$3.50@\$3.20. Deadwood only shows one transaction of 10 shares, and that at \$20. During the past three days, the sales of Excelsior have amounted to 220 shares at \$21@\$211/2. Findley has been some what quiet, the sales amounting to but 3900 shares at 68@65c

Great Eastern has been very active, but during the past three days it has been somewhat weak. The sales aggregate 41,800 shares at 61@54c. Green Mountain has shown a very liberal business, and has been getting stronger. The sales amount to 10,945 shares at \$2.90@\$3.15. Homestake has again developed some weakness. Early in the week, several hundred shares sold at \$27; then,

broke to \$36 on a sale of 10 shares, and then to \$351% on a sale of 45 shares. Hukill has been quiet, as compared with weeks past, and has been fairly steady at \$4.05@\$4.20. The sales amount to 9050 shares La Plata records 440, at \$61/2@\$61/2. Leadville has The sales amount been quite active but weak. ed to 10,260 shares at \$4%@\$31/2; the higher price was made in the New York Stock Exchange to-day on 20 shares, while the market at the Mining Exchange was at \$3.50 Little Pittsburg has been the feature @\$3.75. of the market, and upon every side the question has been asked "What is the cause of the weakness?" The officers of the company report the most satisfactory condition of affairs at the mines, but neverthe less the range of price has been \$23 and \$193/4, the latter to-day, with sales of 12,680 shares for the week. Moose has been moderately active, but as the insiders have been unloading, there has been no sup port to the price of the stock, and it declined until \$1.50 was reached to-day. Even this is a high price for a mine that is not paying dividends, and does not promise to do so. The sales of this stock aggregate 8265 shares at \$2.10@\$1.50. There has been more doing in Plumas than for several weeks past; but it has been weak. The sales amount to 2000 shares at \$2.55@ \$2.20. On Monday, 440 shares of Mariposa Common sold at \$41/s@\$37/s. Quicksilver Preferred sold to the ex tent of 900 shares at \$631/@\$65, and Common, 1200 at \$201/4@\$21. Rappahannock has been active and quite strong. The sales amount to 30,700 shares at 36@45c.

Shamrock has been steady at \$1.20@\$1.10, with sales of 1250 shares. South Hite has been active and irregular. The sales amount to 25,600 shares at \$2.90 @\$2.25. Sutro Tunnel has been very active and strong. The sales amount to 55,135 shares at \$2% @ \$3%. On Tuesday, the New York & Calaveras Mining Co.'s stock was called, and since then transactions amounting to 24,100 shares have taken place at \$1@ \$1.20. The company makes the following statement :

Location of mine, Calaveras County, Cal. : capital stock, \$500,000 : par value, \$1 : total assessments levied to date, none ; total dividends to date, none. Property consists of 2000 acres of cement gravel and the great sail Spring Valley reservoir. The property has been working successfully since January 5th, 1880. This is the property on which Drake's cement mill is working with great success.

The dealings in the fancies have been as follows American Flag, 8700 shares at 49@55c. ; Buckeye 94,250 at 62@55c. ; Dahlonega, 28,000 at 22@18c. Gold Placer, 83,066 at 43@51c. ; Granville, 98,800 at 43@30c. ; Lacrosse, 5900 at 51@47c. ; Lucerne, 6000 at 18@19c.

The production of the Ontario mine, from the 1st to the 13th inst., was \$70,835.88, assay value.

The United States Mining Investment Company savs :

"Subscriptions for the stock of the Spring Valley Hy-draulic Gold Company have come in so rapidly in the last few days as to make it probable that the list will be full some time next week. As this stock has been taken chiefly by investors intending to hold it for dividends, there is every reason to believe that after the books are closed the shares will sell at a premium."

OFFICIAL LETTERS AND TELEGRAMS

Little Pittsburg-The general manager of this mine, under date of February 18th, telegraphs as follows : "New ore-body in Pittsburg, of which I advise you, opening up very largely. Very high grade, both silver and lead; looks as though it might extend through most of undeveloped Winnemuck west, and triangle between shafts two, three, and four. Two new ore-bodies in new discovery, one just east of No. 2 shaft up over timbers. This runs up, going south and east in that undeveloped ground, and enlarges with every foot made. In drift from No. 1 west, going south to connect with incline west from No. 1 shaft ; turned east toward No. 1 shaft, run into another good body of ore, also enlarging as progress is made. Shipped 465 tons ; settled for 603 tons ; received \$20,300 ; unsettled for 211 tons, week ending February 14th."

Little Chief .- W. S. Keyes, General Manager of this company, writing under date of the 14th inst., says : "There is nothing new in the mine. The ore in the main level north shows some signs of rising. We have fine ore in the northwest cross-cut running toward the Chrysolite. The grade of the ore shipped is better than beretofore. We shipped 115 tons; total, 871 tons. We forward by mail draft for \$30,000. This completes the promised \$100,000 for the first dividend. We have necessarily delayed a few days

which are paid for." A telegram dated Leadville, February 18th, says: "Shipped to smelters 105 tons to-day.'

Chrysolite .- The manager of this company, writing under date of the 14th inst., says : "There are no changes in the mine. We are putting in the 2d level at the 'Roberts Shaft.' The ore continues. The north drift, 1st level, looks particularly well to-day; if this connects with the ore-body in the shaft, which is next to certain, we shall have about 44 feet of ore, at least. The new boiler now supplies steam to the pump direct ; also to the small temporary hoister. We put the reels in place to-day. We shipped 141 tons. Total 1733 tons." A telegram dated Leadville, February 19th, says : "Nothing new to report on mines. Shipped to smelters to-day 130 tons. I have sent you by mail to-day \$150,000."

Standard Consolidated .- The superintendent of this company, writing under date of Bodie, Califor-nia, February 8th, 1880, says : "The main shaft has reached a depth of 786 feet ; the bottom is at present in very hard rock. The flow of water from the east cross-cut has increased considerably during the week. The different stopes throughout the mine are looking as well as usual. In the north drift 385 foot level, the ledge is 25 feet wide, and yields the usual amount of high-grade ore.

"The West Standard stopes continue to look well, the ledge being about 4 feet wide, of rich ore. In the stopes on the Gildea vein, the ledge is 31/2 feet wide, and looks well. The Bulwer-Standard mill started up to-day.

"Since last report, Bar No. 185, \$21,043.61 has been shipped."

Leeds, Utah.- A recent letter from the superintendent of this mine says : "North drift from winze, east side, has advanced ten feet. Drift mouth, from Maynard tunnel No. 2, ten feet. Junction, from apex of reef to connect with tunnel No. 2, twelve feet. Have eased work for the present in north drift, east side. Have connected incline with Maynard tunnel No. 2, and am now drifting south upon the ledge with favorable indications.

Green Mountain .- The superintendent, writing from this mine recently, says : "The large body of ore thus exposed should furnish employment for 100 stamps for many years to come, while the present milling capacity is only 32 stamps.

"The superintendent reports under date of the 18th inst. increased width of the ore-body in the fifth or new level, both mills running steadily."

Hukill .- The superintendent of this mine writes that everything is working well and the mines are free from water. They expect to commence shipping ore shortly.

Rappahannock.-A recent letter from the super intendent of this mine states that the stamp-mill will be ready for crushing ore by the 10th of March, prox. South Hite .- This company has commenced the rection of a 20-stamp mill on its property in Mariposa County, Cal.

The Madre Silver Mining Co.-The superintendent of this company, writing from Ward, Nevada, under date of February 9th, says : "Assays of ore taken from the company's new location prove it to be much richer than he had anticipated. The ore is found in seams in the limestone about 40 feet from the contact of lime and porphyry, pitching toward the contact at an angle of about 60 degrees from the vertical. The discovery is about 130 feet south of the south end of the Jew Peter mine, and is very important; demonstrating that the Jew Peter vein is continuous. Vigorous work is now being prosecuted upon these mines."

DIVIDENDS.

The Board of Directors of the Little Pittsburg has declared its tenth regular monthly dividend of \$100,000, being 50 cents per share (par value \$100) on the capital stock of the company, payable on and after March 1st. The transfer-books will close February 24th, and reopen March 3d.

The Father De Smet Consolidated Gold Mining Company has declared a dividend of \$30,000 (30 cents per share), payable on the 24th inst.

The Caribou Consolidated Mining Company has declared its regular monthly dividend of 1 per cent on its capital stock, payable on February 25th. The Little Chief Mining Company has declared its

first monthly dividend of 1 per cent (\$100,000) on the week, several hundred shares sold at \$27; then, dividend. We have necessarily delayed a few days capital stock. The company has had possession of the without any business for a couple of days, the price on account of the full supplies for the furnace, all of mine only thirty days.

Feb. 21, 1880]

GENERAL MINING STOCKS. Dividend Paying Mines.

						Divid	end Pay	ing N	lines	5.													
			SHARE	.8.	Assessmen	ITS.	I	IVIDEND	s		Ніони	EST AN	D Lo	WEST	PRIC	ES PE Mai		ARE A	T WH	ICH S	ALES	WERE	
NAME AND LOCATION OF COMPANY.	Feet on Vein.	Capital Stock.	No.	Par	levied to amo	te and unt per	Total paid to	Last	Divide	end.	Feb.		Feb.		Feb			. 18.		. 19.		. 20.	SALES
Argenta, sNev.	1,500	10,000,000	100,000		date. share 75,000 Jan 1	e of fast. 1879	date.	Feb []	1880	20	H.	L	H.	<u>L.</u>	H.	L.	H.	<u>L</u>	H.		н.	L	
Bassick, S	1 500	10,000,000 10,000,000 10,400,000	100,000 100,000 104,000	100 100 100	30,000 Feb. 1,912,800 Feb.	1880 3	25,00	D Feb 1 D Dec.	1879	25 25 1 00			1.05		÷1.35		1.30		1.30		1.30		750
Belcher, G. S	2,500	1,136,630 100,000 10,000,000	227,326 20,000 100,000	5	* 52,000 July 75,000 May.	1873 0 3	125,03	0 Sept. 0 Dec.	1879	15 40 25				91%	9	914					81		805
Briggs Con., G Col. California, G. S Nev.		2,000,000 54,000,000	200,000 540,000 100,000	10 100	*********		8.00	0 Dec.	1879 1879	04 50 10	3.80	3.75	3.85		*****	3.70				3.55	3.65	3.56	
Caribou Con Col. Central Arizona, s Col. Chollar, g. s Nev.	700	10,000,000 11,100,000	100,000 112,000	100 100	and a second second s	1880 0	50 3,080,00	0 Feb.	1872	1 00	91/2	8	9%	71/2	10	8%	10%	10	11%	10	11	10	27,530
Chrysolite. s	710	10,000,000 2,000,000 54,000,000	200,000 200,000 540,000	100	* 474,600 June	1873 3	60,00	0 Jan 0 Feb 0 Dec	1880 1879	10 50	3.59 3.75	3.70			3.50 3.80	*3.35 3.75	3%	3.20	334	3.20			7,400 3,985
Crown Point G S Nev.	800	10,000,000	24,960 100,000 100,000		2,823,370 Feb	1880 0	50 11,588 00	00 Feb	1875 1880	20							20						10
Deadwood, G Dak Eureka Cons., G. S. L. Nev. Excelsior W't'r & M. Co Cal. Findley, G	525 acres	5,000,000 10,000,000 200,000	50,000 100,000 200,000	100 100 100			00 4,075,00	10 Feb	1880	20	67	16	16½ 63	161/8	16½ 67	16	16 21 67	15%	21	65	15 211/2 66	ś	760 220 3,950
Findley, G	1,50	10,800,000 10,600,000	108,000 100,000 300,000		3,152,000 Feb. 220,000 Dec.	1879 0	75 400,00	00 Oct. 00 Feb. 00 July.	1878	10 00 1 00)			60	61	60	57	53	56	54	56		41,800
Great Eastern, G Dak Green Mountain, G Cal. Hale & Norcross, G. S Nev Wormestake	+ 201	$\begin{array}{c} 1,250,000 \\ 11,200,000 \end{array}$	125,000	1 10	3,250,000 Feb 200,000 Apr		46.8	5 Feb 00 Apr. 00 Feb	1880		3.05	90.9	3.10	3	3.05 37				*3.10		3.13	5 3.05 951/s	10,945
Homestake, G Dak Horn, S Uth Hukili, G. S Nev		. 10,000,000 5 1,000,000	400,000	25	*	**** ***	200,0	Dec.	1880 1878	25	4.25	4.15	4.20	4.15	4.15		4.20	4.0			4.20	4.05	9,050
Kentuck, G. S Nev K. K. Cons Nev	1,20		100,000 30,000 50,000	0 100	300,000 Aug.	1878 1	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	00 Sept. 00 Mar. 00 Sept	1870	5 0	5						1.23	5 1.10					*******
La Plata, s Cold Leadville, s Col. Leeds, s Uth		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	60,00	0 100	6,000 Feb.	1880	10 150,0 78,0	00 Feb. 00 Jan. 00 Oct.	1880 1878	71/ 11 1.	5 51	3.85	816 3.85	3.80	614 3.90	3.75	4	3.72	61 3.8		61 5 41	8 3.50	440 10,260 100
Leeds, s Uth Leopard, L. G. S Nev Little Pittsburg, s Col. Manhattan, s Nev	. 1,50 . 129,810	, 20,000,000	200,00	0 100	200,000 July.		1,350.0	00 Dec. 00 Feb 00 Feb.	1880 1877	50 1 0	0 23		23	22%	221/2	221/4	224	20	224			1934	12,683
Martin White, s Nev Merrimac, s Mas Modoc	22,90 1,50 4.00	0 10,000,000 0 500,000	100,00		030,000 Jan.	1880	20 90,0	00 July. 00 Mar. 00 Dec.	1879	5	ó												200
Moose, s	39,00	1 000 000	200,00 50,00	$ \begin{array}{c} 0 & 10 \\ 0 & 20 \end{array} $	*		550,0 25,0	00 Mar. 00 July. 00 Nov.	1878 1879	1	5 2.10 0					1.90		5 1.6				5 1.50	8,265
Ontario, s. Uth Ophir, G. s. Nev Ore Knob, C. N. O	. 3,00	0 10,000,000	100,00 100,80	$ \begin{array}{c c} 0 & 100 \\ 0 & 100 \end{array} $	2,594,200 Nov.		2,600,0	00 Feb., 00 Jan., 00 Dec.	1880 1880	10	0												*****
Potosi, G. s Nev Plumas, G	70	. 1.000,000	112,00	0 100	168,000 Mar. 715,000		50	00 July	1879		8 2.55	2.40	2.50		2.50	2.40				5	2.4	0 2.30	
Richmond, S Nev Rye Patch Nev	1.60	0 12,000,000 1,350,000	5,40	0 2	5 660,000		00 105.0	00 Sept.		2	5							· · · · · ·					*****
St. Joseph, L Mo. Stormont, s Uth Savage, G. s Ney	. 80	1,500,000 0 11,200,000	150,00	0 10			45,0	00 Feb.	1869	30	0							· · · · · ·				* * * * * *	*******
Seaton, c. s Col Sierra Nevada, c. s Nev Silver King, s Ari	. 1,70 7. 3,65 z 1,50	0 10,000,000		0 10	0 3,750,000 Feb.	1880 3		May 00 Jan. 00 Nov.	1871	1.0	0		1 24		25	24					223	á	210
Standard, s Cal Yellow Jacket, G. S Nev	v. 1,20	. 10,900,000 0 12,000,000		0 10	0 50,000 July 0 3,39,,000 Jan.	. 1880 1	00 2,184,0	00 Aug.	1871	2 5	0 314	30		í 31		303		4 31	31	303		4 31	5,842
					· ····· · · · · · · · · · · · · · · ·									• • • • • • •				• • • • • •					
Alpha, G. s	7. 30	6 3,000,000	30,00			. 1879	lon-Divid		lines		.												
Andes	7. 60 5,30 7. 2,00	0 1,259,000		0 10	1,155,000 Jan 405,000 Jan	1880	0 50				. 50	and the second		49c		51e					51c		
Baltimore Cons New Benton	60	0	108,000	0	91,800 Sep	t 1878	0 50 0 50 0 25					1.95					2.10		2				2.500
Belvidere	. 1,50 645 ac 54	0 5 10,080,000	60,00 500,00 100,80	0 1	48,000 Jan	1., 1880	0 25								1.35				2.25		2.50		950
Bullion, G. S	9439	2,000,000 6 10,000,000 10,000,000	100,00	0 100	3.252.000 Feb	. 1880	0 50				56		62c	56c 9	80c	57c	58e	56c		56c	60c	56c	94,250 725
Calaveras Col Cal., B. H Dais Caledonia Das	2,60	. 10.0 30,000	100.00	0 100	200,000 Jan	1880	0 50								1.10	1.05	1.10 3¼	1.05	1.05	1		1.05	24,100 225
Cashier Cc. Challenge		500,000 5 250,000	250,00 50,00 25,00	0	10,000 No	** ***** **	0 20																••••
Cons. Imperial, G. S Nev Con. Pacific	. 1,40	8 50,000,000 0 600,000 . 250,000	00,00	0 50	1,175,009 Jan		0 20	**** ****			000	640	650	3.70	63c	21e	65c 22c		65c		63c 3.90	62c	2,100 185 28,000
Day Dayton	7. 1,50 7. 1,60	0 10,000,000 0 10,000,000 0 10,000,000	100,00	0 100 0 100	750,000 Apr	L' 1016	0 15 0 25																40,000
Exchequer, G. S Nev Gold Placer, G Cot Goodshaw	4.0	0 10,000,000 5,000,000 10,000,000	100.00	0 100	53),000 Feb	1. 188.	0 50 ü 25					430	510	45c	51c	480	49c	47c	4Sc	46c	47c	46c	83,066
Granville, G	. 1,231 ac 4,50	s. 300,000 0 10,000,000 0 11,000,000	100,00	0 100	125,000 Au	r. 1879	0 15				430	370		40c		****	39c 38c	37c 31c		30e	33c		650 98,800
Justice, G. S	2,00	0 10,500,000	105,00 120.00		3,079,000 Dec	1879	0 50					* * * * * * *											500
Lacrosse Col Leviathan Nev	3,90	$\begin{array}{c} 10,700,000\\ 0 1,000,000\\ 0 10,000,000\\ \end{array}$	100,00		310,000 Mai		25				250	e 480	28c	49c 25c	25c		16c 51c 25c	48e	19e		47c .		5,900 3,500
LucerneCol Mariposa preferredCal commonCal	. 44,387 . acres.	0 5,000,000 5,000,000 10,000,000	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0 100 0 100	1,425,000 Jun 1,425,000 Jun		1 00					1:	416	180	190	18c	19c						6,000 440
May Belle,Cal McClintonCal McCrackenAri	z 4,50	0 10,000,000	60,00 100,00	0 100	90,000 Mai 100,000 Sep	r. 1880 ot. 1879	$0 25 \dots 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 $								24C		25c				24c		1,925
Mexican, G. s	v. 60 78 v. ,50	$\begin{array}{c} 0 \\ 10,080.000 \\ 0 \\ 5,000,000 \\ 0 \\ 10,000,000 \end{array}$	50,00	0 1.0	125,000 Sep 145,000 Feb	ot. 1879	1 00										30c						1,450
Orig. Keystone	v. 1.50	00 10,000,000	100.00	0 10	885,000 Feb	v 1879	0 05				1.9	5			1.90		1.85						400
Quicksilver preferred. Cal	v. 1,20 8,500	0 3,840,000 4,291,300 5,708,700	38,40 42,91 57,08	0 10 3 10 7 10) 3,481,030 De:	e. 1879	2 00							2016 36c			2014		204		65 21	64	9.10 1.200
Rappahannock, g Va Seg. Belcher, g. s Nev Shamrock	345 acro	es 250,000 30 640,000 10,000,000	250,00 6,40 100.00		244,800 Oct	t 1876	3 00					360		36c		37e		39c	45c 1.15		45	43e	30,700
Silver Prize	V. 5,40	0 10,800,000 0 10,000,000	108,00 100,00 100,00	0 10 0 10	1,566,000 Jan 65,000 Ma	r 1880 r 1879	0 50 0 25 0 25																6,050
So. Bulwer	L	2,500,000	100.00	0 . 3	5						1.8	$ \begin{array}{c} 5 \\ 0 \\ 2.7 \end{array} $	1.85	1.85 1.80 2.45	1.85 2.50	2.25	2.55	1.75	1.75	2.50	1.60	1.50 2.45	1,900 25,600 55,135
Sutro Tunnel Ne Tiptop Ari Tioga Col Trio	z 1,50	10,000,000 00 10,000,000 50 150,000	100.00	0 10	0 120,000 Apr 155,000 Dec	r. 1878 c. 1879	0 25 0 20				. 4.10	0 4	43	3	8% 4.05 3	2.90		2.90	- 3% 4 3	35%	9% 4 10 8	3% 2 90	800
Trojan	V. 1.0	. 10,000,000	0 100,00	0 10 0 10	0 50,000 Fet	1. 1880	0 25					180	+330		93 e				29c	28e	30c	29c	4,500
Utah. Ne Ward Ne Wells Fargo	v. 1,0 v. 1,2	10,000,00 10 2,000,00 10 11,000,00	0 20,00	0 10	0 1,140,000 Jan 0 143,000 Jan	1., 1880	$\begin{array}{c} 2 & 00 & \dots & . \\ 2 & 00 & \dots & . \\ 0 & 40 & \dots & . \end{array}$								*****								************
****	** ******										•• •••												· · · · · · · · · · · · · · · · · · ·
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	** ******																						*** ******

[FEB. 21, 1880.

The Bodie Consolidated Mining Company has declared a dividend of 25 cents per share, payable March 1st.

The Argenta Mining Company, of the Tuscarora (Nev.) District, has declared a dividend of 20 cents per share.

The Empire Gold Mine, Utah, has declared its first dividend of five cents per share.

SAN FRANCISCO MINING STOCK QUOTATIONS

Daily Range of Prices for the Week.

		CI	OSING	QUOTA	FIONS.		Open-	C
NAME OF COMPANY	Feb.	Feb.	Feb.	Feb.	Feb. I	Feb.	ing. Feb.	č
F CORPANS	13.	14.	16.	17.	18.	19.	20.	L
1.1.1.	9				8	73/		L
Alpha	4	41/4	41/4	41/4	384	27/6		LN
Argenta	1	1	11/4	11/4	11/4	1		Ň
Bechtel	21/8	21/8	2	21/4	22	2/2		N.C.C.
Belcher	114	11%	10%	10%	105	10%		2
Belle Isle	11/8 13%	15-16	29-32 11/2	17/8	17/1	11		F
Belvidere Best & Bel.	94	934	9%	918	874	91		F
BlackHawk	13-16	13-16		3/4	34	4		S
Bodie	834	85%	85%	81/2	07:1	83		S
Boston Con.	13%	14	11/4	13%	1%	11:32%		
Bullion	41/2	41/9	43/8	9	3%	834		E
Bulwer Caledonia Cal., B. H California Chollar Con. Imp Con. Pacific. Con. Va Crown P'int Dudley	1	15-16		13-16	27-32	3/4		
Cal., B. H								
California	37/8	33/4	33/4	35%	31/2	31/2		
Chollar	63/8	612 19-32	68%	19.32	6 21-32	6 19-32		-
Con. Imp	19-32	19-52	19 3.2	434	45%	41/4	**** **	
Con Va	334	33/4	334	-/4	35%	31%		
Crown P'int	41/2	41/2	434		4%	31/2 41/4		
During	16		'i6''	13-32	13-32	7-16		7
Eureka Con	16%	101/8	10 31/4	15½ 3¼	15 3	15 27/8	*** **	1
Exchequer.	31/8	3%	11-32	13.32	119	~78		1
Goodshaw. Gould &Cur Grand Prize	55%	53/4	516	58%	516	51/4		1
Grand Prize	11/4	186	1%	1%	1/4	13%		1
Hale & Nor.	51/2	67/8	6%	634	0%	61/2	:	12
Hillside	T		11/4	11/8	11/4	11/4		12
Indep'd'nce Jackson	11/4	11/4	21/2	21/4	274	9		1
Julia Con	156	278	1%	1%	1%	15%		1
Justice	13/4	1%	11/2	134	11/2	11/2		11
Kentuck			13-16			11-16		H
Lady Wash	13-16 13-32		5 16	13-10	13-16	11-10		Ľ
Leeds Leopard	10-04	5-32	3-16		72	72		li
Leviathan.	1/4	1/4		1/4	1/4	3-16		1
Mammoth .	234	23/4	23/4	21/2	2	2		Ŀ
Manhattan.	134			178		3-16		Ŀ
May Belle . Mar. White.	3-16	13-16	1	1	3-16	29-32		Ľ
McClinton.	13-10	10-10		16%	16	1/0		Ŀ
Mexican		1734	17	16%	1:34	151		P
Mono	8	8	73/4	01/4	71/4	81/8		Ł
Navajo	17	· N	16	3-16	14	10		Ŀ
North, Belle N. Bonanza		14/2	3/2	1072		10		L
N. Standard		72			1/2			Ŀ
Noonday	4	4	41/8	4	4	4		Ľ
Ophir	18/2	19%	191/8	1834	171/4	16%		L
Orig. K'ys'e			61/2	61/8		53		1
Overman	6% 41/8	0%8 41/4	41/4	32/8	33/4	33/		
Potosi Ray. & Ely.	11-16	11-16	11-10	13-16	34	3/		Ł
R. de monte				11/2	11%			
Savage	6	5%	6	55%	57/8	5%	5	1
Scorpion Seg.Belcher			**** **	*** I.				1
Sierra Nev	1 22	227/8	221/2	223/	22	213		L
Sierra Nev. Silver Hill	13%	1%	11/4	11/4	1	11		1
Silver King	1 7	Inc			7	64		1
So. Bulwer.	1%	15%	15%	11/2	11/2	11/2		ł
Summit	111	1 112	112	13%		18		I
Syndicate . Tioga	312	11/2	27/	198	982	19	8	
Tip Top	4	41/8	44	41/	414	48	2	1
Trojan Tuscarora		1/4	5-16	13-32		13-3	2	1
Tuscarora .		*****	049					1
Union Con.	351/4	351/4	3434	351/4	35	34		1
Utah Wales	3	31/8	31	3	3	3		1
Yel. Jacket.		91/4	9	9	87/		6	
	-/4	-/4			-//			1
DEVI	EW OF	THE	SAN F	RANCE	N ODS	ADEET		

		SHARES	8.					Quo	tation	s of M Philad	lew Y delph	'ork st ia pric	tocks ces ar	are b e quo	ased ted, so	on the	e equ h per	share	nt of	
NAME OF COMPANY.	Capital Stock.	No.	Val.		ast		Rate per Ann.	Feb	. 14.	Feb	. 16.	Feb.	17.	Feb	. 18.	Feb	. 19.	Feb	. 20.	SALES.
		NO.	Par	Divi	der	ıd.	Rate	Ħ.	L	Ħ.	L.	н.	L.	Н.	L.	H.	L.	H.	L.	
Am. Coal Co.	1.500.000	60.000	8	Mo.	Y.	R't.	Per c'nt		-		-	-	_			-	-	_	_	
tl. Coal Co	1,000,000		10							*****	******	150			******			******	******	30
buck Mt.Coal	15 000 000	150.000	100	*****	••	****	****	221	223%	23	224	23	2256	234	227%	23%	28%	2314	2234	16.05
Onsol. Coat.	10,250.000	102,500	100	Jan.		21/2		****				30	~~78	******	*****					10,00
umb. C. & I.	500,000	5,000							1001					******		*****				***. **
L&W.RK	20,000,000	200,000 524,000		July		216	5	75%	7314	76%	7514	76 86%	75%	75%	75%	75%	75 85%	76 8756	7518	
ehigh C.& N		208,971	50	Sept	76	11%	516	37%	36%	38	37%	3734	137%		3738	3756	3714	37%	3734	11.64
eh. V'y R. R		540,858		Sept		1	4	52	51%	5214	52	52%		5248	52	52%		5248	52	2,71
arvl'd Coai Iontauk C'l.	4.400.000 2,500 000	44,000 25,000		Jan.	76	11%	11%	5236	50%	64	53	57%	56%	60%	57%	59%	59%	59%	*****	1.6
	15.000.000	300.000		July	79	3%	7	0498		104	103%	104	9052		10412	105%		10634	10516	
lew Cen. C'l	5,000,000	50,000	100	Jan.	79	2		31		2934	29%	29%	29	29%						2.3
	20,600,000	206,000				216	21/2	8134	103%	85%	84%	84%	833	84%	83%	84	89%	85	83%	49,6
enn. Coal	5,000,000 68,870,200	100,000		Oct. Nov.		3 216	10	5238	2734	52%		525		5234	581/2	53	52%	197	321	39.4
h. & E. K.K*		685,563			76	24	10	6834	52	66%	69	69	524	68%		68	6714			72.4
pring Mt.C'l	1.500.000	30,000	50	Dec.	79	3%			66	*****			6834							engas

+ 103%. Total Sales...... 330,004.

BOSTON MINING STOCKS.

llonez, c	$ \begin{array}{c} 223_{4}\\ 28\\ 1_{5}\\ 1_{5}\\ 1_{5}\\ 1_{5}\\ 1_{5}\\ 1_{5}\\ 1_{5}\\ 1_{4}\\ 1_{5}\\ 1_{3}\\ 4_{5}\\ 1_{3}\\ 1_{3}\\ 4_{5}\\ 1_{3}\\ 4_{5}\\ 1_{3}\\ 1_{3}\\ 4_{5}\\ 1_{3}\\ 1_$	48¼ 5½c	H. 23 28 134 734 13 244 15% 50c. 1% 50 1% 50 1½ 2¼	11/8	H. 28 21/6 73/4 131/6 244 131/6 871/6 11/2 43/6 493/4 11/6	L. 2734 178 13 13 75c, 136 446 494	H. 2356 271/9 178 794 141/2 243 47 12 1 186 41/4 49	L. 23 27 14 1 ¹ / ₆ 	H. 23 ¹ /4 1 ³ /4 1 ⁴ 24 ³ / ₂ 4 1 ³ / ₂ 1 ³ / ₂ 1 ³ / ₂ 4 ¹ / ₄ 4 ³ / ₄	3	H. 2634 2334 47 1435 47 1435	L. 26 2½ 14¼	Shares. 180 690 9,650 425 57 5775 5,775 5,775 7,75 3,56 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75 3,356 1,75
tlantic, c. Mich. 2 tias Nue Hill, c. Me. Me. Punswick. Me. Mich. 24 atalpa. Sentral, c. Mich. 24 atalpa. Sentral, c. Mich. 24 atalpa. Sentral, c. Mich. 24 Mich. 20 Nich. 24 Mich. 20 Nich. 24 Mich. 24 Nich. 24	$1\frac{28}{1\frac{1}{5}}$ $1\frac{1}{5}$ $1\frac{1}{5}$ $1\frac{1}{5}$ $1\frac{49}{1}$ $1\frac{1}{5}$	48¼ 5½c	28 134 734 13 244 1558 50c. 1% 50 11% 214	112 786 12% 12% 15% 15%	21% 734 131% 244 141% 871% 244 14% 49% 49% 11%	1% 13 75c. 1% 41%	27% 178 734 14% 243 47 12 1 1% 1%	27 14 1½	13/4 14 243/2 4 13/2 13/2 13/2	243 3 1 	23/4 47 141/9	21/2	690 9,650 425 1,250 5,775 75 1,506 2,100 4,025 175
Jentral, c. Mich. hrysolite Colo. opper Falls, c. Mich. Jopper Harbor, c. Mich. Jougas, c. Mich. Jourcan, s. Ont. Franklin, c. Mich. Anover. Mich. Jungarian, c. Mich.	1 5½ 49 1 134 85	48¼ 5½c	15% 50c. 1% 50 1%	11/8 491/2	871/2C 11/2 43/6 493/4 11/8	75c. 13%	12 1 1 3% 4¼	11/8	1316	1	14½ 4 4½	14¼	1,206 2,100 4,023 175
opper Falls, c. Mich. opper Harbor, c. Mich. Jouglas, c. Mich. Jouncan, s. Ont. Tranklin, c. Mich. Areat Western. Lanover. Mich. Humboldt, c. Mich.	1 5½ 49 1 134 85	5½c	50c. 1% 50 1%	11/8 491/2	871/2C 11/2 43/6 493/4 11/8	75c. 13%	1 13/6 	11/8	11/8	1	4 41/8		2,100 4,025 175
Juncan, s. Ont. Franklin, c. Mich. 4 Areat Western. Mich. 4 Hanover. Mich. 4 Humboldt, c. Mich. 4 Hungarian, c. Mich. 4	49 1 134 8	5½c	11/8		493/4 11/8			48			41/8	401	
Humboldt, c Mich. Hungarian, c Mich			21/4	0			*****				*9	481/2	1,980 1,200
	55c.	12%	1 13%	871/2c	2 11/8 151/4	1 135%	2 1 14%	13% 871/40 141/9	11/2 871/20 141/4	13	11/2 871/20 137/8	13%	2.99 4.90 17,74 20
Manhattan, c	31/4	416	31/2	43/4	33/4	31/2	31/2		31/2 1 41/2		3% 1 4%		2,46 60 2,84
Minnesota, c Mich National, c Mich. Orford		-/2	63%						178				42
Osceola, c Mich. A. Pewabic, c Mich.		4634 681/8	4716 6816 1416	68	681/4		47¼ 67	47 66%	65	******	46 65		46 69 21
Rockland, c Mich.		15% 97/8 50c.	134	97/8 11/6	93/	91/4	11/2	11/4	91/4		2	11/2	12,19 94 3,66
		42 211/2 3%	431/8		43		421/4	21/4	41%		411/2		83
Sullivan, s Me	494		1134 871/20	4 75e	12 12 11		35/2 131/4 95c.	123		14	3% 14%		9,95 3,55 1,85
Union. Washington, c Mich. W. Munnesota.	4½ 1 8	871/ge	11/2		53 11/2		57/1	\$	6 1½	57			6,9' 6,0'
Winthrop, c Mich.	11/4	*	11	13	11	13	11/4		11	11/4	11/4		3,39

REVIEW OF THE SAN FRANCISCO MARKET.

The Comstocks still continue to decline, and while there is no end to rumors of strikes, favorable indications, and prospective resumption of dividends, yet the market fails to respond, and we can not but view the situation as an ominous one. To be sure, previous dark periods of depression have prevailed, and periods of prosperity succeeded them ; and while the discovery of a new bonanza, such as that encountered in the Belcher and Crown Point mines, nine years ago, and, later still, the California and Consolidated Virginia bonanza, is possible, yet the situation is gloomy, and the fact that so many of the most sagacious operators and mine-owners are seeking other fields and pastures new, is pretty conclusive evidence that the prospective cost is greater than the prospective profits.

Argenta closed yesterday at \$1, which is a slight decline from previous prices. This company is making very satisfactory shipments, and if the public had any confidence in the management of the mines in this district, quite an advance should follow. Alta is lower. and closed yesterday at \$31%, against \$4 the week previous. The superintendent of this company found it necessary to publish a statement denying that any thing had been found on the 1950 level, which originated, probably, from manipulations to create an ad-

vance in the stock. Belcher is steady, with a respond contrarily. The superintendent of the tendency to lower prices. Chollar, in symfound in the west drift, 2400 level, of this Active work is going forward. In Grand mine. said that in the north cross-cut east, 500 level, a favorable ledge formation is encountered. Independence closed yesterday at \$1¼, which is an advance on the quotations of a week ago. The new machinery is in place, and is working well. The yield from the Manhattan mine continues to be maintained. This stock was selling on the 17th inst., in limited quantities, at \$1½ per share.

Northern Belle closed yesterday at \$16, a decline from the prices quoted a week ago. This company is shipping 80 tons of ore per day to its mill, and it is anticipated that it will soon be in a position to resume dividends. It is said that the company has reduced its indebtedness to \$127,922, and that the product from September amountand that the product from September amount-ied to \$436,000. It is also further claimed that the 20-stamp mill is yielding a profit of \$3500 per month. Ophir closed yesterday at \$16%, a decline of \$2 from our last. It is said that important develop-ments have been made in the Hardy vein on the 2100 level of this mine; that there a 4-foot vein of ore is found which averages \$300 per ton. Sierra Nevada also reports a strike; the quotations, like those of Ophir,

pathy with the market, is lower. It is said that from the 2300 level has encountered an ore-three feet of very fine-looking quartz have been vein which is said to be rich. This strike vein which is said to be rich. This strike has been made 900 feet north of the Union Consolidated ground. Various rumors are published Prize, the prices show a hardening tendency. It is regarding this strike, and, judging from the closing prices, there is probably not much in it. This com-pany has purchased the Eureka mill on the Carson River. Leviathan opened to-day at 3, which is equal to 18% cents per share. This company levied an assessment of 25 cents per share on the 17th inst. The directors will probably have an opportunity, when the stock is delinquent, to sell, as the present market value of the mine is only 3/4 of the demands made upon the stockholders by this assessment.

During the week ending February 19th, there were sold in the Baltimore Stock Exchange, 950 shares of Ore Knob Copper Company, at 4%(24), and 100 shares of Sutro Tunnel at 3%.

Copper and Silver Stocks.

Reported by C. H. Smith, Commission Stock Broker, No. 15 Congress street, Room 3.

FEB. 21, 1880.]

Miscellaneous Stocks and Quotations

ber of shares be doubled—10,000 to be given to the stock-holders, and 10,000 to be put into the treasury to be sold for working capital. There are several mines that could be placed upon a sound basis by this means, which, with proper development, might be made equal to that of most any of the producing mines, always excepting the Calumet & Hecla.

any of the producing mines, always excepting the Calumet & Hecla. Calumet & Hecla very steady, with light sales at 243@ 244; closing 242 bid, 243 asked. In Central, only about 100 shares sold at 47. Copper Falls, which was very active and excited last week, seems to have lost its vim, and declined on the 17th to \$12, a fall of \$7 per share from the highest point of last week, followed by a rise to 14½ to day, and closes 14½ bid, 14½ asked. Only aoout 1000 shares changed hands. Franklin reached \$50 on the 14th, which price was not sustained, only 150 shares selling at that. The lowest sale closes at 45% bid, none offered. Quincy dull at 41@43, closing at 41½ bid. Usceola steady at 47@47½, cuosing weak at 46 bid, 46½ asked.

Pewabic declined from 681/2 to 65, at which it was offered this afternoon.

Atlantic opened at 28, and in the early dealings was quite strong; but settled to-day to 26, which was the asking price at the close. Allouez, small saler at 23@2445, closing at 2345 asked. Huron has been very active, with large sales, opening at 1255 and teadily advancing to 15, the nighest point. fol-lowed by a reaction to 13, since which it has again rallied and closes quite firm at 1335 bid, 14 asked; sales aggregate over 15,400 shares. The following letter received here from the Huron Copper Mining Company, Hancock, Houghton County, Michigan, explains itself: Feb. 11, 1880

Feb. 11, 1880. D. L. DEMMON, Esq., Treasurer Huron Copper Mining Com

D. L. DERMON, LESU, I reasoner fragment coupled summary pany: DEAR SIR: We have opened the "New Lode" in another DEAR SIR: We have opened the "New Lode" in another place since writing you on the 8th inst., and find it to con-tain more fine copper than when we first found it. Some of the rock taken out to-day is covered with green carbon-ate of copper. This lode is doubtless rich at some point. We have got down in the shaft on the "Spar Vein" about 25 feet, and no bottom found yet. There seem to be some four or five feet more of water and broken rock in it i will write you again to-morrow. I am, yours, etc., J. VIVIAN.

I will write you again to-more or water and broken rock in it.
I will write you again to-more or.
J. VIVIAN.
Ridge touched \$10 on the 13th, declined to 9¼ on the 18th, and closes 8¼ bid, 9¼ asked.
Phoenix, small sales at 14@1414.
Star maintained its activity and price in the early dealings, and advanced to 4¼ on the 14th, but did not hold, and declined to 3½ on the 17th, followed by an advance to 3¼
Pontiac has also been largely dealt in, advancing from 15 to 3½, but declined to 136 of the 17th, followed by an advance to 3¼
Pontiac has also been largely dealt in, advancing from 15 to 23, but declined to 136, closing 5%@14.
Mesnard, sales 114 to 136, closing 14@142.
Mesnard, sales 114 to 156, closing 14@142.
Mesnard, sales 114 to 156, closing 25%@66.
Rockland, sales 114 to 156, closing 5%@66.
Bue Hill, sales 75@75c., closing 14@142.
Buan, sales 16 to 636, closing 15%@14.
Douglass, sales 556.
Winthrop, sales 14@156, closing 14@145.
Washington, sales 8.14@156, closing 9%@1.
Madison, sales 134@156, closing 14@145.
Copper Harbor, sales 50c. @1, closing 80c. @1.
Superior, sales 75c. @145, closing 74@1.
Copper Harbor, sales 50c. @1, closing 76@1.
Manbattan, sales 4.2015, closing 74@1.
Great Western, sales 30c. @1, glosing 74@1.
Great Western, sales 30c. @1, glosing 74@1.
Gales of about 70 0 shares.
Brunswick Antimony advanced from 1276 to 14½, closing 13.
Ma abastan and Croper Company advanced from \$415 to 58, on sales 36.
Min barda and Croper Company advanced from \$415 to 58, on sales of about 70 0 shares.
Brunswick Antimony advanced from 1276 to 1416, closing 13.
Manbattan, Sales 4.
Manbattan, Sales 5.
Mining Journal of February 4th says:
"A handsome mass, of between two and three tons weight.

ing 134(@134. The Fortage Lake (L. S.) Mining Journal of February 4th says: "A handsome mass, of between two and three tons weight, from the Franklin mine, passed by the Journal office, on its way to the smelts, Monday." Among what it calls "rumorgraphs," the same paper gives the following: "That the Central has, in one of her lower levels, a mass 100 feet in length, extending to an unknown depth, and weighing somewhere in the hundreds-of tons. "That the Phcenix has recently struck a rich vein of mass copper, which discovery is being kept as quiet as pos-sible to enable certain parties to get in at a low figure. "That there is to be a consolidation of Allouez and Sen-eca at an early day, and that Mr. H. S. Beesly has been employed to survey a route for a railroad from the Seneca to Torch Lake, where a stamp-mill is to be erected to treat the product of both mines. "The following are the products of the mines that have reported for the month of January: Mine. Calumet & Heels

Mino

Mine. Calumet & Hecla	Tons.	Lbs. 940
Quincy	98	15
Ösceola	158	500
Allouez	100	165
Atlantic	141	1.915
Mass		1,418
Total	2 198	1.953

SILVER STOCKS.

Duncan Silver quiet at 4½@4½. Silver Islet dull : sales at 21½@22, closing 20 bid. Sullivan sold at 12 on the 16th ; but, on good reports rom the mine, advanced to 14½, closing 14¼@14½. from

Coal Stocks.

NEW YORK, Friday Evening, Feb. 20. The market for coal stocks during the week has been very active and strong, and the transactions larger than those of the preceding week; the prices show a material improvement over last week's closing quotations.

Delaware & Hudson almost duplicates the trans

Miscellaneou	s Sto	ocks a	nd Qu	lotati	ions.
Sales and quotatic New York, Philadelp the 19th inst., are gr delphia quotations quotations are indic	hia, an ven in	d Baltin	ore, for	the wo	dealt in at eek ending The Phila- Baltimore
STOCES.	ar ue.	High'st			Sales : Shares.
St.L.,I.M.& S.R.Co *Cambria Iron Co	100 50	66	59%	64	\$128,409
*Penn. Salt Mf'g Co. *Schuyl. Nav. Co.pf *N. Central RW *H.& B.T.Mt. RR.pf """ "Com.	50 50 50 50	$\begin{array}{c} 16\\ 33!\!$	154 12 511		5% 540 3,196 5% 1,318 2,196 1,318 818 14 306
+B.&O.RR.Co.1st pf +B.&O.RR.Co.2d pf " " " com	100 90	$ \begin{array}{c c} 116\frac{1}{4} \\ 106 \\ 155\frac{1}{4} \end{array} $			$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Bonds.	Princ'l. When Due.	Int'est. When Due.	Hig'st.	Lowest	Amount.
D. L. & W. 78, conv "" " 2d 78 " " " " " 2d 78 " " " " convt. 7'5 " " " " convt. 7'5 " " " " convt. 7'5 " " " Locome L. & W. B., con " " Income Am. Dock & Imp. 78 St. L.I.M. & S. J.st mi " " " to " " pf.inc." " " " " " " " " " pf.inc."	1890 1899 1903 1903 1903 1908 1900 1888 1890 1892	M. & N M. & N M. & N M. & N J. & J	1161/8 107% 107% 100 71 111 115 961/4	106 ¹ / ₄ 106 ¹ / ₄ 87 ¹ / ₂ 98 ¹ / ₂ 98 ¹ / ₂ 70 109 114 ³ / ₄ 92 103 ³ / ₈ 81 ¹ / ₄	4,000 28,000 6,000 273,000 287,000
St. L. & I., M. C. & F., 1st, 79 St. L. & I. M fairo	1891	M. & N	-	105%	44,000
A. & T., 155, 7 S Ches. & O., 1st s'rs b " 6s, cr. int. di D & H C Co., 1stm.rg " " " " " m.loan cr " " " " " m.loan cr " " " " " new mge " " " " " new mge	1894 1908 1918 1884 1895 1894 1894	7 J. & J 8 J. & D 8 M. & N 4 J. & J 1 J. & J 4 A. & O 4 A. & O	71¼ 40 . 104½ . 107½	67 41¼ 107¼ 110	13,000 821,000 912,000 7,000 7,000 10,000
div., 7s. coup 1st Pa. 	. 1917	7 J. & D 7 M. & N		1131/2	11,000
L. V. R., 1stm. 68. cp """"2d m. 78, rg """2d m. 78, rg """3d m. 78, rg """3d m. 78, rg """3d m. 78, rg ""3d m. 78, rg	1899 1899 1910 1910 182 192 192 192 192 193 191 191 190 190 190 190 190 190 190	8 M. & S 8 J. & L 0 J. & L 3 M. & S 3 J. & L 0 J. & L 0 J. & L 0 J. & S 5 A. & C 5 A. & C	$\begin{array}{c} 3. 117 \\ 0. 125 \\ 1125 \\ 3. 111 \\ 0. 111 \\ 0. 102 \\ 1. 11634 \\ 1. 11634 \\ 1. 11634 \\ 1. 112 \\ 0. 112 \end{array}$	111 110¼	1,000 4,000 2,000 2,000 18,000 2,000 5,000
*P. & R. R., 1st m.6s R. C. 48-49 *P.&R.R.,gen6s,G	C 190	8 J. & .	I. 861/4	851	
" " ' deb.ex-cp " " ' deb.ex-cp " " c.m.7s,cp	180	2 J. & . 3 1 J. & I			12,135
16 11 11 ort 70 or	c 180	1 J. & 1	D		4,600
*L.Nav.Co., fs,rg.n " " RR., rg. n " " cvt. Gold H " " m Gold R. (" " con.m.7s,rg	189 189 189 191	4 M. & 7 J. & 1 1 J. & 1	S. 106 D. 105 D. 1024	10434	1,000 4,000
*P.& N.Y.C., 7s, R.O *Pa Canal, 6s *Schuyl. Nav., 6s Sus. Can. 6s, ex-ep *Sus.Coal, 6s, c †Balt.&O. RR. 6s. ************************************	189 190 191 188 188 191		J. 80½ 81 53 J. 102 J. 101		12,000 4,800 25,000

14,786 shares, opening at 731/2, and with 761/2@731/2 as the extreme prices.

In Delaware, Lackawanna & Western, the dealings have amounted to 105,389 shares, opening on Saturday at 841%, the lowest price of the week, and selling to-day at 87%, the highest.

New Jersey Central records sales of 49,698 shares at prices fluctuating between 821/2@851/8.

The Philadelphia market has also been strong and steady, prices remaining about the same. Pennsylvania RR. has sold to the extent of 39,405 shares at 53@52. In Lehigh Valley RR. stock, the sales have amounted to 2793 shares at 52%@51%.

Lehigh Navigation shows largely increased sales at better prices, the transactions being 11,641 shares at 38@36¼. The Board of Managers of this company have issued their annual report for 1879, which shows that the total receipts during the year were \$1,-183,848, and the disbursements for the same period were \$1,309,612, showing a deficit of 125,763, which, as compared with a deficit of \$355,860 for 1878 shows a net gain in the business of 1879 over 1878 of \$230.097.

The sales of Reading have amounted to 72,452 actions of the previous week, the sales amounting to shares, 61,252 of which sold on the Philadelphia

narket and 11,200 shares in New York. The prices have fluctuated between 66 and 691/2.

The total transactions in coal stocks during the week amount to 330,004 shares, including 16,053 shares of Chesapeake & Ohio at 23%@22%, 16 shares of Consolidated Coal at 30, 9675 shares of Montauk Gas and Coal at 601/2050%, 2320 shares of New Central Coal at 31@27%, and 13 shares of Pennsylvania Coal at 197.

197. Consolidation Coal Company.—The annual report of this company for 1879 shows gross receipts of \$1.614.. 945.73 and expenses of \$1.258.382.38, leaving net earnings of \$350.658.35. The debt was reduced by the sinking fund \$188.000, and is now only \$2.576.. 500. The number of tons of bituminous coal mined during the year was 483.692, against 404.015 in 1878 ; and 1,700,113 tons of coal were transported in 1879 over the company's roads, against 1.630.652 tons in 1878. The company so and against 1.630.652 tons in 1878. The company owns 8000 acres of coal lands, capable of an output of 3500 tons per day, and its railroads have been improved by the addition of 272 tons of heavy steel rails and of four large locomotives. With an increase: loutput this year, owing to the scarcity of bituminous coal in the market and higher prices, the directors styte that the company will resume its former regular dividends, sus-pended for the last two years, and which would have been resumed on the 1st of January but for the strike of the miners last October.

THE BULLION MARKET.

NEW YORK, Friday Evening, Feb. 20. The award of India Council Bills at lower rates, on Wednesday, has occasioned a corresponding decline in the price of silver.

DATE.	London	N. Y.	DATE.	London	N. Y.
DATE.	Pence.	Cents.	DATE.	Pence.	Cents.
Feb. 14 Feb. 16 Feb. 17	521/4	1131/6 1131/6 1131/6	Feb. 18 Feb. 19 Feb. 20	521/8 52 1-16 52	113¼ 113¼ 113¼

BULLION SHIPMENTS.

We give below a statement showing the latest published oullion shipments, in addition to those announced in our issue of February 14th .

issue	e of February 14th :	
Jan.		
66	mucca	4,151
	21Paradise Valley, Winne-	2,500
46	91 Fureka passing Nov 5	3,832
66	24 Ontario, 4 hars	3,143
66	24Utah	2,220
66	24. Ontario, 4 bars. Utah. 2 24. Christy, 1 bar. Utah. 2 24. Morgan, 1 car; Chicago, 2; Germania 2, and 3 bars. Utah. 10	
	Germania 2, and 3 barsUtah 10	0,080
66.	24	2,500 2,710 4,546 0,331 9,112 7,661
66	28Utah	2,710
Feb.	30Nev	1,546
reb.	2 Ophiz Nov 90	0 119
66	3Ophir 3Consolidated VirginiaNev	7 661
66		8,975
46	4Nev	2,415
65	A Nombown Pollo Nor	6,383
66	4Gria Mill	3,437
	5Corbin MillAriz	3,994
	5Chicago, 1 car; Morgan, 1;	
	Germinia, 2Utan	7,500
6.6	6 Fromo Entorprize	2,090 5,023
66		
	hars Nev 3	1.102
44	7Eureka (week ending) passing	
	 Richmond (week ending), 14 bars	3.707
66	7Eureka Consolidated (week	
	ending), bullion	0 lbs.
	7Chicago, 1 car ; Morgan, 1Utah \$	4,200
1 10	7 Utah Utah	1,181
	7	
66	7 Northann Balla Nor	2,430 9,068
66	7 Paradise Valley Nev	4,912
66	7Manhattan Mill. Austin. one	ajo zie
	 Stormont, 5 bars. Utah. 11 Germania, 2 bars. Utah. 12 Morthern Belle. Nev. 14 Paradise Valley. Nev. 14 Manhattan Mill, Austin, one week. Nev. 28 Standard. Cal. 22 Richmond. Nev. 11 Morgan, I car; Old/Telegraph, 1; Germania silver, 2 bars. Utah. 19 Ontario. 10 bars. Utah. 14 	4,100
66	8Standard 21	1,043 8,986
66	8Richmond 18	8,986
- 11	9Morgan, 1 car; Old Telegraph,	
1 46	1; Germania silver, 2 bars. Utah	6,950
1		8,918 9,600
46	0 1	1,300
64	9. Argenta. Nev. 1 9. Christy, 1 bar. Utah. 9. Horn-Silver, 3 cars. Utah. 9. Stewart, 1 bar gold. Utah. 19. Eureka passing. Nev. 10. Old Telegraph, 2 cars; Mor- gan, 1; Germania, 1; Brooks, 1. Utah.	2,187
46	9 Horn-Silver, 3 cars Utah	2,187
64	9Stewart, 1 bar goldUtah 1	1,000 2,100
66	9 Eureka passing	2,100
66	10Old Telegraph, 2 cars ; Mor-	
1	gan, 1; Germania, 1;	0.000
64	Brooks, 1Utah	8,900
- 44		5,663 3,072
66	10 Rodie (a)	3 787
66	10BodieCal 10Horn-Silver, 5 cars bullionUtah1	3,787 2,000
	10 Central City	4,400
64	10 Old Telegraph 2 cars · Chi.	
	cago, 1; Germania, 2 Utan	6,750
66		5,000
	11Untario, 6 barsUtah 11Christy, 1 barUtah 11Bullion, Paradise ValleyNev	5,742 2,187
66	11Utah	2,187
44	10 Old Tolograph 2 gars ; Chi.	2,500
	cago 1 · Germania 2 IItah '	6,750
	10 Ontonio 6 hana Iltah	5.624
64	12Eureka, passingNev	2,100
46	* 12 Oriental CityColo	5,000
66	12Paradise Valley, 2 barsNev	3,400
44	13 Horn-Silver, 3 carsUtah	7,500
66	13Utah	3,832
66	13Utan	1,400
1	Old Telegraph 3: Kesler	
1	6 : Germania 2 bars Utah 1	0.700
1	13Ontario, 4 bars Utah 13Ontario, 4 bars Utah 13Ottario, 1 car; Morgan, 1; 14Ottario, 1 car; Morgan, 1; 6; Germania, 2 barsUtah1 14Ontario, 4 barsUtah1 14Ontario, 2 barsUtah1 14Ontario, 2 barsUtah1 14Ontario, 2 barsUtah1 14Ontario, 2 barsUtah1	3,987
1	14 Commente O herre Iltah	1 450

14......Germania, 2 bars......Utah..... 1,450 Bullion Yield for 1879 of thirty-three Gold Mines an

thirty-four Silver Mines.-Of the gold mines, 26 California, 6 in Dakota, and 1 in Utah. The Bulletin "The statement is necessarily incomplete." 26 are

GOLD MINES

GOLD MINLS	
Black Bear Quartz. Bechtel Consolidated (April). Bodie Consolidated (inie months). Bulwer Consolidated (march, April, May). Caledonia (Dakota). Dardanelles (July only). Deadwood, California (July only). Deadwood, California (July only). Excelsior Water and Mining. Fresno Enterprise (five weeks). Glant & Old Abe, Dakota, (Sept. '78, to July, 79).	\$15 1 69 24 5 1 4 38 2 5
Golden Terra, Dakota	28
Gold Stripe (March) Homestake, Dakota (July, '78 to July, '79)	
Homestake, Dakota (July, '78 to July, '79)	61
Highland, Dakota (August only)	5
Keystone (June and July)	5
Klamath Quartz (four months)	9
Idaho	49
La Grange	8
Mammoth	5
Milton Mining and Water Company	46
Murchie (only four months reported)	3
North Bloomfield.	33
Noonday (April and July)	00
Oneida	2
Original Amador	ĝ
Dittahung	5
Pittsburg Plumas Eureka	54
Figure Duttes	
Sierra Buttes Standard Consolidated—\$98,500 in silver	36
Standard Consolidated—\$98,500 in silver	1,41
Stewart, Utah.	12
Syndicate (November)	1
Stewart, Sutter Creek (July only)	

Total, thirty-three gold mines......\$6,818,841

SILVER MINES.	
Alexander	\$382,700
Argenta (\$4423 gold)	85,193
Belmont	17,241
Belmont. Belle Isle (\$54,382 gold).	557,817
Christy	24: 466
Christy Columbus Consolidated (July only)	7,600
Day	4,420
Day. Eagle (January and June)	19,100
Endowment	20,848
Endowment Extra (\$36,190 gold).	162,644
Grand Prize (\$17,726 gold)	308,455
Highbridge	117,786
Hillside (\$23,700 lead)	409,199
Independence (\$12,238 gold)	253,230
Indian Queen	92,601
Kentuck	4,283
Leopard	40,064
Leeds	111,325
Manhattan	906,234
Martin White (ten months).	467,000
McMillan	42,300
Navajo	18,269
New Coso	55,664
Northern Belle	819,800
Ontario	1,353,497
Oriental Consolidated (one month)	2,200
Paradise Valley	219,172
Paradise Valley	257,019
Richmond Consolidated (estimated)	1,500,000
Silver King, Arizona.	250.000
Star	322.000
Tiger, Arizona (four months)	99,300
Tip Top, Arizona	391.867
Vulcan (November).	14,200
· wardens (and rought of the second s	17,200

Total thirty-four silver mines \$9,559,394

Of these mines, twenty-four are in Nevada, three in Cali-fornia, four in Arizona, and three in Utab. Several pro-duced only during a portion of the year. Following is the reported production of the mines named

Argenta Endowment Oneida	Endowment Oneida Northern Belle.	Endowment. Oneida. Northern Belle. Standard Consolidated.	in January :	
Oneida	Oneida Northern Belle	Oneida. Northern Belle. Standard Consolidated.	Argenta	
Uneida	Northern Belle	Northern Belle Standard Consolidated	Endowment	
	Standard Consolidated	Standard Consolidated	Uneida	***

.47

Ontario. 134.778 The Gold Hill News says: "Secretary Taylor, of the Con-solidated Virginia office; says that, hereafter, bullion ship-ments for the month will end with the month. The prac-tice of extending the monthly shipments over into the next month, for clean-ups, etc., produces many complica-tions, especially in making returns of the net proceeds of the mines to the assessors. This will be avoided in future by the plan above proposed. Totals of shipments for the month will now conclude with the last shipment in each month."

month will now conclude with the last simplices in cases month." The following White Pine mining items are from a cor-respondent of the Eureka Sentinel: "The Star mil started up on January 13th, and on January 31st had turned out 25 bars of bullion, valued at \$20,000. The Star mine is looking better, and showing more pay ore than it has for the past ix months. The 540 or lower level has, within the past two weeks, opened out nicely, showing from 4 to 5 feet of first-class ore, and its prospects for a long and profitable run are remarkably flattering. The Star mine has produced over \$1,000,000. This, for a young mine,

are in says: With only a depth of 540 feet, is a very fair showing. T Teacup has produced \$700,000, and has a shaft 700 feet, show ing a true contact vein of high-grade milli ore. The Geneva also has produced considerable bullion which shows quite a large percentage of gold." *Luscarora District, Nevada—Bullion Froduct for* 18: *Losdor The Slock Report* of February 5th publishes the follo ing :

2,500	mg:	Gold.	Silver.	Total.
3,137	Argenta	\$4,423	\$80,770	\$85,193
1,700	Belle Isle	54,382	503,435	557,817
1.000	Endowment		20,848	20,848
4.741	Grand Prize		290,729	308,455
8.000	Independence	13,238	239,992	253,230
0,000	Leopard,	1,205	38,859	40,064
5,600	Navajo	1,087	17,182	18,269

§92,061 \$1,191,815 \$1,283,876
The product of the Argenta mine is for January, May, and June. No buillion was turned out in the other months of the year. There was a value of \$5071 of Belle Isle ore crushed by the Grand Prize mill in January, but the remainder of the product was the result of the crushing in the last seven months of the year. Out of the total product of this mine for that period, stockholders received \$300,000 in dividends. The yield of the Endowment mine was made in January, March, October, and December. The independence mine prided buillion in every month of the year, except May, November, and December. The Independence mine produced nothing in January, November, and December, but yielded in all the other months, and paid \$75,000 in dividends to stockholders. The Leopard mine produced during six months of the year, mostly in the last half. The product of the Navajo mine was for November. The Argenta collected \$30,000 in assessments in 1879; Endowment, \$25,000; Grand Prize, \$125,000 : Independence, \$5,500; Leopard, \$100,000, and Navajo, \$20,000. There is now an assessment of \$30,000 pending on the Belle Isle mine, levied January 7th. There have been no assessments since January Isl on the other mines in the list. S. F. Stock Report, February,5th.
The Mantattan, held its annual meeting on the 4th \$92,061 \$1,191,815 \$1,283,876 5,300 17,000 54,000 52,800 22,500 22,500 22,535 31,037 51,40062,75837,20031,76020,5008,700 0,000 52,100 40,000 30,000 1,500 24,000 2,3002,800

January. The Manhattan held its annual meeting on the 4th instant. The buillion product of the mine for the year was over \$900,000, but the secretary reports the net profits at only \$14,575.

only \$14,575. During the first week in February, the Manhattan mill crushed 125 tons of ore, of the assay value of \$24,410. Leadville Bullion.—The Leadville Herald of February 10th publishes the following report of the operations of the Leadville smelters during the week ended February

the Leadville smelters ourned the mede ended Sunday, sth: "The shipments of bullion for the week ended Sunday, February 8th, is somewhat smaller than usual. This is ow-ing to the fact that a number of smelters have been closed down on account of the shortness of lead ores. In com-puting the value of shipments, silver is figured at 1.13%, and lead at 6 cents per pound.

	The Grant Smelting Company	\$80,713
700	La Plata Mining and Smelting Company,	39,049
193	Billing & Eilers	40.047
.241	J. B. Dickson & Co	5,150
	Little Chief	15,061
,817	Ohio & Missouri	7,846
7.600	Cummings & Finn	16,475
1,420	Eigin Mining and Smelting Company	13,766
9,100	Harrison Reduction Works	11,759
0.848	Eddy, James & Co	55,440
2.644	Total	2085 206
455		
7,786	Bullion on hand this week, 6214 bars, showing an	
9,199	of 1094 bars, or about 55 tons of bullion over t	

230

 $\begin{array}{c}
 601 \\
 ,283 \\
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 ,300 \\
 ,269 \\
 ,664 \\
 ,800 \\
 \end{array}$

,497,200,172,019,000,000,000300

Ore	Pounds. 1,232 1,740	Amount paid. \$24,722 1,105	per tor
Total paid out		\$25 897	

Total paid out ...

\$103,100.
The Miner says: "The bullion shipments from Silver Reef through Wells, Fargo & Co. for the week ending February 7th aggregated \$19,573.42. With the Barbee mill running, three more pans in the Stormont, and the Christy capacity enlarged, the rippling stream of bullion that will soon flow from the Reef will challenge the atten-tion of the world."
Father De Smet mine, Black Hills: The production

since April, 1879, is stated to have been \$421,973, at a total cost of \$129,360, leaving a net profit, at the end of Decem-ber, of \$292,613. Superintendent Gate, Durango mine, Black Hills, tele-graphs: "Have just shipped gold brick, \$4000, first run; mine looking better ; next mill-run will clean up one third better than the last one." The Eureka Sentinel says: "An average of 100 tons of ore is now shipped from the K. K. to the Richmond fur-naces to-day. "The California mine produced 1044 tons of ore, and the Consolidated Virginia mine, 1251 tons during the week ended January 31st."

For the last quarter of 1879, the bullion-producing mines of Storey County reported to the assessor as follows : Mines. Value, Bullion, Bullion,

alifornia	11,240	\$35	\$385,025
onsolidated Virginia	14.498	38	548,675
onsolidated Imperial		13	37,450
Ionte Cristo	478	11	5,258
ustice	1.188	12	14,830
phir	4.380	56	245,163
Inion Consolidated	5,201	52	277,283
Totals	37.866	\$40	\$1.513.684

ore the coming quarter will not be so great as it was last quarter. This will, of course, decrease the bullion pro-duct." The report of the net proceeds of the Comstock mining tax for the quarter ending December 31st, 1879, as pub-lished in these columns yesterday, shows the total to be \$22,048.79; tailings, \$3(2,07; total, \$22,351.06. For the quarter ending September 30th, the mines paid taxes amounting to \$13,266.04, and the tailing mills paid \$1341.08; total, \$14,607.12. Excess of the December quar-ter over that of September, \$7738.94, being an increase of over 50 per cent on the whole amount, and over 66 per cent. on the yield of the mines. The Star mill, at Cherry Creek, Nev., near Eureka, started up on the 13th of January, and on the 31st had turned out twenty-five bars of bullion, valued at \$20,000. The following is the net yield of the mines of Lincoln County, Nev., for the quarter ending December 31st, 1879; Alps mine, \$174.46; Day, \$4777.20; Hillside, \$587.786; Kennebec, \$69.12; Midnight, \$272.06; Mendha, \$12.17; National, \$159.90; Raymond & Ely, \$6464.72; Meadow Valley, \$53.74; Southwestern, \$716.14; Great Unknown, \$1601.80. Constock Tailings Worked during 1879.—The Lyon Mill worked 5475 tons of tailings; value per ton, \$2.92; gross yield or value, \$16,009.29. The French mill worked 560 tons of tailings; value per ton, \$7.74; gross yield or value, \$10,957.38. The French mill worked 1600 tons of tailings; value per ton, \$7.74; gross yield or value, \$12,309.23. The total number of tons of tailings worked was 7535, the gross value of which was \$33,301.90. The total cost of extracting same was \$28,659.72. Lyon County produced as follows: Total number of tons of tailings worked, 7535, the gross value of which was \$36,391.90. The total cost of extracting the same was \$28,639.72. The not total cost of extracting the same was \$28,639.72. The not yield or value on which taxes were levied was \$11,901.80; total amount of tax, \$279.69. The Salt Lake Ore Market,—The Graphic's correspond-ent under date of Febr

The number of the gross value of which was \$36,30,9.72. The net yield or value on which taxes were be to all oss of extracting the same was \$25,630,72. The net yield or value on which taxes were be to all oss of extracting the same was \$25,630,72. The net yield or value on which tax \$270.00.
The salt Lake Ore Market.—The Graphic's correspondent under date of February 9th, says: To are solved was \$11,901.80; total anount of tax, \$270.00.
The salt Lake Ore Market.—The Graphic's correspondent under date of February 9th, says: 7 cars of Mingo bullion, to Pittsburg; 3 cars Horn-Silver (Frisco) bullion, to Pittsburg; 2 cars Horn-Silver (Frisco) bullion, to Omaha; 3 ears Morgan bullion, to Pittsburg; 2 cars Morgan bullion, and the says of the provide the same was specified and the same was the same bullion, to Pittsburg; 3 cars Morgan has made the same of the property of the same was the same of the same was same of the same was same was the same was the same was same

Silver for Coinage.-WASHINGTON, Feb. 19.-The Treas-

FEB. 21, 1880.]

ury Department to-day purchased 494,000 ounces of silver for delivery at the New Orleans. Philadelphia, and San Francisco minis. It is understood that only a small por-tion of the amount purchased was for the San Francisco mint. Owing to the difficulty experienced by the depart-ment in getting silver for the Western mints at market rates, it is expected that by far the greater portion of the standard silver dollar coinage in the future will be exe-cuted at the Philadelphia and New Orleans mints. The cCarson mint has not been coining for some months, for the reason that the department has not been able to purchase bullion for delivery at that point.

METALS.

NEW YORK, Friday Evening, Feb. 20. The metal market has been very quiet, but prices have been well maintained.

Copper.-There has been but little business. During yesterday and a portion of to-day, the price was somewhat weak, but at the close, considerable strength was shown, the quotation being 24@24¼c.

London advices of February 4th say :

London advices of February 4th say : "Early in the morning, sales of Chill Bars were reported to have been made at ξ 70 cash, and which figure was also said to have been accepted for G. O. B.'s late yesterday evening. At this price the demand was very strong, and nothing was to be obtained thereat in the open market, so that advanced rates were soon offered, without inducing sellers to come forward very freely. A moderate quantity of metal changed hands at ξ 70k the 270k was paid, and we finally closed at ξ 71, and rather buyers thereat. Forward metal went from ξ 70k to ξ 72k, the highest price being given, at the close, for a small quantity, with only two months' prompt. We now call G. O. Be, ξ 71k/2072. The transactions of the day we estimate at from 500 to 700 tons."

Tin .- The shipments of tin to this country from the Straits for the first half of February amounted to 850 by steam and 50 tons by sail The London quotation of Straits is £94 10s.; at Singapore, \$31.25; at Penang, \$30.62½, with exchange at 3s. 10%d. Our market has been very quiet. We quote Straits at 231/4c.; L. & F., 22% c.; Refined, 23c.; and Australian, 231/sc. London advices of February 4th say :

"Tin has also taken an upward turn, the parties who brought about the fall having now turned round as buyers, taking every thing they could get up to 951/28, cash. We close with a strong market; sellers scarce at even 96s, Sales amount to about 150 tons."

STATISTICS OF FOREIGN TIN-LONDON AND HOLLAND Jan, 1 to 31. Imports. Deliveries. Tons. 1,334-London. 282) 206 - Holland. 1.822 641 2,463 Total..... 2,932 Stocks IS. Jan. 1, Tons. 7,925—London. Jan. 31 1,523 1,908 Holland. 200 Total......12,025 11.556

*These figures are a mere estimate, as 600 tons have just been sent to London, which were not included in the published stock.

Approximate quantity afloat { Australian Straits Billiton*	2,400 70 1,600	2,490 275 1,700
Total Australian and Straits		15,031 £92
January 1st to 31st. 1880.	1879.	1878.
Sales of Banca by Trading Co 624	609	566
Imports, Billiton		
" Straits	632	355
from Holland) 1,321	484	467
Total brought to market 2,291	2,015	1,702
Actual deliveries of foreign 1,822 In transit, Straits and Australian 641	1,397 147	$1,516 \\ 433$

* About two thirds are understood to be for American account

Tin Plates.-These have been very quiet. We quote, per box, as follows : Charcoal tins, third cross, Melyn grade, at \$9.75; Allaway grade, \$9.621/2; Charcoal ternes, Dean grade, \$9.25, and Allaway grade, \$9; Coke tins, B. V. grade, \$8.371/2@\$8.50; and ternes, \$8.50@\$8.621/2.

Messrs. Robert Crooks & Co., of Liverpool, under date of February 5th, say :

"Considerable strength has been given to this market, already rapidly rushed up by unprecedentedly quick and large advances in hematile and tin, by large purchases at extreme rates for consuming countries who have for some time been holding back. At date there is just a shade more quietness, though makers are almost without excep-tion full; second-hand parcels are offering rather more freedy." freely

Lead .- There has been no business in this article worthy of note. We quote at 5.95@6c.

The receipts of lead at St. Louis, by the St. Louis & at £8 15s.@£9 5s."

San Francisco RR. for the week ending February 7th were 172 tons, making a total of 1162 tons since January 1st.

The San Francisco Commercial Herald of February 12th savs :

"The ship Castine for New York carried 623,676 lbs, pig-lead; the City of New York, via Panama, carried 960 bars New Coso Bullion (80,000 lbs.), valued at \$14,000; 30 bars O. S. & L. Co. (2652 lbs.), valued at \$300; 2374 bars Rich-mond lead (330,000 lbs.), valued at \$21,450; 534 bars tiermania lead (43,100 lbs.), valued at \$2000."

Spelter and Zinc.-These have been very quiet in this market. We quote the former at 6%c. and the latter at 8@81/8c.

Antimony,-This is quiet. We quote Cookson's at 23c. ; Hallett's, 20@201/c. ; Johnson & Mathys's 20c.

Quicksilver.-The San Francisco Commercial Herald of February 12th says :

Quicksilver.—The San Francisco Commercial Herald of February 12th says: "The last steamer for China carried but 100 flasks, within the past few days, a New York demand has sprung up, resulting in the reported sales in lots of about 1000 flasks for New York within the range of 384/@39c, closing price, 40c. The Oregonian has this to say about the pro-duction of mercury in Oregon: "Mr. F. G. Andrews has just returned from a two weeks' visit to the New Idrian quick-silver mines, which are situated near Oakland, Oregon. Mr. Andrews states, that he examined the mine, veins, tunnels, shafts, and ore quite thoroughly, also the build-ings, retort, and condensers just finished ; and says, as to the quantity of cinnabar ore, that it is simply immense, and, as to its richness or value, it ranges from 3 per cent, lowest grade, to 40 per cent in quicksilver. Says he oper cent. Says that just before he left, the men, in sinking the shaft, cut through a vein of ore 12 feet in width, which, by actual assay, averages 40 per cent. Says that Dr. B. F. Chase, of San Jose, has just fin-ished a retort which will be ready for retorting and con-densing as soon as the massive walls of the furnace may be sufficiently heated up. Improvements made are all, he says, of a necessary character, and consist of retort and condensers, buildings, tunnel 380 feet in, on ore-vein, shafts, and cross-cuts, with at least 6100 tons of cinnabar ore out and ready for retorting. Cinnabar ore that will yield, on an average, 3 per cent, is known to be very rich, and will pay on the present value of the stock over 200 per cent. Of course, ore averaging 7 or 8 per cent. Will pay and see for himself, and he will soon find the above falls short of the actual facts ; that he can be seen at the Occi dental Hotel by any one. We are also requested to say that Mr. James Tatom is the superintendent and is putting matters through in a business-like manner."

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Feb. 20. American Pig.-The market is somewhat weaker. but only in speculative quarters. The furnaces are so well sold ahead that they show no anxiety to sell. The outlook for a large business upon the opening of navigation is very encouraging. We quote No. 1 Foundry at \$40 ; No. 2 Foundry, \$38@\$39, and Forge at \$37@ \$38.

Scotch Pig.-The arrivals have been about 6000 tons, most of which is going into store. The demand is small. Prices in Scotland are about the same as a week ago, the latest quotations being as follows Gartsherrie, 80s. ; Coltness, 84s.; Glengarnock, 81s.; and Eglinton, 75s. There are some brokers who are reported to be offering this iron at less than it can be imported for. Freights show no indications of weakening. We quote Coltness at \$33.50; Eglinton, \$31; Glengarnock, \$32; and Summerlee, \$32.50.

Messrs. John E. Swan & Co., of Glasgow, under date of January 30th, 1880, report 108 furnaces, against 87 at the same time last year. The quantity of iron in Connal & Co.'s stores was 435,403 tons, an increase of 4119 tons for the week. The shipments show an increase of 11,858 tons since Christmas, as compared with the shipments to the same date last year. The imports of Middlesbrough pig-iron for the same period show an increase of 9982 tons. The following are the quotations of the leading brands of No. 1 pig-iron : Gartsherrie, 81s.; Coltness, 83s.; Langloan, 81s.; Summerlee, 85s.; Carnbroe, 82s. 6d.; Glengarnock, 81s.; Eglinton, 75s. Middlesbrough pig-iron was quoted as follows, f. o. b. Tees : No. 1 Foundry, 67s. 6d.; No. 2, 64s. 6d.; No. 3, 62s. 6d.; No. 4, 62s. 6d.; No. 4 Forge, 63s. 6d.

Rails.-We only note a sale of 1000 tons of domestic steel rails on private terms. We quote American at \$85. Foreign are quoted at £9 5s., c. f. i., equal to about \$77 here. Iron rails are without transactions. Messrs. John H. Austin & Co., of London, under date of February 5th, say: "Steel and iron rails are firm at our quotations ; but buyers, as a rule, do not come forward with any freedom, hoping, doubtless, that prices will ease a little, but of which there are no signs at present. We quote steel rails at $\pounds 10@\pounds 11$, and iron

Old Rails.-Without business, we quote T's at \$42@\$43, and D. H.'s at \$43.50@\$44.

Wrought Scrap.-This article is quoted at 135s., c. f. i., in England. Here, we quote at \$45, from vard, and \$42@\$43, from ship.

We publish the following letters from our regular correspondents :

"BALTIMORE, Feb. 16. "We have no change to report in the iron market. With fair demand.

"R. C. HOFFMAN & CO.

"Louisville, Feb. 17 "The market continues quiet and shows a temporary of cline on some lots held by parties desirous of realizing. de-

"GEO. H. HULL & CO."

"RICHMOND, Feb. 17. "There has been considerably more activity the past week, and the tone of the market strengthened. "ASA SNYDER."

"Asa SNYDER." "Sr. LOUIS, Feb. 14. "The pig-iron market shows more signs of activity than for the past few weeks, at prices as quoted last week. "Holdeners remain firm in their views, and when the spring trade opens, say in March, or as soon as country roads get into reasonable order to move things, they will realize their expectations, as business will be more active than for years past.

THE COAL TRADE REVIEW.

NEW YORK, Friday Evening, Feb. 20.

There has been quite a "boom" in the anthracite trade during the past week, as foreshadowed by us a week ago. The companies have resolved to suspend operations during the last three days of each week until April 1st. It is thought that this will put the market into a shape to take care of itself. Prices have advanced to a point very close to circular rates, in some cases as much as 75c. per ton. The outlook for a very large demand after April is very encouraging, while, should the miners in the several bituminous districts strike on Monday, as is now indicated, there would be a considerable increase in the demand for anthracite coal. The strike in the Connellsville coke district is said to have already largely increased the demand for anthracite coal from the West. This strike has also caused some of the blast-furnaces dependent on coke for fuel to bank up, and has created an increased demand for anthracite pig-iron.

With the exception of the following circulars there has been no official change in prices. The Pennsylvania Coal Co., under date of February 16th, issues the following circular :

"Present prices for fresh-mined Pittston coal, for im-mediate delivery at Erie coal docks, Weehawken; subject to the usual conditions of sale and shipment. "The company reserves the right to advance upon these prices at any time, except upon orders entered prior to such advan :e, and orders sent in will not bind the company until accepted.

																									iverea
																									above.
Lump, pe	r ton of	2240	lbs	ŝ																					\$3.55
Steamer.	66	6.5																							
Grate,	66	6.6																							3.45
Egg.	*6	64				2						 	2								2				3.50
Stove.	66	66																		2	2				3,95
No. 1 Che	stnut	66																							3.80
" Forty	cents	per t	on	a	d	li	it	ic)1	18	1	f	0	r	4	1	el	i	V	e	m	7	8	ŧt	New
Works 22																									

The Philadelphia & Reading Coal and Iron Company has equalized its prices with those of the companies shipping to the market, and has issued circulars as follows

"Until further notice, the following will be the prices for this company's coals, delivered on board vessels at Elizabethport, N. J., subject to our printed conditions of

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	Stean	1-				
Lump		B'k'n				
ard white-ash4.00 ree-burning white-	4.00	3.60	3.60	4.00	3.85	2.50
ash orth Franklin		3.40	3.45	4.00	3.85	2.50
white-ash					3.85	2.50
chuylkill red-ash						
hamokin hamokin, red-ash		••••	3.60	4.00	8,85	
(Fales)			3.75	4.25	3.85	
orberry ykens Valley			4.50	4.50	4:00	
(Brookside)		5.25	5.25	5.25	4.25	
"Until further notice, bals delivered on board elphia, for shipment to elaware, subject to out	t vess	els at s bey	Port i	Richm he Ca	pes of	Phila-
1	Steam	-				
Lump.	S	8	S	8	8	8
ard white-ash3.75 ree-burning white-						
ash orth Franklin						
white.ach		3 05	2.95	3.65	3 50	9.95

lard white-ash3.75	3.75	3.25	3.25	3.65	3.50	2.25	
'ree-burning white-							
ash		3.05	3.10	3,65	3.50	2.25	
orth Franklin							
white-ash		3.05	3.25	3.65	3.50	2.25	
chuylkill red-ash			3,40	3.85	3.50	2.25	
hamokin							
hamokin, red-ash							
(Fales)			3.40	3.85	3.50		
(Fales)		4.00	4.00	4.00	3.60		
vkens Valley						1	
(Brookside)		4.75	4.75	4.75	4.25		
"The company reserve							

time, except on orders entered prior to such change, and orders sent in will not bind the company until accepted."

The production of anthracite coal last week was 375,172 tons, as compared with 301,712 tons for the previous week and 380,801 tons the corresponding week of 1879. The total output from January 1st to February 14th was 2,357,012 tons, as against 2,201,274 tons for the like period of last year, showing an increase this year of 155,739 tons.

Bituminous.

This coal has been quiet, yet the almost certainty of a strike, both in the Cumberland and Clearfield districts, next week has caused some of the companies to advance prices, and those actually in want of the coal have paid the advances. The miners are very foolishly making exorbitant demands of the companies in these districts, and although they will probably be met with opposition, yet in the end they will probably receive a compromise advance.

Messrs. Reno & Little, under date of Chicago, February 18th, say :

"The prices are much lower and irregular for all kinds of coal. The stocks are ample, and trade is very quiet. There is universal disappointment felt by the dealers over the season's business—low prices and restricted demand. Too much warm weather this winter."

Messrs. Robert C. Adams & Co., under date of

Montreal, February 14th, say: "The amount of coal imported into Montreal, from al sources during the year 1879, was 305,819 tons. "The prices of coal in our local market remain un-

sources during the year 1879, was 305,819 tons. "The prices of coal in our local market remain un-changed. "The Grand Trunk Railway has contracted as follows: 40,000 tons Albion Mines and 15,000 tons Vale Mines coal. from Picton. N. S., at Montreal for a little under \$3.60 per ton of 2240 lbs. It also takes 20,000 tons of *z* libion coal at Portland, at the same price as last year, and is negotiat-ing for 7600 tons more coal at that point ; 100,000 tons have been bought for delivery at International Bridge, the price being 20 cents over that of last year. This supply is divided between two mines at Dalguscahontas and the Reyn disville region. The railroads have reduced their rates to a point at which sailing vessels can not compete, and all the supplies for G. T. R. this year will come by rail, thus stopping the usual sales from Cleveland, shipped by vessels to To onto and other ports. Contracts for 30.000 tons at Detroit Junction, Sarnia, etc., will be awarded in a end the firm of Bell, Lewis & Co., Buffalo, N. Y." San FRANCISCO, CAL, Feb. 12.

SAN FRANCISCO, CAL., Feb. 12. Coat.—Supplies continue liberal, causing low prices to rule. Quotations elsewhere. Arrivals for the week include schooners Norway and Laura May from Coos Bay with 305

and 300 tons respectively. The ship Shirley brought 1515 tons Wellington. Ship Jas. Nesmith from New York 'ad 529 tons. The bark California has 1305 tons Wellington, the schooner Aurora 280 tons, and the Arcata 350 tons Coos Bay. The ship Hylton Castle has 1640 tons of Wel-lington, and the Victoria 1600 tons Nanaimo.—*Commercial Herald*. Cumb railro corre Fairl

STATISTICS OF COAL PRODUCTION.

This is the only Report published that gives full and ac curate returns of the production of our Anthracite mines. Comparative statement for the week ending Feb. 14th, nd years from January 1st :

-	18	80.	18	79.
TONS OF 2240 LBS.	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co	66,525	428,636	51,579	321,564
D. L. & W. RR. Co.	68,403	407,271	61,211	374,439
Penn. Coal Co	10,845	62,906	20,075	118,494
L. V. RR. Co	27,191	140,008	10,219	86,813
P. & N. Y. RR. Co		1,247	1,037	3,822
C. RR. of N. J	11,996	160,858	41,263	149,308
	184,960	1,200,926	185,384	1,054,440
Lehigh Region. L. V. RR. Co	51,555	315,197	38,093	235.111
C. RR. of N. J	37,116	206,936	37,070	195,140
S. H. & W. B. RR.		1,946	472	3.390
D. 11. 00 W. D. Acto.				
01. IL III. D	88,671	524,079	75,635	433,641
Schuylkill Region. P. & R. RR. Co Shamokin & Ly-	91,171	571,343	107,588	663,953
kens Val	9,068	56,007	10,826	41,516
	100,239	627,350	118,414	705,469
Sullivan Region. St Line&Sul.RR.Co.	1,302	4,657	1,368	7,724
Total	375,172	2,357,012	380,801	2,201,274
Increase Decrease	5,629	155,738		
Total same time in	1875		97	3,345 tons
** ** **	1876		1,42	4,415 "
66 66 66 66	1877		1,74	6,280 "
65 66 65 66	1878		1,56	7,596 "
46 46 46 66	1879		2,20	1,274 "
66 66 66 66 66 66 66 66 65 66 66 66	1876 1877 1878 1879 1879 oes not in he mines	clude the a	1,42 1,74 1,56 2,20 2,20	4,415 6,280 7,596 1,274 f coal co

Receipts and Shipments of Coal at Chicago, Ill., for the week ending Feb. 14th, and year from January 1st: Week.

Year. Tons. 2:44,800 93,566 Receipts..... 38,480 Shipments..... 11,142

The increase in shipments of Cumberland Coal over the

ads amounts to 101,602 to esponding period in 1879.	115, 65 000	uparou w	IUM CIAC
haven Business : al on hand Feb. 7th ceipts			1,731
pments hand Feb. 14th			29,84
lvidere Delaware Railroad years ending Feb. 14th :	l Report	for the	week
	1	Year.	Year.

Coa Rec Shi On

Bel

	Week.	1880.	1879.
Coal for shipment at Coal Port (Trenton) Coal for shipment at South Amboy			
Coal for distribution	9,952	53,305	38,534
Coal for Company's use	1,563	12,843	11,228
The Production of Bitur week ending Feb. 14th was as follo		Coal	for the
Tons of 2000 lbs., unless otherwise		ated.	Year.
Chumbouland Donion Md			Tons.
Cumberland Region, Md. Fons of 2240 lb	05.0	41	
Barclay Region, Pa.		41	198,446
Barclay RR., tons of 2,240 lbs Broad Top Region, Pa.	8,2	262	53,508
Huntingdon & Broad Top RR	2.3	83	24,195
*East Broad Top Clearfield Region, Pa.	4	16	4,415
*Snow Shoe	8	86	7,083
*Tyrone and Clearfield		509	196,222
*Pennsylvania RR. Pittsburg Region, Pa.	3,0	09	26,128
*West Penn RR	2.2	68	15,278
*Southwest Penn. RR. *Penn & Westmoreland gas coal,	6	28	6,344
RR	14 7	51	90.112
*Pennsylvania RR	27	52	36,257
*For the three days ending Jan.	31st.		
The Production of Coke f	or the th	ree day	s ending
Tons of 2000 lbs.	We	ek	Year.
Penn. R R. (Alleghany Region)			5,595
West Penn RR		950	8,274
Southwest Penn. RR	10	132	68,392
Penn. & Westmoreland Region, Pa.	RR 1:	178	10,699
Pittsburg, Penn. RR			73,551

OFFICE OF THE CARIBOU CONSOLIDATED V MI 'ING COMPANY, No. 31 Broad street, New York, Feb. 16, 1880.

26.351

166.511

DIVIDEND NO. 6.

Total

The Board of Directors of this company have this day declared a dividend of one per cent on its capital stock of \$1,000.000. The transfer-books will be closed at 3 p.M., on the 20th, and the dividend will be payable at the office of the company on and after the 25th inst. JOHN T. GRAHAM, Constant and Treasurer

Secretary and Treasurer.

LEADVILLE, COLO., Feb. 6, 1880.

THE

UNKIN SILVER MINING COMPY

The Dunkin already shows great value, and its dividend-paying capacity is fully assured, while its location, adjoining the Robert E. Lee, the Little Pittsburg, New Discovery, Climax, Little Chief, and Chrysolite, places its prospective value second to none on Fryer Hill.

HENRY H. STOTESBURY, Esq., President, Dunkin Silver Mining Company :

SIR: In accordance with your desire, we have examined the property of the Dunkin Silver Mining Company, and respectfully submit the following report :

following report: At the present time, the main working shaft, known as No. 2, is located about four hundred feet from the south "end line," and is near the center of the mine between the "side lines." This shaft is now 160 feet deep. One hundred and ten feet from the surface, levels are run in an easterly, westerly, and southerly direction. From the west level, eighty-five feet from the shaft, is a drift south ninety-seven feet in length, terminating in a rich body of ore, measuring twenty-one feet in length, and averaging four feet in thickness. This ore deposit is easterly, and will be intercepted by a drift from a lower level. Thirteen tons of ore taken from this deposit produced two hundred and ninety-five ounces of silver and fifty-six per cent lead per ton, the value thereof being thirty-five hundred and fifty-seven dollars. Judging from the developments in the "Climax Mine," along the western boundary of the Dunkin Mine, we confidently expect that

large bodies of ore will be found in the Dunkin. In a drift south of the main level (nearly opposite the shaft), we find a large quantity of iron carbonate and sand chloride ore of a fair grade. In the easterly part of the mine (near the "Matchless Mine"), a large body of rich sand carbonates has been mined, and there is yet a good supply remaining. Twenty-five feet below the "main level" is a "second level," the eastern end of which is near a deposit possessing the same characteristics as

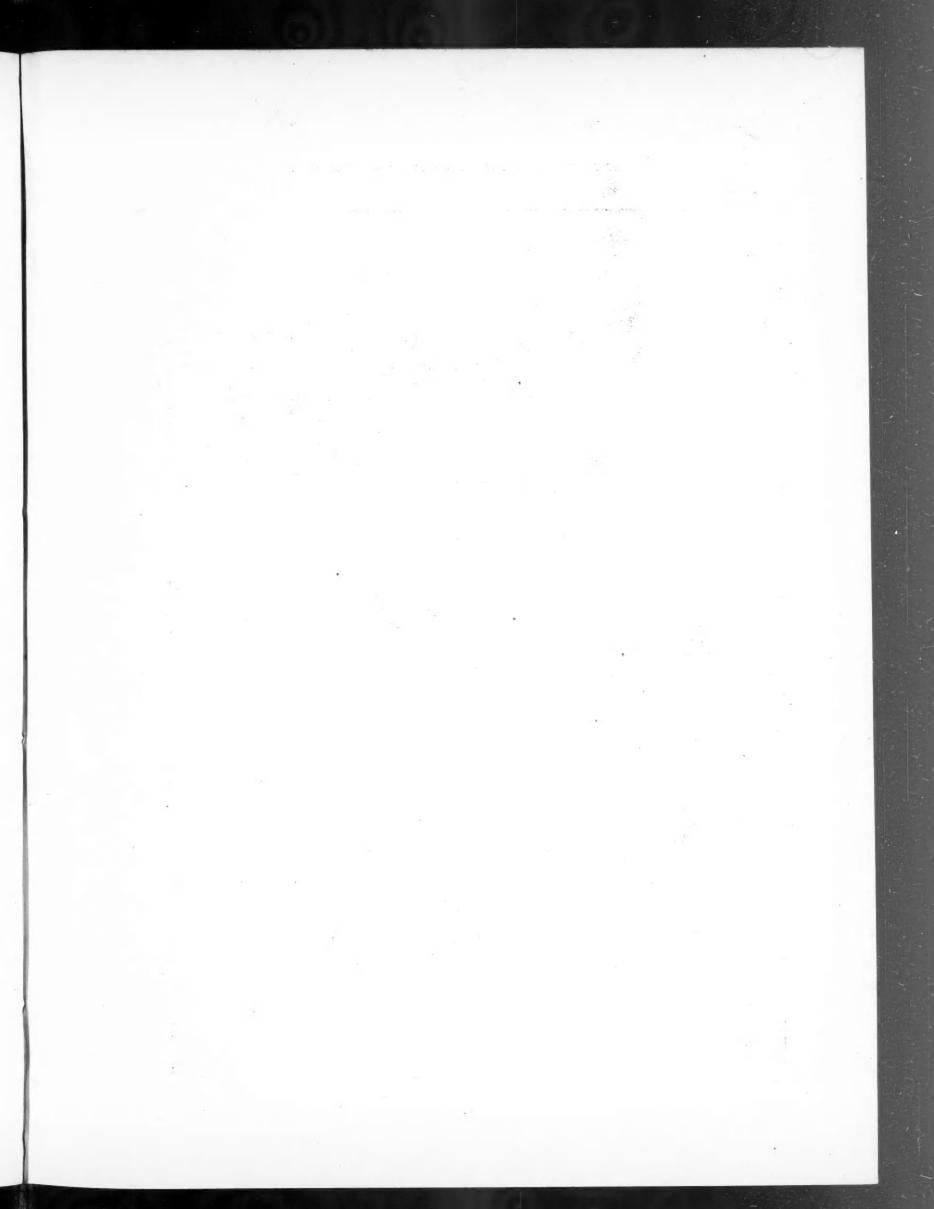
Twenty-five feet below the "main level" is a "second level," the eastern end of which is near a deposit possessing the same characteristics as the one last described. From the west level, a drift is being pushed south, in order to strike the rich body of ore which we describe as dipping easterly from the upper level. Near the shaft is a deposit of chlorides assaying largely. Over this shaft is a good hoisting engine, covered with a building for assorting ores, etc. About 200 feet north of this shaft, on the northerly declivity of **Fryer Hill**, is a shaft 4×8 in the clear, and 170 feet in depth. A level south is projected with a view of connecting with the shaft and workings heretofore described. When this new level is finished, this shaft will be the main working shaft. At the present time, this level is 108 feet in length near the face, and in the roof of this level is a body of high-grade mineral (argentiferous galena), samples of which assay from 182 to 697 ounces silver per ton and 52 to 70 per cent lead. It is not improbable that this ore-body is connected with that described as existing south of the main level west. The new engine is already provided with a good ore and engine house. About 200 feet from the south "end line" is a shaft which has been sunk with the expectation of striking the ore-deposit which exists in the **"Robert E. Lee" Mine.** On examination of the smelter receipts, we find that the gross product from the **Dunkin Mine** during the month of December was twenty-five ethousand five hundred and ninety-five dollars and sixty-one cents (\$23,595.61), and for January, twenty-five thousand one hundred and twenty-five dollars and sixty-one cents (\$23,595.61), and for January, twenty-five thousand one hundred and twenty-five one dollars and ten cents (\$25,121.10.)

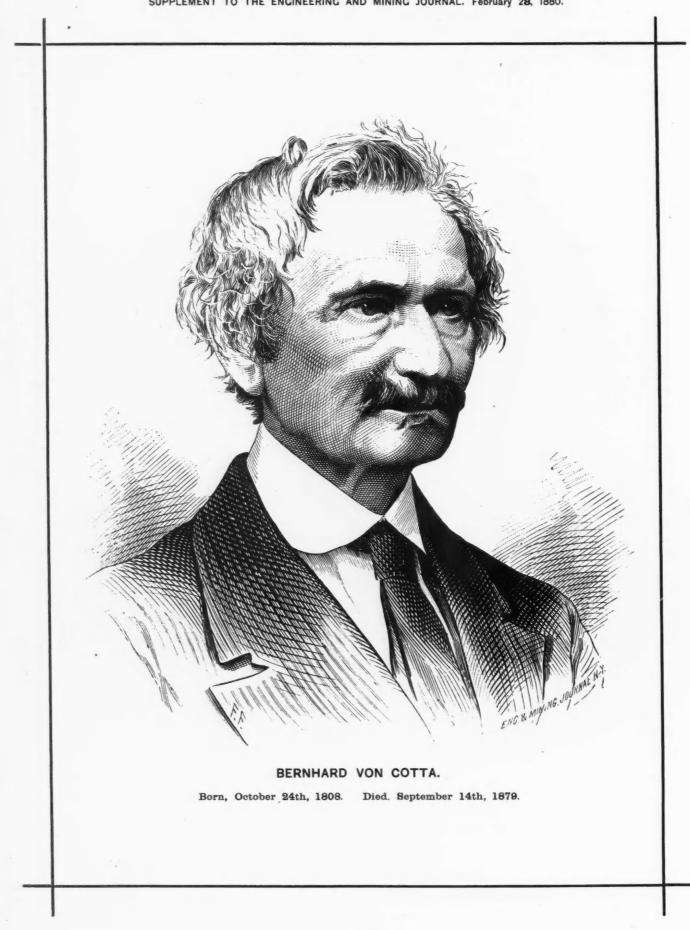
The work, under the management of Superintendent Charles L. Hill, an experienced miner, has been done in a very thorough and satisfactory Very respectfully, yours, etc., manner.

(Signed)

JOHN T. ELKINS, Superintendent Aimee Mine.

MILO CASE, Superintendent R. E. Lee Mine. LEWIS N. TAPPAN, General Manager of the Fryer Hill Mining Co. HENRY STOCKETT, Superintendent Climax Mining Co.





SUPPLEMENT TO THE ENCINEERING AND MINING JOURNAL. February 28, 1880.