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RICHARD P. ROTHWELL, C.E., M.E., } Editors.
ROSSITER W. RAYMOND, Ph.D., }

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AFTER two years' efforts, the fire in the Stanton shaft has been extinguished. The colliery will be put in working order as rapidly as possible.

A DISPATCH from Philadelphia says that Mr. B. K. JAMISON, representing a syndicate, has purchased the Fairmount coal property, located near Red Bank, on the low-grade division of the Alleghany Valley Railroad. The syndicate has formed a company under the title of the Fairmount Coal and Iron Company, and parties in Germany are said to be interested in the enterprise.

THE combination of the iron companies of Missouri, so long talked of, was concluded on the 18th. The Iron Mountain Company, the Pilot Knob Iron Company, the Grand Tower Manufacturing Company, the Vulcan Iron and Steel Company, the Chouteau, Harrison & Valle and Jupiter Furnace Company, were consolidated into the Missouri Iron Company, with a capital of \$10,000,000. The new company will control ninety per cent of the iron product of the State, and three fourths of the manufacturing.

AMERICAN MINES IN ENGLAND.

It would be a pure waste of the precious material to bestow any sympathy on the English investors who lose their money in mines; for of all the large class of idiotic capitalists, the "Britisher" shows the least symptom of intelligence. The English public rarely gets an opportunity to invest in mines at a fair price; for the promoters who supply them with that class of investment do not want mines that are sold on real value as attested by competent and honest experts, and by dividends and ore in sight; but they will take either pure "wild-cats" or prospects which they can buy cheap and sell

at a large price on the unblushing, unfounded statements of any conscienceless vendor; or if they buy a good mine, it must be from some one who is willing to associate himself in their schemes to swindle the public by selling the mine at many times what it is worth, dividing an enormous sum among the confederates. This is what the English "promoter" calls an enterprise with "a good pull" in it. Slang? Certainly; for though our cousins of the little island are in the habit of ridiculing Americans for their use of slang, they do so in the choicest of that idiom themselves.

It is, unfortunately, true that there is an immense amount of dishonesty brought to light—not engendered—in mining transactions in this country, as the frequent denunciations and exposures in the pages of the ENGINEERING AND MINING JOURNAL demonstrate; but those who are familiar with the manner in which mining companies are sold in London are unanimous in the opinion that there is far more dishonesty in the floating of mines in England and in the management of mines under English control than there is in this country. Indeed, the dishonesty as well as the incompetency of English mine management has come to be proverbial, and no American would continue to hold any large amount of stock in a company after it passed under English control. As a matter of course, when the Britisher loses his money, so idiotically invested, in American mines, he cries out against the dishonesty of Americans, though in reality he has been defrauded by his own countrymen.

In the Emma, the Flagstaff, the Terrible, and a number of other familiar cases, the swindle was perpetrated chiefly by Englishmen, aided in some cases by an English superintendent and by one or two notorious Americans, whose well-known dishonesty and disreputable antecedents were not considered any obstacle to a business association by fastidious, "honorable" Englishmen—as they would generally be to plain Americans—when they came with an enterprise that had "a big pull in it."

No; sympathy with the English investors in mines would be a waste of the raw material; but we have the interest of legitimate mining and the fair name of Americans at heart, and in this cause we raise our voice whenever we see any possibility of promoting or defending it.

There are a number of American mines now on the London market which are being floated in the usual English manner, and which will almost inevitably result in the usual disastrous failure.

The Gold Hill Mines Company (Limited), advertised in the London Mining Journal, April 30th, 1881, has been organized with a capital of \$140,000, to work the Gold Hill mines, in North Carolina.

This property certainly possesses value; it has been worked to a depth of six or seven hundred feet, and produced a considerable (though for some years before the mines were abandoned a steadily diminishing) amount of gold. The mines are now, and have been for years, drowned out, and expensive pumping machinery must be erected and months elapse before it will be possible to examine them and know what their value is.

The English company is to pay £90,000 = \$450,000 for the property, which was offered us here in New York a few months ago at \$80,000 or £16,000, and we believe this figure included a small commission. Where has the difference between £16,000 and £90,000 gone to? The English promoters have certainly had "a big pull" here; and now, when the disappointed stockholders realize the fact that they have been paying four times what the property was worth, and could be (and probably was) bought at, we hope they will blame their countrymen, and not Americans, or the mine, for their losses.

The Michipicoten Native Copper Company has been organized in London, with a capital of £100,000, of which £50,000 is given for the property. It is only necessary to say that as a mining property this is wholly undeveloped and unproven; and if it resembles the majority of the mines now being worked (thanks to the high duty imposed on imported copper) on the American side nearest to Michipicoten, it will be a great disappointment to the stockholders of the company. A few months ago, this property was offered at a very small part of the price paid by the English investors. No doubt the "pull" pocketed by the English investors was a liberal one, and the Canadian vendors can no more be blamed for the anticipated disappointment than they should have been in the "Canada Pyrites Company," in which the canny Scotchmen plundered their friends.

It would be easy to go over the list of perhaps a dozen American mines floated in London within a year, and in almost every instance the stockholders paid from four to ten times the price asked for the same property here before it was taken to London; while some of the property is well known to be practically worthless.

We see it announced that the "Standard" mine of Bodie, California, is being sold in London at the price of \$5,000,000, or \$50 a share. As the stock has been selling here of late at \$23 a share, or less than half the price to be paid by the English, there seems nothing incredible in the report.

The Standard has been a magnificent mine, but we have several times called attention to the regularly decreasing richness of its ore, which has declined, from an average of about \$65 a ton, to an average, for the past year, of about \$30 or \$33 per ton; in other words, the rich part of the mine appears to be on the point of exhaustion, and the English company will, in

all probability, get the poor ore and renew the experience of the Emma, the French experience of Old Telegraph, and numerous other enterprises in which our foreign friends were "stuck" by their own countrymen.

Several of these mines are being floated on their past reputation, and of all the foolish investments that on the record of the gold and silver that has been mined and taken away is perhaps the most silly. However, men like being humbugged and cheated, and there is the most magnificent yearly harvest of fools of this kind in England that probably exists on the face of the globe, while there are not wanting among their own countrymen those, some even of high social standing, who are ready and willing to reap.

STATEMENT OF ANTHRACITE COAL TONNAGE FOR MONTH OF JUNE, 1881, COMPARED WITH SAME PERIOD LAST YEAR.

Mr. JOHN H. JONES, accountant for all the several coal companies, furnishes the following statement of anthracite coal tonnage for the month of June, 1881, compared with the same period last year :

	June, 1881.	June, 1880.	Differences Increase.	For Year 1881.	For Year 1880.	Differences Increase.
Reading Railroad....	586,012	481,599	104,413	2,925,086	2,632,230	292,855
Lehigh Valley RR....	484,404	359,260	125,143	2,498,403	1,920,901	577,502
Central RR. N. J.....	360,040	270,832	89,207	1,831,409	1,514,225	317,184
Del., Lack. & West...	368,352	269,195	99,157	1,948,848	1,603,296	345,551
Del. & Hud. Canal....	239,899	188,733	51,166	1,416,238	1,260,936	155,302
Pennsylvania RR.....	210,249	156,907	53,341	1,033,924	721,897	312,026
Pennsylvania Coal....	127,132	77,857	49,274	591,578	473,691	117,886
N. Y., L. E. & West..	42,148	32,249	9,899	222,007	184,941	37,066
Total.....	2,418,238	1,836,640	581,597	12,467,496	10,312,120	2,155,376

The stock of coal on hand at tide-water shipping points, June 30th, 1881, was 598,565 tons; on May 31st, 1881, 562,719 tons; increase, 35,846 tons.

COPPER SMELTING: ITS HISTORY AND PROCESSES.

The lecture on Copper Smelting, which was delivered last December, at the Royal Institution of South Wales, Swansea, by the President of the Institution, Mr. HENRY HUSSEY VIVIAN, M.P., has just been reproduced in handsome pamphlet form by the Scientific Publishing Company. The lecture was first printed in the *Cambrian*, of Swansea, in its issues of December 24th and 31st, 1880, the copies of which were "all sold out on the day of issue." We believe it was never reprinted in any English journal. It appeared in the *ENGINEERING AND MINING JOURNAL* in the issues of March 26th, April 2d, April 9th, and April 16th, 1881. Curiously enough, therefore, those numbers of the *ENGINEERING AND MINING JOURNAL* and the pages of this pamphlet afford not merely to American but also to English metallurgical students the only means of obtaining what one of the practical copper smelters of this country characterizes as "the most valuable article on copper smelting" he "has ever read." Mr. RICHARD TAYLOR, the senior member of the eminent mining firm of JOHN TAYLOR & SONS, of London, writes as follows: "We have to thank you for the copies of your JOURNAL containing the extremely interesting lecture on Copper Smelting by Mr. HUSSEY VIVIAN. It is singular that we should first have the opportunity of reading this in an American journal, and it affords good proof of the advantages you possess in obtaining interesting matter from the old country."

We may state that copper smelting has been carried on in the Swansea District since the time of Queen Elizabeth, and for some generations the Messrs. VIVIAN, of the Hafod Copper-Works, Landore, Swansea, have been among the largest, if not the oldest, copper smelters in the district. Mr. JOHN HENRY VIVIAN, M.P., the present Mr. VIVIAN'S father, was actively engaged in copper smelting during the whole of his business lifetime, and the present Mr. H. H. VIVIAN has also been actively so employed for the past thirty-seven years. From such an authority, therefore, the information given will not only be of general use, but will be of special value to all those interested in the metallurgy of copper as perfected to-day in the South Welsh District. Mr. VIVIAN says: "The 'South Wales process' of copper smelting is now the dominant one of the whole world." The lecture first treats exhaustively of the history of copper and copper smelting from the earliest times, and then proceeds to define the "system" of copper smelting as practiced at Swansea, through its various "processes," until the final one of "refining" is reached, when Mr. VIVIAN graciously gives way, and reads what he characterizes as "an admirable description of our refining process, written by Mr. WILLIAM MORGAN, who has been a practical refiner all his life."

While this lecture was publishing in the columns of the *ENGINEERING AND MINING JOURNAL*, we received numerous and urgent requests from experts and others to put the valuable history and discussion into permanent and attractive form; and in response to these requests, this pamphlet makes its appearance. Following Mr. HUSSEY VIVIAN'S lecture, a history of the Baltimore Copper-Works, specially prepared for this work, has been presented as of special interest. To this are added accounts of the Forest Copper-Works and of the Hafod Copper-Works, at Swansea,

the latter under the management of Mr. HUSSEY VIVIAN himself; and a short paper in which the year is fixed in which the copper trade began in Swansea. For these we are indebted to a very rare work, printed but not published, by Major GRANT FRANCIS, F.S.A., of Swansea. The pamphlet makes 44 octavo pages, handsomely printed on good paper, and is sold at 75 cents. It is hoped that the three beautiful illustrations, prepared at great pains, will serve to enhance the value of this admirable metallurgical essay.

We take this opportunity of again calling attention to a valuable work, soon to be issued, on the History of Copper Smelting in the Swansea District, from the Time of Queen Elizabeth to the Present Time, by Colonel GEORGE GRANT FRANCIS, F.S.A., of Swansea, for which we shall be pleased to receive subscriptions on the terms indicated by the prospectus accompanying the pamphlet.

THE RAILROAD STATISTICS FOR 1881.

From advance-sheets of *Poor's Railroad Manual* for 1881 we take the following:

"The total number of miles of railroads of the United States in operation at the close of the year was 93,671 miles.

"In 1880, there were twenty-three miles of railroad in operation in the United States; in 1879, there were 86,497. In 1880, there 93,671 miles, an increase in that one year of 7174 miles. The following table shows the essential changes in the items named:

	1879.	1880.
Capital and funded debt.....	\$4,762,506,010	\$4,897,401,997
Gross earnings.....	529,012,990	615,401,931
Net earnings.....	219,916,734	255,193,436
Freight earnings.....	386,676,108	467,748,928
Passenger earnings.....	142,336,191	147,653,003
Dividends paid.....	61,681,470	77,115,411

"As respects the divisions of the country, these figures are given:

NEW ENGLAND STATES.		
	1879.	1880.
Gross earnings.....	\$41,329,825	\$48,755,609
Net earnings.....	15,586,091	17,193,635
Dividends.....	7,236,205	7,999,191
MIDDLE STATES.		
Gross earnings.....	\$170,310,816	199,003,717
Net earnings.....	70,416,970	83,923,393
Dividends.....	23,911,164	28,479,891
SOUTHERN STATES.		
Gross earnings.....	43,917,234	48,317,754
Net earnings.....	14,673,357	18,124,034
Dividends.....	2,131,770	3,325,979
WESTERN STATES.		
Gross earnings.....	\$232,379,646	290,588,190
Net earnings.....	98,961,906	125,103,218
Dividends.....	23,561,362	33,117,590

"The earnings of the railroads in the Pacific States, including the Central Pacific and its leased lines, amounted to \$28,736,660, against \$26,444,206 for 1879, and \$26,881,007 for 1878. Of this sum, \$8,819,349 was derived from passengers, and \$19,917,314 from transportation of freight, mails, etc. The net earnings were \$10,786,106; dividends, \$3,992,762."

It is generally assumed that for tracks and equipment, 150 tons of iron and steel are used per mile of road built. This would give a consumption of over one million tons of iron and steel in 1881 in the construction of new roads. The quantity of iron used by established roads in repairs and increase of rolling stock was very great, having been greatly enlarged by the increased demands made upon the roads for greater transporting facilities, the outgrowth of the general prosperity of the country. Upon the existing roads it may be safe to estimate that the annual repairs will amount to 10 per cent, consuming over 1,400,000 tons. The roads to be completed this year will probably be considerably in excess of those completed in 1880.

EDITORIAL CORRESPONDENCE.

PRESCOTT, ARIZONA, AND ITS PROSPECTS.

This part of Arizona is, like the Gunnison and San Juan regions in Colorado, rather tamely and heavily awaiting the railroad and the "boom" which is expected to follow "in its train." The Atlantic & Pacific line is advancing rapidly westward, and will be in operation within ninety miles of Prescott before the end of this season. That, indeed, is, as I am told, the nearest point to which the main line will come. Whether Prescott and the mining districts to the south and southeast will be more closely connected by means of a branch line remains to be seen. There is talk enough about it; and it may easily come to pass; but there is a slight suspicion of paralysis in the energy of Prescott, and a sort of demoralization among the inhabitants of the region, the extent or the results of which it is not now possible to calculate. At the present moment, they say, the trade of Prescott is better than it has been for a long time past. This is mainly due to the business which the railway-construction in the north has incidentally brought. But I find among the citizens a half-concealed and dreadful doubt as to the future of the town. In fact, the West has learned some sharp lessons concerning the local effects of railroads. Many a thriving *entrepôt* of border commerce has lost its prosperity by acquiring railroad connections. The crowd of teamsters and shippers that made things lively and spent or wasted their money on the spot vanishes; goods pass through to other points of distribution; merchants find

their customers ordering from metropolitan wholesale houses; in short, the railroad often kills the town, particularly if some other town, better located for the peculiar conditions of railroad commerce, springs up and overshadows its elder rival. San Francisco could not be ruined, having too firm a hold as a seaport; but every body knows that the first Pacific railroad built up Sacramento at the expense of San Francisco. Santa Fé wanes as Las Vegas increases. Denver is a brilliant exception; yet there are those who think even Denver has had a narrow escape. I do not agree with them. The beautiful location of Denver makes people like to live there—a great point—and its command of such routes into the mountains as are furnished by the Platte, Clear Creek, and Boulder cañons makes it a natural distributing center for many mining districts. Yet the great growth and prosperity of Denver comes from its possession of many railroads instead of merely one.

To many a mountain settlement, the entrance of the railroad seems to furnish a means for the population to get away, rather than any thing else. And, to return to the case of Prescott, it is this wide-spread planning to get away that seems discouraging. Not but most would stay if things looked bright; but they do not feel sure about it. This lack of faith may bring about the very result feared. Three things are certainly in favor of Prescott. It is the capital of the territory, the pleasantest town in it, and the headquarters of the military department. Moreover, it is surrounded by promising mining camps; and under wise and energetic management, it might be for many of them the base of supply and the financial center.

The army and the mines have been its support in times past. But the latter, which might have been, and might yet be, developed into important proportions, have been so managed as to be hitherto of little benefit. There is a curious moral phenomenon among the causes of this state of things. A community of pioneers, establishing itself in the midst of resources which can not be developed without capital, and holding on, with hardihood amounting to heroism, through much peril and suffering, until the relief shall come, grows to have a very high notion of the value of the sacrifices it has made. Somebody owes it a handsome recompense; and although the capitalist is invited with many flattering promises, he is received with the secret resolution that he, as a Heaven-appointed paymaster, shall make the account even. Add to this the element of homesickness for more settled States, and you have a dangerous weakness in the presence of temptation. Men who mean to "make their pile" as fast as they can, and then go away to spend it in some place where nobody will know or care exactly how it was made, are deprived of many wholesome moral restraints. In the case of Arizona, it is to be remembered also that a considerable portion of her early population consisted of outlaws and refugees from other parts of the country, who no doubt contributed something to the sentiment which now infects even the respectable part of the community—namely, that capital is a good thing to invite into the country, but after it has come, it should be distributed so as to make business; and when it begins to realize and carry away profits, it is somehow wronging the community. Outrageous wrongs are tolerated and find defenders, but no punishment follows save that slow, sure doom which time inflicts upon the whole community.

THE WAY CAPITAL IS PROTECTED IN ARIZONA.

The history of the litigation in which the Peck mine has been involved for some years is an excellent illustration. The rightful owners of that property, who had bought it for a large sum, were practically deprived of it by force, and then entangled in a net of legal technicalities, through which, at great expense, they have threaded their way for several years. A few unscrupulous men, with lawyers to help them, on contingent fees, might do all that; but it is remarkable to what an extent respectable people assisted them. The result, however, has been that a mine which was distributing thousands of dollars monthly in and about Prescott; from which the town was drawing its main prosperity, has been closed for a long period; and the population of Prescott has diminished by from 1000 to 1500 souls in consequence.

A still later instance may be given. Two promising mines near the Peck (the Silver Prince and the Black Warrior) were taken in hand recently by Eastern capital. After a considerable quantity of ore had been taken out, a contract was made with a party to mill it at a custom-mill. Four of the workmen employed in the mill, fearing or pretending to fear that they would not get their wages (less than \$600) from the contractor, forcibly took, carried away, and buried nearly \$5000 of silver bullion, belonging to the mine-owners, who owed them nothing. There was quicksilver and other property of the contractor's which they might legally attach or forcibly seize (if that is the Arizona variety of legal proceeding); but they preferred to take the property of the "capitalists."

Of course, all this might happen anywhere. The question as to the administration of justice in a given community is not whether crimes are committed, but how they are dealt with. These men were arrested and brought to Prescott. The justice discharged them on the ground that they meant well; and although they had taken thousands of dollars' worth of property as "security" for their claims, there was no proof that they

would not surrender it, when their claims were paid! The district-attorney, who seems to have had a clearer notion of the difference between larceny and security, brought the case before the grand jury. In the mean time, the mine-owners, who owed these men nothing, had offered to pay them the wages due by the contractor, and the offer had been accepted, and the surrender of the bullion promised. But when it came to the point of fulfilling this promise, the honest gentlemen who "held" the bullion raised their price to \$1200, which was refused.

All this was laid before the grand jury, and that body would find no indictment, the majority of the members, as is currently reported, regarding the transaction as a good joke, a sharp trick, an affair to be settled by the parties themselves. The men are at large; the bullion has never been recovered; and they are now endeavoring to sell it or get it safely to San Francisco or New York.

I have amused myself, since arriving in Prescott, by conversing with many citizens about this affair. It would be ludicrous, if it were not pitiable, to notice the wretched sophistry and moral confusion of ideas which pervade the majority. One man said, "It was wrong, of course; but it wouldn't do to call it larceny. It's a serious matter to call a man a thief. It hurts his character." Another said, "I was on the grand jury. We were very anxious to do something; but as the court below had acquitted them, what could we do?" Another, "It was very bad policy to irritate the men by arresting them." Others there were, who denounced the proceeding (privately); but a general and indignant moral sense on the subject I did not find. Every body advised "compromise."

Well, the Silver Prince and the Black Warrior mines have been, I believe, closed. They ought to remain so, until the rights of property are better understood in Yavapai County. And until that time, not a dollar of capital ought to be risked in a community in which compromise is the only way of treating thieves.

I have many friends in Prescott, who will both admit the truth of what I say, and feel aggrieved that I should say it, to the apparent injury of their town. My reply to them is: I speak out, because they did not. The truth which Prescott ought to have heard in trumpet-tones of indignation from its own citizens and its press, it must now hear from others. *

PRESCOTT, ARIZONA, July 10, 1881.

THE MARMORA GOLD-FIELD, ONTARIO.

Special Correspondence of the Engineering and Mining Journal.

It may be of interest to some of your readers to know how I got to this very interesting gold-field; and as it would be but a slight diversion in making a trip to the Thousand Islands and down the St. Lawrence, many may be induced to follow in my footsteps.

I took the New York Central & Hudson River Railroad train at New York at nine o'clock in the evening, being fortunate enough to secure a berth in one of the new Wagner cars which are now quite numerous, and a great addition to one's comfort, as compared with the old ones, which were in general use a year or two past. After a comfortable night's slumber, I was awakened a little after five o'clock, and left the train at Rome at about 5.45 o'clock. At six o'clock, I took the train on the Rome, Watertown & Ogdensburg Railroad, arriving at Watertown at about 9.30 o'clock on the same morning, where time is given to secure breakfast at the restaurant in the depot. After this, I took another train, which carried me to Cape Vincent, at the foot of Lake Ontario. Here awaited a very comfortable steamboat, upon which a beautiful sail of about twenty-two miles is made to Kingston, which town is reached between 12 and 12.30 o'clock. At 4.25 P.M., I took the train on the Grank Trunk Railroad to Belleville, which place was reached at about six o'clock in the evening. There are numerous hotels in the town, but all recommendations carry you to the Dafoe House, where the host uses every effort to make your visit as pleasant as possible. To those desirous of visiting the mines, it may be stated that Messrs. Lake & Jenkins will furnish horses and carriages with which to drive to the mines on terms which will be considered unusually reasonable to those who have been under the necessity of patronizing livery stables on this side of the line. The route to the mines is via Stirling to Marmora, a distance of 82 miles, and four miles from the mines of the Canada Consolidated Gold Mining Company, which, owing to their immense and rich developments, are the great attraction of the district. At Marmora, there are several hotels where fair accommodation can be secured. There are no better country roads on the continent than those between Belleville and the mines. To those arriving in Belleville and pressed for time, it may be stated that, after taking supper, the drive to Marmora can be comfortably made by midnight. Those with more time to spare can wait until morning, and take the regular stage, which arrives at about four o'clock in the afternoon. When one arrives at Marmora, he learns that within two miles there exists a beautiful lake known as Crow Lake, abounding in bass and muskallonge. Then comes the question whether you shall engage an experienced fisherman to go with you to the lake, to give you an opportunity of landing a few bass, weighing from a pound to five pounds, or visit the mines, of which the villagers tell such marvelous stories. Fishing proved to be a weakness with the writer, and he yielded to that pleasure first, and was well repaid. But on his return to Marmora, he fell into the hands of the gentlemanly as well as able superintendent, who is even more enthusiastic on the merits of the mines than the villagers, and never permits a stranger to pass without seeing every thing that is going on at the mines; for he says the company has nothing to conceal. As before stated, the mines are four miles from Marmora, and no difficulty will be found in reaching them. In approaching them,

the first thing that meets the eye in connection with the company's operations is a large brick-yard, in which the company was burning brick, which are made at a cost of about \$4 per thousand, for the roasting-furnaces, buildings, etc., which the company is building. Then come several miners' houses, and an office under construction. Next in the order of reaching the mines are some well-constructed foundations, extending down to the Moira River, and surrounded with brick, stone, square timber, etc. This is the mill-site. From here, you see a canal and flume constructing, to furnish water and power to the mill from a dam which has already been erected across the river, and gives a fall of about 21 feet. The ground has been cleared to the shafts, and cedar posts distributed, upon which to build a trestle to carry the tramway from the shafts to the top of the mill, where the ore will be dumped for crushing. You then arrive at the Tuttle shaft, where a permanent shaft-house is now erected, and an engine is constantly hoisting the ore extracted in making developments. The mining captain takes you down this shaft in the bucket, and shows you that he has opened the vein to a width of 20 feet, and has not yet found both walls. An examination of what has been dumped on the surface shows that there is but a very insignificant quantity of waste rock in the vein at the point at which it is worked. About 450 feet farther north, you come to what is known as the deep shaft. This also has a permanent shaft-house with hoisting-engine, car, self-dumping arrangement, etc. This shaft is thoroughly timbered, in the most workmanlike manner; steel rails are laid to the bottom; a pair of Rand compressors have been placed on the surface, and were conducting air to the power-drills, which were at work in the levels below. These compressors will have a capacity of driving about eight drills. The descent into the mines by this shaft is made by ladders, with landings about every fifteen feet, making it impossible for one to have a serious fall in descending. At about 70 feet, you come to the first level, which is driving continuously both north and south; and at the time of my visit was in better ore than it has been for many months, showing large quantities of mispickel and a very strong vein. Power drills were working in this level. By continuing down the shaft about another 70 feet, the second level was reached, where the vein and ore were both very much improved, as compared with their condition at the time of a visit made several months past. A cross-cut was driving west from this level to intersect some of the other veins which have been discovered on the surface. There is a likelihood of having good reports from this work in the next sixty days. The bottom of the deep shaft showed very good ore. Every thing is now in order for active operations, and the superintendent informed me that he could employ forty more miners than he now has. The work doing, both in the mines and on the surface, indicates that the intentions of the company are to do a legitimate business, and not forward a stock deal, as has been the case with too many mining operations.

In returning to New York, the stage may be taken from Marmora in the morning, arriving at Stirling in time to catch the train which connects with the Grand Trunk Railroad train going east at about 12 o'clock. Arriving at Kingston, you are driven through the town to the lake, where there is but little delay before the boat starts for Cape Vincent. Taking the Rome, Watertown & Ogdensburg Railroad, Rome is reached at about nine o'clock, and connection made with the New York Central train going east, which arrives in New York at half-past seven o'clock in the morning, or about twenty-four hours after leaving Marmora.

To those desiring to combine pleasure and instruction in a summer trip, no more pleasant and, at the same time, comparatively inexpensive journey can be made. The fares, including sleeping-cars, from New York to Belleville, amount to \$12.30. CARSON.

A MISTAKE CORRECTED—THE MINA BLANCO Y COLORADO, OF SONORA, MEXICO.

EDITOR ENGINEERING AND MINING JOURNAL :

SIR: We frequently see the Mulatos mine, of Sonora, mentioned in Southern Arizona, and occasionally in New York papers. It is always located wrong. A late Arizona paper speaks of it as the "Sahleneripa or Mulatos mine." Its name is the Mina Blanco y Colorado, or the White and Red Mine. It is so called on account of its colors. It is located on an immense ledge of ore running along the south side of the town of Mulatos, and is traceable to the river of that name nearly four miles distant. The town of Sahuaripa is sixty miles distant, and is the headquarters for the mining Parita of the canton in which the Blanco y Colorado occurs. While it is not a rich mine, in the usual acceptance of that term, it is really so in the immense quantity of ore it contains. It is simply a huge quarry of gold ore. The body-rock, so to speak, carries about \$5 per ton of free gold, and through the ore run little streaks of exceptionally rich metal in which the gold is plainly visible to the naked eye. The low-grade ore is crushed in the mills, of which there are two—one of thirty, and one of twenty stamps. The rich ore is worked in arrastras, to seven of which mules furnish the power, the other three being supplied with water-power. The latter are located near the river. It is estimated that each stamp will crush five tons of ore per day. The gold is caught in the riffles, in sluice-boxes. The lowest opening on the mine is about forty feet above the level of the arroyo; and when I saw it, there was no working below that level, except a 16-foot sump or well. The mine is about to be sold, I understand, for \$2,000,000. General Rosecrans, about three years ago, could have bought it for \$300,000. A year later, Mr. J. Flournoy, acting for outside capital, was charged \$1,000,000, and even then the owner weakened. Now, it has reached \$2,000,000. Situated so far back in the mountains, approachable only by trail, transportation high, labor unreliable and irregular, so far from the Guaymas & Hermosillo Railroad that it can not count among the conveniences, it seems a fabulous price; but from my knowledge of it, and I know it well, I should say that it was worth it. The owners are two brothers, one of whom lives at Guaymas, and the other at the mine. The latter is known as Don Socario Aguayo. I am drawing upon my memory for the foregoing; but I am satisfied of its correctness. I have full notes, but they are not available.

DONALD ROBB, Arizona Silver Belt.

THE MONETARY CONFERENCE.

A dispatch, dated Washington, July 17th, says that Ex-Senator Howe, who was a member of the Monetary Conference recently held at Paris, has returned to Washington. In speaking of the work of the conference, Mr. Howe said that, although no direct results had been reached, the conference had been of value, because it had brought the question of bi-metalism prominently before the public and excited public interest in it. As to the attitude of the representatives of the nations in the conference, he said: "The Belgian representative was there as a strong mono-metalist; so also were the representatives of Sweden, Norway, and Switzerland. The commissioners representing Russia, Austria, Italy, and Spain inclined strongly to bi-metalism. The attitude of Great Britain was the principal obstacle we had to contend with. Her representatives were in favor of the double standard, but were inhibited from committing the nation to it. The ministry opposed bi-metalism, and they did it, not because they do not favor the double standard or because they want to keep silver out of the coinage, but because they have other important business before them, and feel that they can put the coinage question off to some future day. The matter, however, has been the subject of discussion in financial and commercial circles in Great Britain, and a strong sentiment has been found in favor of bi-metalism. With regard to Germany, her representatives pointed to the action taken by her in 1873 in adopting the single gold standard, and said they did not see any necessity for impeaching the propriety of that move. Still, they are not opposed to silver, and are only waiting for England. If the latter country comes to adopt the double standard, they will join with her willingly and gladly." Mr. Howe stated further that the gold coin held in reserve by the Bank of France was even less than one third of the entire metallic reserve, as had been stated, and that the prospects of Italy's placing her new loan, on which she proposed to resume specie payments, were good. As to the probability of a general return of the nations to the double or bi-metallic standard, Mr. Howe expressed himself very hopefully. His attention having been directed to an opinion expressed soon after the last Monetary Conference, by one of the United States Commissioners, to the effect that the United States should not wait for other nations to take the initiative in the matter of a return to the double standard, Mr. Howe said: "I would be unwilling to see the United States start off on such a course alone, or even accompanied by France. It would be a bootless step unless we were sure of the cooperation of England and Germany."

A dispatch from Rome, July 20th, says that Italy will dispatch a memorial to the various powers represented at the Monetary Conference, proposing a solution of the monetary problem, which Italy regards feasible at the present time. The Italian delegate to the Monetary Conference will probably draw up the memorial.

STRIKING OIL IN A TITUSVILLE GARDEN

A dispatch to the New York Sun, dated Titusville, Pa., July 16th, says that a month or so ago, Sebastian Haehn, a blacksmith living in Mechanic street, this city, was spading in his garden after a heavy rain. As he turned up the earth, he noticed that little pools of crude petroleum formed in the cavities made by the spade. He dug a pit four feet deep. It filled up with oil to such an extent that he dipped out five barrells. The oil was of excellent quality, and Haehn sold his five barrels to the Octave Oil Refinery. Week before last, Haehn dug another "well" in his garden. It responded with a yield of two barrels an hour. The well attracted great attention. It produced eighty barrels, and then ceased to flow. The excitement over the novel oil territory died out soon afterward. On Monday last, the news spread through the city that Haehn had opened another well in his garden, and that it was yielding at the rate of thirty-six barrels a day. Hundreds flocked to the scene of the new oil operations. The well was located in the southwest corner of Haehn's potato patch. With a large tin hand pump, the owner was taking out of the "hole" two barrels of oil an hour. His previous well had also started again. From that, one of Haehn's sons was taking oil at the rate of twenty barrels a day. Immediately following this strike of the lucky blacksmith, a great demand for leases of adjoining gardens arose. Such an oil field had never been heard of before. Without capital, and with no tool but a shovel, an operator could sink a well and strike the "sand" in half an hour. The right to dig on four feet of a man's garden became worth \$5 bonus and one quarter of the oil. For three days, Mechanic and adjacent streets have been thronged with excited spectators of the new operation in oil production, and parties anxious to get "a piece of the territory." On Tuesday night, Theodore Avery, who has a coal-yard adjoining Haehn's garden, put down a well. At the depth of four feet, he struck oil. The yield was a barrel an hour. He has put down four more wells since. The five wells were yesterday yielding eight barrels an hour. The success of the Haehn and Avery ventures led to a wide extension of this strange territory. A vacant lot on Washington street, southeast from Haehn's, was yesterday the scene of active operations. Three producing wells were put down. The rest were "dusters." Captain Pickering went to "wild-cating" under a shed near the Buffalo, Pittsburg & Warren Railroad track, south of Haehn's. He dug to a depth of eight feet, and got a well good for ten barrels a day. Two wells were put down on the ground of the Octave Refinery. At five feet, oil was found. One of the wells is pumping twenty-five barrels a day. The McKeown Garden, east of the refinery, was leased by J. P. Thomas, William McKenzie, and J. M. Brinton. Thomas took the northern half of the garden. He got two five-barrel wells of excellent green oil. The other parties struck oil, but it was of a red hue, and had the appearance of being mixed with tar. In the gardens along the east side of Washington street, several wells "came in" as good producers, but the oil was of an inferior quality. All the property along Oil Creek, between Washington and Franklin streets, has been leased by A. J. Kraffert. He will develop it on a large scale. The original Haehn territory maintains its yield, and is being further developed. Haehn has made a trench all around his garden and one through the center. In these the oil collects rapidly. The operator is putting up tanks to receive

his oil, as there is a great scarcity in barrels. Haehn's garden is now yielding 100 barrels a day. He expects to increase it to 200. The oil is worth, at the refineries, \$1.10 a barrel. The price of one barrel defrays all the expense of putting down a well. Operations are carried on day and night. That part of the city is lighted up all night by the flaming torches of the oil men. The weird scene is witnessed nightly by hundreds of people. There are no indications of any decline in the yield of this oil, and Haehn, the lucky discoverer of the field, is laying away not less than \$100 a day as clear profit. There are many theories in regard to this unheard-of presence of petroleum in large quantities so near the surface. One is, that the oil is the leakage of tanks and pipelines, which has sunk into the earth until it reached the gravelly deposit in which it is now found in pools. Another is, that this deposit has been forced up from the true petroleum sand stratum by some unknown agency, and caught and retained in the stratum where it now lies.

PROGRESS IN SCIENCE AND THE ARTS.

The Arctic Scientific Colony.—From San Francisco, July 18th, we learn that Lieutenant Ray, of the United States Signal Corps, sailed on that day, with nine companions, on the schooner Golden Fleece for Point Barrow, in the Arctic Ocean, where he will establish a station for meteorological observation. A house for the erection of instruments for observation, and provisions for three years, are comprised in the outfit of the expedition.

Progress of the World Between 1870 and 1880.—An English statistician, Mr. M. G. Mulhall, gives the following figures as representing the world's increase in the elements of progress in the decade between 1870 and 1880: Percentage of increase in population, 9.76; in agriculture, 8.58; manufactures, 18.60; commerce, 38.20; mining, 47.06; carrying trade, 53.32; earnings of nations, 19.84; public wealth, 10.57; taxes, 22.34; public debt, 43.39. The tangible increase in public wealth since 1870 would suffice to pay off 88 per cent of all existing national debts.

Special Steels.—A special steel for traps, called mild-centered cast-steel, is made by converting a cogged ingot of very mild cast-steel, so that the additional carbon only penetrates a short distance. These bars are afterward hammered or rolled down to the size required, and have the advantage of possessing a hard surface without losing the toughness of the mild center. Another special steel, somewhat analogous to mild-centered cast-steel, is produced by melting a hard steel on to a slab of iron or very mild steel, heated hot enough to weld with the molten steel, so that a bar may be produced, one half of which is iron and the other half steel, or three fourths iron and one fourth steel, as may be required. A third kind of special steel, which is used for turning-tools, for chilled rolls, magnets, and some other purposes, is made by adding a certain percentage of wolfram, or, as the metal is more generally called, tungsten, sometimes with and sometimes without carbon, sometimes to such an extent that it can be used without hardening in water. Special steel of this kind is the finest grained that can be produced, but it is so brittle that, in the hands of any other than exceptionally skilled workmen, it is useless. The addition of chromium, instead of wolfram, has somewhat the same effect.

Railroads in Spain.—In 1879, there were 4189 miles of railroad in Spain, in 40 different lines, worked by 25 different companies. On these roads during the year, 14,115,268 passengers and 6,425,655 tons of freight were carried, and their total earnings were \$26,344,405, or at the average rate of \$6288 per mile, which is not far from the average receipt of the roads of this country. There is one company (the Spanish Northern) with 1077 miles of road, one with 958, but no other with as much as 400 miles. One of the roads (next to the longest) earns very nearly \$44,800 per mile, while the longest system earns \$32,700 per mile. On the other hand, there are roads whose earnings per mile are but \$500, \$815, and \$1597.

Railroads in Italy.—On the opening of 1880, there were, according to official reports, 5112 miles of railroad in operation in Italy, with 1492 locomotives, 4544 passenger-cars, and 24,093 freight-cars. The roads had cost at an average rate of \$95,706 per mile, of which \$8504 were for equipment. Their average earnings per mile, in 1879, were \$6159 per mile—a little less than the average in this country—and their working expenses \$3780 per mile, leaving as net earnings, \$2379, which is at the rate of 2.5 per cent (nearly) on the capital invested. The earnings from passengers were very nearly as great as the ordinary freight earnings, but a very large amount—nearly an eighth of the total earnings—was from the express and other freight carried on passenger trains. On this comparatively small system of railroads, there were, in the course of the year, 256 collisions, and 400 derailments of trains, by which 29 persons were killed and 439 injured.

Oxygen Gas.—The manufacture of oxygen gas to be distributed to consumers, has long been looked upon as a desirable thing, and now a firm in Paris claims to have accomplished the purpose in a manner promising commercial success. The operation is based on the absorption, by baryta, at a certain temperature, of oxygen from the air, and the fact that the oxygen will be released when the baryta is heated to a higher temperature. Heretofore it has been found that baryta gradually lost its power of absorption; but the Parisian chemists say that they have overcome that difficulty, and that their material has remained unchanged after four hundred operations. The gas obtained is said to be 95 per cent oxygen, and will cost about 70 cents per thousand cubic feet. If it could be distributed like illuminating-gas, and at small cost, it would be of great value for heating, lighting, and bleaching purposes, and in nearly all industries. There are vast oceans of oxygen to draw upon, if only some cheap and simple method of securing it can be obtained.

The Winslow Tin Mine.—In reference to this tin mine, which has been the subject of repeated notice in this department, and of correspondence and discussion in the columns of the ENGINEERING AND MINING JOURNAL, the Boston *Daily Advertiser* of recent date says: Prof. P. W. Sheaffer, of Pottsville, Pa., and associates here in Boston, are quietly developing the tin mine at Winslow, Me. They place on exhibition to-day, 4½ Seats's Building, two large specimens taken from an 18-inch vein at a depth of 75 feet. This is the only favorable showing of tin in course of devel-

opment in the United States, and all parties interested in this metal, as well as scientists, will be glad to see the specimens, and will look with favor upon the further development of this wonderful discovery.

The Electric Light.—The *Evening Post* gives the following account of what Edison is doing: The Edison Electric Light Company has almost finished its work in its first district—that bounded by Nassau street and the East River, Spruce and Wall streets—having already wired five hundred houses, and the number of men at work in the district has been reduced from eighty to forty. The eight hundred houses in the district will require about thirty thousand lamps. The mains are laid in most of the streets, and all that is needed to begin lighting by this system are the engines, which are promised by the middle of September. Mr. Edison expects that the first illumination by electricity upon a large scale will take place about the middle of October. The contract made between the company and householder is, that the new light shall cost no more than gas. As it is expected to be in every way superior to gas, there has been no hesitation in accepting the offer. The lighting up of this first district by electricity will be the signal, Mr. Edison thinks, for a general reduction of prices on the part of the gas companies, who can all afford to sell gas at one dollar a thousand feet and make a profit. For the last two months, Mr. Edison has been busily at work upon what he is going to show at the Paris Exhibition of Electricity. Every outgoing French steamship carries a number of boxes full of machinery from Edison's workshops. One hundred and thirty-seven boxes left last week, and to-morrow's boat will take one hundred more. Mr. Batchelor, with eight assistants, has already left for Paris, where he will remain in charge of Edison's show-rooms. Mr. E. H. Johnson will leave in a few days for London, where a model station, similar to the one at No. 165 Fifth avenue, in this city, will be organized according to Edison's plans. The Edison lamp has not yet been properly exhibited in London. In Paris, a license has been obtained from the municipal authorities authorizing Edison to put up his lights wherever he may see fit, and it is thought that the exhibition of his light and power which he intends to make will create enough interest in the matter among Parisians to make it worth while organizing a company for the sale of the light. Since the spring, a change had been made in the Edison lamp by which the lamps last an average of seven months instead of four, and one horse-power is sufficient for nine instead of seven lamps. The change consists in reducing the size of the carbon thread about one fifth. Improved machinery has enabled Edison's men to do this without impairing the perfection of the thread. The Menlo Park factory is now turning out from nine hundred to eleven hundred lamps a day. In the up-town districts laid out on the map by the Edison Company, the canvassers are at work getting the householders to sign the contract authorizing the company to put in its wires. Major Eaton, the president of the company, is confident that within a year every householder in the city can have gas or electric light according to taste.

THE SYRACUSE SALT LANDS.—ALBANY, July 14.—The sale of salt lands at Syracuse will be held in the superintendent's office in that city in September next.

END OF A GREAT STRIKE.—LONDON, July 20.—The great strike of the nail-makers of Staffordshire, which began last month, when 30,000 operatives went out, has ended, the masters having conceded the thirty per centum advance in wages demanded.

ROLLING-MILLS AT WORK.—CINCINNATI, July 18.—The Cincinnati Rolling-Mill has started up this morning after a rest of two months on account of a strike. Non-union men are employed at Pittsburg prices. Another rolling-mill is preparing to start in the same way, and the proprietors say they will have no difficulty in procuring workmen.

NEW WATER-WORKS FOR LIVERPOOL.—LONDON, July 15.—Yesterday, the first stone was laid on new water-works in Mid-Wales, to supply Liverpool with water from the river Vyrnwy, a tributary of the Severn. The *Times* prefaces a detailed description with the statement that the works, alike by reason of their magnitude and novelty, are among the most important in modern times.

MEXICAN RAILROAD TROUBLES.—GUAYMAS, MEX., July 19.—The federal judge here has refused permission to Samuel Brennan to have his lands surveyed, and his engineers have gone to the City of Mexico. Brennan has appealed to the federal government, and will soon return to San Francisco to await developments. The railroad company has resumed track-laying. It has plenty of ties now, but only enough steel rails to get to within seven miles of Hermosillo.

SERIOUS STRIKE OF IRON-WORKERS.—LONDON, July 19.—The blast-furnace men at three of the iron-works in the Cleveland District have struck against a reduction of two and a half per centum in their wages, and twenty-four furnaces are idle. The stoppage of these furnaces will reduce the total make of pig-iron in Cleveland about 1703 tons daily, and will throw four thousand men out of employment. If the strike is not settled in a few days, the consequences will be serious, as some of the furnaces will be blown out.

CONSOLIDATION IN OHIO.—COLUMBUS, July 19.—The new directors of the Columbus & Hocking Valley, Columbus & Toledo, and Ohio & West Virginia railroads, recently purchased by the syndicate of Cleveland capitalists, had a meeting here to-day and resolved to consolidate the three companies into one, to be known hereafter as the Columbus, Toledo & Hocking Valley Railroad. The action will be submitted to the stockholders for ratification on August 2d. As the directors who voted to-day hold a large majority of the stock, the ratification of their action will be a mere formality.

TRADE NOTES.

LOCOMOTIVES.—Manning, Maxwell & Moore have just placed an order for eighteen Mogul locomotives with the Rogers Locomotive Works and the Danforth Locomotive Works, Paterson, N. J. These are to have Hancock Inspirators, the Consolidated Safety-Valve Company's pop valves, and the Ashcroft Manufacturing Company's improved locomotive gauges. The Ashcroft Manufacturing Company has recently furnished a special Tabor indicator to the Westinghouse Machine Company, of Pittsburg,

made to indicate its high-speed engine, running from 800 to 1000 revolutions; and another to the Edison Electric Lighting Company, of this city.

THE PRATT & WHITNEY COMPANY, at Hartford, Conn., with a force of more than 700 workmen, is filling orders for 200 engine-lathes of 13 inches swing, and of beds of 4, 5, and 6 feet; 60 16-inch swing-lathes, and 2 14-inch shapers, nearly ready, for the Kansas & Topeka Railroad. The new department has on one floor 13 planers of 40 and 48 inches, opening between uprights, and 20-foot bed. Several large horizontal boring-mills are making in the works, of 15 inches range, 42 inches swing, and 14-foot bed, two of them for the home factory.

H. K. & F. B. THURBER & Co. call attention to the fact that the magnitude of their business enables them to sell on very close margins of profit, and to import or manufacture many of their goods, which saves a profit and affords an unusual opportunity for selection. In addition to offering excellent stock, they claim they were the first wholesale grocers to publish a price-list showing dealers in the interior the prices at which first-class goods could be bought in the quantities ordinarily required by country merchants.

THE HOWLAND PULVERIZER.—We are informed by the manufacturers of this machine that it is already introduced into thirteen different States of the Union, and has everywhere given satisfaction. The Alice Mining Company, of Butte, Montana, is having one of the machines erected for work upon its ore. The firm has now under contract the erection of one of its pulverizers with a large lot of amalgamating-pans, engines, boilers, etc., for the Chesapeake & Idaho Mining Company, near Kelton, Idaho. It is also building one of the pulverizers for the Champion Mining and Milling Company, of Pitkin, Colo.; also one for the Costa Rica Gold Mining Company, near Punta Arenas, Costa Rica. The pulverizer is also at work on the silver sandstones of the Silver Reef District, Utah, where the Chrysty Mining Company is successfully working these ores, having laid aside its stamps, giving the pulverizer the preference.

GENERAL MINING NEWS.

ARIZONA.

Our latest Arizona exchange contain the following:

GLOBE DISTRICT.

CALIFORNIA.—The face of the 200-foot tunnel in this property is now in ore. The shaft is in good ore, and the open cuts on the surface make a very favorable showing.

EAST RICHMOND.—The main shaft has reached a depth of 100 feet, from which a drift has been run seventy feet east toward the Mack Morris, and shows a magnificent body of ore. A 40-foot drift was also run from the main shaft at a depth of 50 feet, showing about the same grade of ore, and a large quantity of it.

EMIAZETTA.—Two shafts have been sunk, No. 1, 120 feet in depth, and No. 2, 80 feet. A contract is let to sink No. 2 to a depth of 200 feet. The walls are well-defined, showing a vein ten feet wide, the pay-streak lying next to the hanging-wall, averaging, it is said, 100 ounces.

MACK MORRIS.—The new hoisting-works for this property are getting rapidly into position, nearly the entire force of men being engaged in the work. The shaft is down 450 feet.

MINERAL CREEK.—Developments are going forward. The mill, it is said, will start up shortly.

OLD DOMINION.—The superintendent, under date of July 20th, writes: The new hoisting-works and steam-engines will be shipped to the mines this week. Two of the 30-ton smelting furnaces are completed, and will be shipped at the same time.

PINAL COPPER COMPANY.—It is stated that the smelter will be in operation within another month.

SOUTH PIONEER MINING COMPANY.—Developments are vigorously pushed, and an air-shaft is sinking to connect with the drift. The main shaft has attained a depth of 85 feet. Hoisting-works have been ordered, and the company also intends to order a new 10-stamp quartz-mill with a Howell & White roaster, and to have it running by the first of November.

STONEWALL No. 1.—Development is pushed ahead rapidly with gratifying results. An iron whim is being put on the main shaft. A splendid specimen of work is seen in the timbering of this shaft, which will be extended to a depth of between 200 and 300 feet before further cross-cutting is done. Twelve tons of ore are hauled daily to the mill, and as soon as hoisting facilities are improved, the ore output will be much larger.

TOWNSEND GOLD MINE.—This mine has been closed down for some months. It is stated that negotiations are now going on, which it is believed will result in putting a good force at work on the mine. The property has two tunnels which have been driven into the hill. The first is 120 feet long, and taps the vein 50 feet from the surface. The second is 170 feet long, and taps the vein at a depth of 110 feet. Both tunnels are driven in on the vein. The vein-matter lies between two perfect walls, with mineral distributed through the entire vein eight feet wide. A 5-stamp mill, all ready for ore, has been put up on the property.

SAN PEDRO DISTRICT.

WALSTON.—The main shaft has attained a depth of 145 feet. At the 50-foot level, a 20-foot cross-cut has been made on a three and a half foot vein of ore. In the bottom of main shaft there is a considerable flow of water, which will be sufficient to supply the mine. Heretofore, water has been packed from the San Pedro River. On the south side of the mine, across the gulch, a tunnel has been started and is now in fifty feet, all in ore. A winze will be put down at the end of this tunnel, and a drift run from this winze to connect with the main shaft. There are 150 tons of ore on the dump.

TOMBSTONE DISTRICT.

From the weekly mining reports in the Tombstone *Epitaph* of July 10th we condense the following:

ARIZONA QUEEN.—Drifting to cut the vein on the 100-foot level. Two lots of ore have been worked, giving satisfactory results.

FLORA MORRISON.—The new hoisting-works are nearly ready to start up, when rapid progress will be made on the main shaft.

GIBARD.—A 20-stamp mill is to be built a few hundred yards east from the hoisting-works. The water to run the mill will be obtained from the Sulphuret, the shaft of which is to be driven downward into the water-bearing strata as fast as possible. The water will not cost more than one-third the expense of hauling the ore to the river, and then there will be no loss in handling, as the cars that bring it to the surface will deliver it in the mill.

GRAND CENTRAL.—The new shaft is down 95 feet. The rock is getting harder. In the older workings, the showing is as favorable as heretofore. The various breasts and stopes continue to yield their accustomed amount of ore, which goes forward to the mill at the rate of 90 tons a day.

STONEWALL.—This mine continues shipping ore to the mill. The drift to connect the new with the old shaft is within 55 feet of point of connection.

SULPHURET.—The main shaft is to be driven down 1000 feet as fast as it

can be done after the pump arrives and is placed in position. The vein recently struck maintains its width of eight feet.

TOMBSTONE MILL AND MINING COMPANY.—For the last three weeks, there has been a steady improvement in the Goodenough portion of this property. This is notably the case in the southwest and northwest workings. Thirty-five stamps will be in constant operation during July.

WEDGE CONSOLIDATED.—The uprise is developing a large body of good ore, more carbonate and less manganese than in the body in the shaft. As a consequence, the assays show a rapid increase in value.

CALIFORNIA.

THE BODIE DISTRICT.

The reports of the superintendents of these mines for the week ending the 9th inst. state that the usual amount of work has been done, but no important developments are disclosed. We give below official reports for the week ending the 9th:

BODIE CONSOLIDATED.—During the week, there were 95,562 tons of ore hoisted, of which 41,35 tons were taken from the stopes above the 432-foot level, 5.5 tons from the fourth incline level, 27.5 from the fifth, and 21,312 tons from the sixth incline level. The amount hauled to the mill was 92,162 tons, and the amount crushed was 97,317 tons. The average pulp-assay was \$53.71, and of the tailings \$10.46 per ton. The mill and mine were closed down on the 4th, and on that day the machinery at the mine was thoroughly overhauled. At the 206-foot level, the east cross-cut was driven four feet, making its present length 23 feet. The men worked here only about half of the week. The north drift, No. 2, on the fifth incline level, is now 131 feet in length, a gain of seven feet since last report, and there is no essential change to be noted in the character and the quality of the ore. The stopes continue to yield rich ore. The north drift, No. 3, sixth incline level, continues in good ore. It has been driven seven feet during the week; total length, 69 feet.

BULWER CONSOLIDATED.—The uprise on the Stonewall ledge is up 149 feet, having been run 11 feet since last report. The ledge continues to be about three feet wide. The formation in the west cross-cut from the Standard new shaft (1000-foot level) continues good, but as yet there is nothing new to report.

STANDARD CONSOLIDATED.—The company extracted and shipped to the mills 916 tons of ore from the 300, 385, 500, and 550-foot levels. The average pulp-assay was \$35. The east cross-cut (1000-foot level) has been advanced during the past week 10 feet; total length, 340 feet. The west cross-cut is in 284 feet; progress since last report, nine feet. The formation remains about the same. The south drift from the east cross-cut (700-foot level) is in 46 feet; progress during the week, 12 feet. The south drift (500-foot level) has been run since last report 10 feet; total length, 335 feet, showing the vein to be four feet wide. The west cross-cut from this drift is in 40 feet; progress, 12 feet, in hard-blasting rock. The uprise from the south drift has reached a height of 50 feet; progress, 11 feet, showing the vein to be five feet wide. The north drift, No. 1, on the 385-foot level, has been extended since last report 15 feet; total length, 429 feet. The ledge at this point is about 15 feet wide. The West Standard uprise has been raised during the week 14 feet; total height, 217 feet. The ledge is 5 feet wide. There is no change to report in the appearance of the different stopes, and the vein holds its usual width of from 15 to 25 feet.

GREENVILLE DISTRICT.

CHEROKEE.—The superintendent reports the flow of water increasing in the shaft, principally caused by seepage from the old mine. A very important work is now in progress, being an incline shaft on the foot-wall of the white ledge north of the main works of the mine. This work has been advanced considerably; shows some good ore that will all be milled. All the present work is directed toward placing the mine in a condition for rapid working of the ore-body as soon as connection is made.

GOLD STRIPE.—Superintendent reports the ore in Lawrence tunnel opening by stopes that show the vein of good size. Double shifts are pushing the tunnel No. 2 from the east side of the mine, that will give a depth of 200 feet on this ledge. The work on Kerr tunnel progresses actively. The rise shows good ore. The mills are running full time.

GREEN MOUNTAIN.—The report of the superintendent of this mine says: The east and west drifts from the rise above Blake tunnel have been extended through ore on the vein, and have opened a large quantity of ground ready for stopping. The ore runs very evenly in quality through the entire width of vein. The Hayden mill is doing good work since its overhauling. No. 5 tunnel is pushed ahead; double shifts at work.

MENDOCINO FLUME AND MINING COMPANY.—A recent letter from the superintendent states: By combining the Reeves tract (1103 acres) with that now owned by the company, you will possess a tract of land that will yield, I estimate, more than one hundred and fifty million feet of merchantable lumber, which, if sold (as it would be readily) at the low average price of \$20 per M, would yield a total return of \$3,000,000. The cost of cutting, manufacture, and delivery by flume would not be over \$6 per M, or \$900,000. As there are but 100,000 shares in the company, this would give \$21 per share on the lumber alone. Besides this, the company owns 300 acres of valuable placer claims, which it will be able to work most successfully as soon as its mining ditch is completed. Hardly a pan of gravel on these claims can be found that does not contain gold. The reports of practical miners who have thoroughly prospected the ground place the receipts of the company from this source at over \$500 per day. Since the receipt of the letter, the company has purchased and taken possession of the Reeves tract. The improvements alone on this tract, such as mill, machinery, houses, etc., every thing complete for the business, now in full operation, are valued at \$10,000.

DARDANELLES.—A recent letter from the superintendent states: In the Sheridan chute ground, we are getting out considerable good gravel. The output here has been increased to thirty-five loads. As we open wider breasts, this will be increased, regularly from now on. The ground that pays is quite deep. We are now breasting it out about seven feet high, and will probably have to increase that. From the Duffy drift we have not increased our output much, as we can not open breasts until we reach the back. About fifteen cars come out. The gravel pays rich. The Reinhart tunnel is going ahead pretty fast, considering the hardness of the rock. From the bank-face in the Dardanelles, near the Vigilance tunnel, we have two men taking out gravel. For a week past, they have taken out over \$20 a day of splendid-looking coarse gold.

CANADA.

NEW BRUNSWICK.

HOPWELL MANGANESE COMPANY.—This company has recently been formed for the purpose of mining for manganese in the parish of Harvey, Albert County, N. B. The company has secured a lease of 250 acres of land for twenty-one years from June 9th, 1880, with privilege of renewal if desired. The report of the expert sent to examine the property, says: Manganese is found cropping out in several places, and the probabilities are, that it will be found in large deposits.

COLORADO.

DOMINION.—The Idaho Springs *Advance* says that the prospecting tunnel on the Dominion is worked by a day and night shift. The breast of the tunnel shows considerable mineral mixed with the gangue or lode matter, which is from three to four feet wide. The developing tunnel is pushed steadily ahead, no effort being made to explore for large bodies of mineral.

DUNDERBERG.—The superintendent of this mine writes that the July product

will be equal to June's. Five drifts and stopes show about same condition. Start mill on full time July 18th.

HUKILL.—The mine is now worked on both sides of the Clear Creek Valley. Three cars loaded with low-grade ore are hauled by the afternoon trains to Lawson, where the concentrating of Hukill refuse is still done. A considerable quantity of high-grade ore is in the ore-house and sampling-room ready for sampling, which is always done before shipment.

PAY ROCK.—The superintendent of the Pay Rock says that the product of the mine this month will exceed that of the previous months for some time past. The ore-veins are looking finely, and the working force is continually increased.

CUSTER COUNTY.

The Silver Cliff *Gazette* approximates the daily output of the Silver Cliff Company at 120 tons, and the Bassick at 70 tons.

SILVER CLIFF.—A late issue of the Silver Cliff *Gazette*, referring to the mines of this company, says: Superintendent Perkins employs 50 men on the mine, part of whom are stripping new ground, and the remainder extracting ore. At the mill, 30 men are required for day and night work, making a total of 80 men on the pay-sheet. Since our last visit at the mine, a vast amount of work has been done, and, as a result, there is much more ore in sight than has ever been exposed at any one time. On all sides, the rich pockets and seams of horn-silver peculiar to this mine are opened up every day. From one of these pockets, a nugget about the size of a hen's egg was picked up the day of our visit, which was fully sixty per cent pure silver. Every shot put into the ledge dislodges and throws down tons of silver-coated rock which is passed down the chutes into cars on the net-work of tramways below, and sent thence to the mill in two trains of five cars each and one of six, which are constantly passing to and fro between the mine and mill. With the exception of two days last week, the mill has been continuously at work since it was started up. The concentrates of tailings saved and sold range from 60 to 100 tons per month, and have a net value of from \$100 to \$200 per ton, varying in quantity and value with the percentage of manganese and iron contained in the daily output of ore. The body of ore seems to be limited only by the surface-lines of the company's property, or, as nearly as can be determined now, about twelve acres of pay-rock from the surface down. About one acre of this has been worked down to a depth of 40 feet, disclosing richer ore, with a smaller proportion of waste at the bottom, than any other point in the workings. It is yet too early to estimate the depth of the ore, nor is it important, as it will require years to mill down the surface to present levels.

GILPIN COUNTY.

Late issues of the *Register Call* contain the following:

HIDDEN TREASURE.—The Hidden Treasure Mining Company has commenced another lift of 100 feet in the bottom of its main shaft, which is down to 1130 feet. The 1100-foot levels are driving, the one going east having reached the boundary-line, a distance of 170 feet.

RARA AVIS.—Drifts both ways from No. 1 shaft on the Whitney mine are driven at the 305-foot station. The one going east will be driven to surface to form a tunnel on the vein, and will be 1335 feet in length when completed, taking in the shaft on the Little Mack lode, which will be used for purposes of ventilation. This level will drain the property of surface-water to a depth of over 300 feet, and will eventually form the outlet of the mine for deeper workings. As soon as these drifts are far away enough from the shaft, and stations permanently established, sinking will be resumed to a farther depth of 100 feet, when other stations will be established. The shaft-building over No. 1 shaft has been enlarged, the forge removed to a more convenient point. Miners are now engaged in assorting over the dump-piles, these containing greater or less quantities of concentration ore. East of No. 1 shaft, 900 feet, a shaft is sinking to intersect tunnel level, which will be 110 feet deep at the point of intersecting. Pay-ore has been passed through in sinking this shaft, with no indications of its pinching up. Going west on the line of the lode, No. 2 shaft on the Rara Avis is blocked up with ore that has been broken. A whim is being placed in position to hoist this accumulated material to the surface, the depth of the shaft being too great to make a common windlass available. When this material shall have been removed, the shaft will be sunk and connection made with the 300-foot level west from No. 1 shaft.

ROLLINS.—The Rollins Gold and Silver Mining Company is shipping to Forman & Campbell's Sampling-Works in Black Hawk, five tons of smelting ore daily from the Perigo mine, in Independent District. The company has fifty tons on the dump awaiting transportation. The ore brings a market price of from \$80 to \$120 per ton.

LAKE COUNTY.

CHRYSOLITE.—This mine is again shipping largely, the daily output averaging 90 tons. The ore nets about \$90 per ton. According to the *Democrat* of the 17th, Manager Rolker states that the present shipments will doubtless be continued during the entire month, which will give the Chrysolite about \$200,000 profit on the product of July, and increase the cash fund of the company to over half a million dollars. The mine is looking extremely well, showing large breasts of mineral in all sections. The ore-bins have been full continually since the mine resumed about two weeks. Mr. Marden, the financial agent of the company, has forwarded to the New York office since July 4th, \$44,000, and there is at the smelters \$40,000 worth of ore still unsettled for, which will be received and sent east by next Wednesday. Energetic efforts are made to reach the seat of the fire, and considerable ground has been regained, placing the mine in possession of several fine bodies of ore.

CRESCENT.—This mine is under the same management as the Catalpa. The Leadville *Herald* says: Since the property was purchased by its present owners, the Crescent Mining Company, an immense amount of what is termed dead-work has had to be done. That is, retimbering and cleaning up the various drifts and the incline. At present, the lower 300 feet of the main incline is retimbering; and as soon as this is completed, it will be continued and new levels started below. This lower or east portion of the mine is looking exceedingly fine, and will be largely productive in a short time. The incline is 900 feet in length, and at 600 feet from the mouth the south level is working, and now extends 65 feet. This has cut a body of rich chloride ore, and a cross-cut has been started back to the west from it to connect with the No. 2 south level. The No. 4, north level, is also being worked and extends 35 feet from the incline starting at 650 feet from the mouth. It has within a few days run into a body of fine ore. It seems apparent that the main ore-chute commences at about this point and extends across beyond. This is shown from exploration made lower down the incline. As soon as that portion of the mine is put in proper shape and opened, large shipments can be expected. From the mouth of the incline to the west line of the company's claim, is a distance of 500 feet. That west end of the claim, 300 by 500 feet in size, has not been at all explored. A new shaft has now been started at a distance of 75 feet from the west line. It is down 65 feet and is rapidly driven, it not being expected the ore-body will be reached under 150 feet. A new shaft-house over this shaft is to be put up at once, and a new 15 horse-power steam-boiler has been purchased, and will be put up and running next week.

DENVER CITY.—Operations will be resumed on this mine after the completion of the work of setting a new plant of machinery on the New Discovery shaft.

EVENING STAR.—This mine is shipping from 60 to 65 tons daily, and is looking exceedingly well. The ore averages \$40 per ton.

GLASS-PENDERY.—On the 13th, the mining reporter of the *Herald* visited this mine and went through all the underground workings. Near the Glass shaft, a new stope has been begun near the large ore-body south and west from the shaft.

In this portion of the mine, there is little change. To the north, the main level connects with the former workings of the Pendery shaft at a distance of 800 feet. Great changes have here taken place. The old Pendery workings have been thoroughly retimbered and put in first-class shape. To the east, the ore is dipping sharply, and an incline extends at a pitch of 20 degrees for nearly 100 feet. Here, the great new strike recently made was found, and cross-cuts are now running both north and south upon it, as well as continuing the incline. The ore is wonderfully rich, and completely studded with chloride. The ore-body is from 4 to 6 feet in thickness, all of great richness. The strike is by far the most important one ever made in the Glass-Pendery. Both shafts of the mine are now worked. Over the Pendery shaft, a new Norfolk engine has been placed. The ore-bins at both shaft-houses are well filled, and shipments of ore are regularly made.

IRON.—This property continues outputting considerably over 200 tons per day, and the underground workings show large bodies of ore.

LITTLE PITTSBURG.—The superintendent has miners employed in clearing up the drifts and stopes and putting new timbers in the new discovery. The *Herald* says that it was proposed to begin work on the 15th; but it is now deemed advisable to wait a few days and see the results of the Chrysolite fighting fire.

PARK COUNTY.

The New York mine, on Mosquito Pass, has begun to ship ore.

MOOSE.—The Fairplay *Flume* of the 14th says: The Moose ships all of its ore to Leadville under a contract with the La Plata smelter. During June, the shipments amounted to four car-loads of high-grade ore. Although the Boston & Colorado Works have lately made an important reduction in the price of treatment, yet the superintendent of the Moose says that he still finds a difference of \$290 in favor of the Leadville market on the four car-loads above mentioned. He has now a couple of car-loads of low-grade and somewhat refractory ore on the ground at Dudley, and will ship the same to the La Plata Works, in order to see what can be done with it. Should it prove profitable, there is a very large body of similar ore that can all be utilized at once. The shipment of high-grade ore this month will, from present indications, be larger than last.

SAN JUAN COUNTY.

ALLIED MINES.—The new machinery, weighing 250,000 pounds, is en route from Alabama to Ouray.

BEAR CREEK.—The superintendent writes that work is driven with most encouraging prospects, and if ore continues as good as now mined, and there is every indication that it will, the company can begin paying dividends in two or three months.

SUMMIT COUNTY.

ROBINSON CONSOLIDATED.—Advices state that developments in levels No. 1 and No. 2 show a large body of high-grade oxidized ore; average assays, 400 ounces. This is north of the main incline. Shipments for the week ending the 9th, 400 tons of 100-ounce ore. The mine is looking well everywhere. The last shaft is down 30 feet.

DAKOTA.

CALEDONIA, BLACK HILLS.—Under date of the 10th inst., the superintendent reports that connection has been made between the lower and upper tunnels, south of the present open cut, and that there are about 45 feet yet to rise to the surface, from the top of an uprise. Straightening the south end of the lower Caledonia drift has been begun, preparatory to continuing the drift in a southerly direction about 150 feet. As soon as the above-mentioned rise is completed, the upper tunnel will be extended to the south about 110 feet, the two drifts will be connected, and a rise made to the surface for a new open cut.

FATHER DE SMET.—The official report of the superintendent, for the week ending the 8th inst., says that 1500 tons of ore were extracted from the first level, 326 from the second level, and 40 from third level. During the week, 1866 tons of ore were milled. Sill-floor of McGinty chamber was advanced two sets. The rise from the end of the east cross-cut, Golden Gate, from second to first level, was advanced three feet.

IDAHO.

SALMON RIVER COUNTY.

PILGRIM.—The Blackfoot *Register* says: This mine was discovered a year ago. The ore in this section is different from that on this side of the range, it being a granite formation and carrying no galena. Work was begun in October last on a tunnel which has been run 440 feet, and a few days previous to our visit struck the vein at a depth of nearly 300 feet. The vein has been found to be as wide as 26 feet in places, with 16 feet of good ore. Eight tons were packed out and shipped to Salt Lake last fall, which milled 356 ounces of silver per ton.

BEAVER AND COLUMBIA.—Not far from the Pilgrim mine are situated the Beaver and Columbia mines, which are principally owned by Messrs. Cortright & Company, of this city. The superintendent's statement just received, reports as follows: Double shifts at work on Beaver tunnel, the country working easier as they approach the ledge. The three tunnels on the Columbia are running night and day. In the first or lower tunnel, the size of the ledge is increasing, and we are getting ore that will go up into the hundreds; and in the third or upper tunnel, we have rock that will not go less than \$1000 per ton. The second or middle tunnel has ore not so high in grade, but in any other mining country would be called extremely rich. The ore now taken out is stacked on the dumps. The mill-site will be graded and ready for the machinery as soon as can be got here. The wagon-road is nearly completed, and the surveyors of the proposed railroad branch of the Central Pacific, from Kelton Junction, are now just across the divide from this place. The development of this district is wonderful in its promise.

WOOD RIVER REGION.

WOOD RIVER COMPANY.—The Wood River *Times* says that the Ophir and Bullion mines, the property of the Wood River Gold and Silver Mining Company, resumed ore-shipments on the 29th of May last. Since that date, 3198 sacks, or about 159 tons, averaging 205 ounces silver and 53 per cent in lead, have been shipped to Salt Lake, where they brought about \$201 per ton, or a gross value of about \$33,000. Last year, about 80 tons were shipped, which sold for an average of \$230 per ton. There are, besides, about 35 tons on the dump, ready for shipment. No stoping has been done so far, all the ore shipped having been extracted in driving and sinking. The workings include a tunnel 380 feet long, the face of which was 190 feet below the croppings. The shaft is down 140 feet below the level of the tunnel, and near the bottom of the shaft there are 130 feet of drifts. The total depth attained in the vein is 330 feet. New hoisting-works—the first in this section—were recently purchased by the Wood River Gold and Silver Mining Company, and are erecting at the Bullion mine. They are expected to be ready to start about the first of August. As soon as the new works are started, the extraction of ore will be resumed on the tunnel level, and an average of ten tons per day will be shipped. The sinking of the shaft will also be resumed, and regular levels and stopes will thenceforth be opened from the surface.

MEXICO.

From a very interesting letter written to the *Evening Post*, from Mazatlan, under date of May 25th, we make the following extracts:

When we talk of civilizing Mexico by the introduction of American enterprise and labor, let us bear in mind that two thirds of its population are Indians, and that they are most expert miners. Our people have come to believe the most extravagant stories about abandoned mines, abandoned because the Mexicans were too ignorant or too lazy to work them beyond a depth of one or two

hundred feet. They are led to suppose that the Mexicans have taken out merely the croppings, and, not knowing how to timber the shafts and tunnels, have been content to take only the surface ore, rich as it was, and leave the rest, which is infinitely richer, to fill up with water. They imagine, too, that American labor, with American superintendence, will accomplish vastly more than the present system, and this at four times the price that is now paid. I entertained these ideas myself; but from a visit to a large and profitable mine, worked by a Mexican superintendent and a Mexican force, as well as what I have been told by experienced mine-owners, some Americans among them, I have come to entirely different conclusions. It has been found by the purchasers of these abandoned mines that in most cases there were good reasons for working upon them no longer; for Mexican mines, although on the average of much richer ore than ours, are pockets or contact-veins, seldom extending to any great depth. The value had been got out of them to a greater extent than these enterprising speculators imagine. Then, again, American labor at three or four dollars per day is not so profitable as Indian labor at seventy-five cents, and it is doubtful if it would be at the same price. The services of good sorters of ore can not be overestimated, and in this line the Indians can not be excelled. I asked one of them who was thus employed to pick out from the pile a sample of the richest rock. Without any hesitation, he selected a piece which proved to be worth \$38.90 per ton, and this, it was said, they would invariably do. The only trouble is, that they know the ore too well, and often steal it, concealing it about their persons. The loss to the mine by this means is estimated at five per centum, which it is admitted is an offset to value of Indian labor. There is undoubtedly a superior energy in American superintendents; but it is only in very rare cases, and when they thoroughly understand the language and habits of the people, that they can carry on the work. On the whole, therefore, I became satisfied that the safest investments are in mines that have been exploited only enough to show their value, without having had much ore abstracted, and that the safest way to work them is with Mexican superintendents and Mexican labor. The mine that we visited was thus managed, and I never saw a mining camp in the United States so well conducted and in such perfect order. An American force might possibly have got more ore; but one that would produce in a month, with a ten-stamp mill, the sixty-seven thousand dollars' worth of bullion which we now saw our friend Fajardo loading on his mules for Mazatlan, besides ten thousand dollars' worth sent down in high-grade ore, seemed to me a sufficiently satisfactory exhibit without further improvement.

MONTANA.

Our Montana exchanges contain the following statements:
ACQUISITION.—The double-compartment shaft has reached a depth of 140 feet. No ore is taken from the old openings of the mine, and none will be until the vein is tapped by a cross-cut from the 200-foot level, which will be established as soon as the shaft can be dropped down.
ALICE.—Every portion of the mine is reported to be in good condition. At the 700 level, there is little variation in the quality of the ore. At the 300-foot level, a large body of high-grade ore is opened up, and a force of 28 men is at work extracting. The company is now employing a combined force of 257 men.
ALTA-MONTANA.—Recent reports are, that a 2-foot vein recently struck in the Comet mine has widened to nine feet, and that the ore is as good as has been found in the mine since the company has owned the property. The Comet mill is producing 10 tons of concentrates daily, and night shifts are to be put on and the product doubled. The Comet is considered as valuable as the Alta mine. The smelter will probably start about August 15th.
LEXINGTON.—The main double shaft has attained a depth of over 175 feet. The rock was moderately hard, but yielded freely to blasting. Cross-cutting to the north will not be commenced until 300 feet have been reached. At the old whim incline shaft, the work is confined to stoping, in two places, in the east level, distant from the shaft, at the farthest point, about 400 feet. At both places, the ore-body is looking finely.
MAGNA CHARTA.—Sinking of the main shaft is suspended for the time being, but the cross-cut, which is driven to the north to tap the vein, is pushed ahead, at the 300-foot level, under special contract for running, and the cut is advancing, with a fair degree of progress. Stoping ore in the drifts of the 200-foot level continues daily. At the 100-foot or adit-level, an excellent quality of manganese ore is coming out. Sinking on the vein struck in the grade for the Howland pulverizer is developing a fine vein of high-grade free-milling ore. From this chute a large supply of ore can be expeditiously extracted.
MOULTON.—Workmen are busy putting in the water-tank and building the pump-station at the main three-compartment shaft; it will take several days to finish. Probably within a week the sinking of the shaft will be resumed. The cross-cut to the south at the 300-foot level is passing through a strong vein of ore, and 14 feet of ore, slightly mixed with streaks of granite, has been opened. This cross-cut is now in over 126 feet, and will be run until the main Moulton vein is tapped. At the 200-foot level, the work is confined to station-cutting. The 40-stamp mill is raised and the building will be inclosed in a few days.
VALDIMIR.—A shaft has been started down on the vein, and one shift is employed in sinking. The vein is opening well, and is said to yield ore of a high grade. But little more than surface work has been done, as the shaft is only down a few feet. The surface indications are favorable, and the vein grows better as it is followed down.

NEVADA.

COLUMBUS DISTRICT.

We are indebted to the *True Fissure* of the 9th inst. for the following reports:
MOUNT DIABLO.—The north cross-cut from the bottom of the winze, from the third level, looks more promising and shows a favorable formation. A north cross-cut from the west drift, on the third level, has struck ore that looks well for opening, though much work will be required to determine the extent of it. On the second level, the stopes look fully as well as last week, and continue to give very good ore. The stopes on the fifth level is opening very well, and shows a very fine body of first-class ore.
NORTHERN BELLE.—The shaft levels are looking about the same. The development in the intermediate level, between first and second, mentioned in last report, shows improvement as work progresses, and promises well for the future. The levels above the adit are producing the usual quantity of ore, and promise well for a continuance of the same. There are being extracted and sent to the mills about 85 tons of ore daily. Both mills are running steadily and doing good work.

COMSTOCK LODGE.

The *Gold Hill News* of the 13th says: There is certainly nothing very encouraging from the north end to-day, though the situation may be entirely changed by to-morrow. The cross-cuts are run as usual in Sierra Nevada. The water gives some trouble in Union. The machinery of the C. & C. shaft, through which the Bonanza mines are worked, is in thorough repair, and will stand a long siege of work. The C. N. S. hydraulic pump will start up for permanent work before the end of the week, which looks encouraging for holders in the middle mines. The Yellow Jacket is the center of attraction of the Gold Hill group just now. The quartz found by the Suro Tunnel drift is liable to prove interesting. The work carried on in the other Gold Hill mines is about the same as last reported, save at the Alta, where sinking of the shaft is retarded by water.

EUREKA DISTRICT.

EUREKA CONSOLIDATED.—Official letter of the 9th inst says: Affairs at the mine remain in about the same condition as per last report. The fourth level

drift struck the quartzite, and has been run on the contact to the northwest. The eleventh winze still continues in favorable ground for ore. New shaft sunk 13 feet; in all, 886 feet.

LEWIS DISTRICT.

STARR-GROVE.—The manager has just begun operations on a new and large incline shaft at the end of the tunnel, and is putting in extra machinery for the purpose of sinking to a depth of at least 500 feet. The shaft will follow the dip of the ledge, and will open out the immense ore-reserves that are below the tunnel level. It will be pushed to completion as fast as possible, and will add very materially to the working of the mine. On the second level, south, the drift has been run about 30 feet during the past week; and on the third level, south, 35 feet have been run, all in good ore. A new winze is running from the second to the third level, for the purpose of securing a good current of air.

WHITE PINE.

MARTIN WHITE.—Letter of July 6th says: The ground in the face is still quite hard, but shows some indications of a change. I think, from the appearance of the ground, that a change will take place soon.

NORTH CAROLINA.

SOUTHERN BELLE.—Messrs. Wellington & Sinker, directors of the Southern Belle Mining Company, have just returned to Boston from a visit to the mine, and express themselves as highly pleased with the prospects. The superintendent is opening up the mine in a very systematic manner. Has 70 tons of ore on the dump, and has put in five sets of timbers on his working-shafts. A test of 500 pounds of the surface ore showed a result of \$11.12 per ton. Hoisting-engine and pump have been ordered of the Mecklenburg Iron-Works, and will soon be placed on the mine. It is believed that at a depth of 150 feet a large body of rich sulphuret ore will be encountered.

UTAH.

We condense the following from our Utah exchanges:
BARBEE & WALKER.—It is expected that the repairs at the mill will be completed as early as the 20th inst. There are 500 tons of ore on the dump at the mill-floor, and it is daily increased.
NORTH HORN-SILVER.—Work is pushed vigorously at the Great Republic, Spanish Wolcott, and Vanderbilt mines belonging to this company.
STORMONT.—There are about 45 feet yet to run to complete the connection between the Greek and No. 16 winzes. As soon as the connection is made, the third level will be pushed south from the Greek winze, and it is believed that the ore-body will be found to extend in this direction. The north stopes on second and third levels are looking well, and furnish the principal part of the ore shipped. The mill machinery has been thoroughly repaired, and every thing runs smoothly. On July 6th, when the mill started, there were 400 tons of ore on the dump, and 45 tons are crushed per day.

PROPOSALS AND SALES.

For the benefit of many of our readers, we compile weekly such proposals and solicitations 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:

Laying about 3700 feet of 12-inch Iron Water Main, crossing Grand River at Fulton street; Grand Rapids Water-Works, Grand Rapids, Mich.....	July 23, 1881.
Construction of Water-Works (to have a capacity of from 500,000 to 600,000 Gallons per day), or for supplying the Machinery and Materials required in connection therewith; Thomas Coles, Chairman of Water-works Committee, Parkdale, Ont.....	" 25, "
Furnishing and Delivering at League Island Navy-Yard Three Hundred Tons of Anthracite Coal, broken, and Forty Tons Egg, best quality; John S. Cunningham, Pay Director U. S. Navy, 425 Chestnut street, Philadelphia, Pa.....	" 25, "
Furnishing 1200 Tons (2240 pounds) Best Quality Lehigh Broken Coal; Camden Water Department, City Hall, Camden, N. J.....	" 25, "
Construction of an Iron Bridge Superstructure across East Sandy Creek, at what is known as Slab Furnace; Commissioners of Venango County, Franklin, Pa.....	" 26, "
Improvement of Delaware River at Cherry Island Flats; J. W. Macomb, Col. of Engineers, U. S. A., 1125 Girard street, Philadelphia, Pa.....	" 28, "
Dredging Norfolk Harbor and its Approaches; Currituck Sound and Coan-jock Bay, N. C., and Pagan Creek, Va.; James Mercur, Capt. of Engineers, 50 Main street, Norfolk, Va.....	" 29, "
Furnishing and Delivering at the Washington Navy-Yard 245,000 Pounds of Best Quality American Refined Copper; J. Adams Smith, Pay Inspector, U. S. N., Navy Pay Office, Washington, D. C.....	" 30, "
Supplying the United States Public Buildings in New York City with Fuel; Custodian of the U. S. Court-House and Post-Office Building, New York City.....	Aug. 1, "
Drilling a Well near the Water-Works of the City of Jackson; Board of Public Works, City of Jackson, Michigan.....	" 6, "
Blasting and Removing Solid Rock and Boulders from the Columbia River, adjacent to and below the Site of the Locks at the Cascade. The amount available for this work is \$50,000 or more. Contractors are requested to visit the site for the purpose of examining the charts, which locate the obstructions, and of determining for themselves the character of the work required. Specifications and blank forms may be obtained on application to G. L. Gillespie, Major of Engineers, Brevet Lieut.-Col. U. S. A., U. S. Engineer's Office, Portland, Oregon.....	" 6, "
Furnishing and Delivering at the Navy-Yard, Pensacola, one Bement's Suspended Counter-Sinking Drill, with Table on Rollers, for Counter-sinking Ship Plates, with Counter-Shaft, Hangers, and Pulleys complete; L. T. Brown, P. A. Paymaster, U. S. Navy-Yard, Pensacola, Fla.....	" 10, "
Furnishing 36 Spring Wagons (Dougerty Pattern) and 25 Ambulance Wagons (Army Pattern) for the United States Army; Depot Quartermaster's Office, Philadelphia, Pa.....	" 16, "

ASSAY DEPARTMENT OF THE ENGINEERING AND MINING JOURNAL.

This department is opened for the benefit of miners, prospectors, and others interested in minerals.

Replies will be made in these columns, and *without charge*, to questions asked regarding the nature and commercial value of minerals, and of samples sent.

Assays, determining the actual composition and value of ores, will be made at the following rates. All assays are made with the utmost care by the most experienced and competent assayers:

Assay for gold.....	\$3.50	Assay for copper.....	\$3.00	Assay for iron.....	\$4.00
" silver.....	3.00	lead (wet).....	3.00	nickel and	
" gold and silver.....		zinc.....	5.00	cobalt.....	10.00

The amount should invariably accompany the order, and expressage or postage must always be prepaid.

Communications, samples, etc., to be addressed to

ENGINEERING AND MINING JOURNAL, 27 Park Place, New York

(P.O. Box 4404).

NON-DIVIDEND PAYING MINES.

NAME AND LOCATION OF COMPANY.	NUMBER OF SHARES.	Par.	ASSESSMENTS.		HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE.												SALES.	
			Total levied to date.	Date and amount of last.	July 16.		July 18.		July 19.		July 20.		July 21.		July 22.			
					H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.		
Albion, s. L.	150,000	150		May 81 35													500	
Alta-Montana, g.	600,000	10				2.05	2.00	2.00		2.00				3.30			1,000	
Am. Flag, s.	125,000	10												10c			1,400	
Bald Mountain, g.	1,000,000	10															8,900	
Barcelona, g.	200,000	25				1.15	1.10	1.15		1.20	1.00	1.20	1.15	1.45	1.20	1.55	1.35	13,700
Battle Creek	200,000	25																
Bear Creek	300,000	1				86c	84c	80c	84c	86c	85c	88c	84c	87c	85c	86c	85c	20,900
Bechtel Con., g.	100,000	100	162,750	Dec 81 50	1.70	1.50											400	
Best & Belcher, g. s.	100,800	100	992,990	Mar 81 50													649	
Big Pittsburg, s. L.	100,000	100				2.75	2.40			2.50							1,600	
Black Jack, g.	100,000	10				1.00		1.05	95c	1.00		1.00					1,700	
Bonanza Chief	1,000,000	1						14c		14c							5,000	
Bonholder	200,000	25c															2,000	
Boston Con., g.	100,000	100	30,000	Apr 81	25c	25c	30c		25c					25c			4,200	
Boulder Con., g. s.	200,000	100															70	
Bradshaw, s.	225,000	10															70	
Buckeye	400,000	5				8c			8c					9c	8c		4,600	
Bull-Domingo, s L.	200,000	50				1.70			1.75	1.70	1.60			1.90	1.70	1.85	1,300	
Bullion, g. s.	100,000	100						2.80	2.75	2.95	2.75	2.80					445	
Bulwer, g.	100,000	100	475,000	May 81 50													600	
Bye and Bye	100,000	10	30,000	Dec 77	23c	20c	24c	25c	25c	22c	27c	25c		26c	25c	29c	34,100	
Calaveras, g.	500,000	1						15c	13c					13c		15c	5,100	
Cal., B. H. g.	100,000	100	400,000	Mar 81					1.50	1.75					1.65		500	
Carbonate Hill, s. L.	400,000	10															600	
Catskill, s.	200,000	5				4.38	3.25	3.75	3.13	4.00	2.88	3.88	3.00	3.75	2.25	2.88	2.00	105,155
Central Arizona, s.	100,000	100															806	
Cheyenne Cons, g	300,000	10				1.25	1.25							1.35			1,800	
Cherokee, g.	150,000	10				4.90	4.40	6.25	5.50	9.00	7.00	12.00	10.00	20.00	15.00		82	
Colorado Central, s.	100,000	50															30	
Colombia Con., g. s.	100,000	50						14c		15c				12c			2,500	
Cons. Imperial, g. s.	600,000	100	1,375,000	Apr 81 40													2,500	
Con. Pacific, g.	40,000	100	114,000	July 81										16c	16c	20c	2,500	
Con. Pay Rock, s.	250,000	1															300	
Crescent, s. L.	300,000	10				35c	29c	30c	29c	30c	29c	30c		30c	20c	30c	16,500	
Crowell, g.	50,000	1															300	
Dalton, g.	250,000	1															700	
Dardanelles, g.	100,000	10															15,300	
Durango, g.	150,000	10															300	
Empire, s.	100,000	100				54c	53c	54c	52c	51c	51c	46c	47c	49c	45c	43c	300	
Enterprise	100,000	100															300	
Globe Copper	100,000	100	75,000	Jan 81													300	
Glynn Dale Con. g	100,000	100															8,400	
Gold Placer, g.	100,000	100															1,600	
Goodshaw, g.	100,000	100	145,000	Feb 81 15													8,400	
Granville, g.	300,000	1				5c		5c		5c				6c		6c		
Harshaw, s.	100,000	100																
Head Center, s.	100,000	100	55,000	May 81 30														
Hortense, s	100,000	100																
Julia, g.	110,000	100																
Kossuth, g. s.	108,000	100																
Lacrosse, g	100,000	10				28c											2,700	
Legal Tender, s L	200,000	5												14.50	12.00	20.00	400	
Leviathan, s.	100,000	100	350,000	Mar 81 25													400	
Lucerne, s.	500,000	10				1.30	1.20	1.30	1.20	1.30	1.20	1.30	1.25	1.20			1,900	
Malachite	200,000	5															100	
Mariposa preferred, g	50,000	100	1,425,000	Dec 80													100	
May Belle, g. s.	100,000	100	1,425,000	Dec 80													100	
Mayflower, s.	100,000	100	36,000	June 81 20														
Mexican, g. s.	100,000	100	1,509,000	June 81 81	7.38	7.63											160	
Michoacan Syndicate	200,000	10				65c	50c	60c	55c	65c	58c	65c	58c	65c	58c	65c	7,600	
Mineral Creek, s.	200,000	5				70c	68c	70c	65c	70c	65c	72c	66c	70c	66c	72c	25,500	
Miner Boy, g s L.	50,000	100	325,000	May 81 50													200	
Mono, g.	300,000	10																
Moose Silver, s.	300,000	10																
Nevada Syndicate	100,000	100						1.10		1.05		1.00	90c	98c		96c	1,800	
North Standard, g.	400,000	100				6c		8c	6c								5,100	
North Horn Silver, s L.	100,000	100																
Noonday	60,000	100				70c	50c	50c									160	
Old Dominion, c.	200,000	10																
Oriental and Miller, s.	40,000	10				1.00	93c	1.00	95c	90c	1.00	92c	95c	88c	94c		40,100	
Overman, g s	35,300	10																
Quicksilver preferred	42,913	100				74.00	20.00	21.00	19.00	22.13	22.00	21.50	22.50	21.00	21.50	22.00	1,400	
Quicksilver common	57,087	100				21.25	20.00	21.00	19.00	19.25	19.38	19.25	19.62	18.00	19.25		2,350	
Rappahannock, g.	250,000	1				19c	17c	18c	17c	17c							7,900	
Red Elephant, s.	500,000	10															200	
San Pedro, g s L.	100,000	25				4.45	4.00	4.25	3.80	4.05	3.80	4.80	4.15	4.65	4.50	4.65	200	
Silver Cliff, g.	200,000	10				25c	23c	25c	25c	28c				35c			100	
Silver Nugget, s.	200,000	10				60c	57c	63c	60c	65c	62c	70c	65c	80c	71c	80c	19,900	
Silver N, new stock, s	250,000	0																
South Bodie, g.	100,000	100	85,000	Nov 80 25														
South Bulwer, g.	100,000	100	195,000	May 81 25														
South Hite	100,000	25				40c	38c	40c		38c				38c			3,200	
State Line No. 1, s.	200,000	25				95c	94c			1.00		1.15	1.10	1.10			800	
" No. 2, s.	200,000	25																
" No. 3, s.	200,000	25																
" No. 4, s.	200,000	25				1.05	97c	1.10	95c	1.20	1.05	1.35	1.15	1.25	1.10	1.20	1.10	
" Nos. 1 and 2, s.	200,000	25				4.00	3.75	4.15	3.90	4.30	4.00	4.30	4.20	4.30	4.20	4.30	47,350	

and interest, were \$938,827.13, and the latter, exclusive of interest, \$1,072,777.86, making the net earnings of both companies for the month \$839,300.46, being an increase, as compared with the corresponding month of last year, of \$114,173.64. The net earnings of both companies for the year to July 1st were \$4,688,531.63, being an increase of \$588,542.99, as compared with the corresponding period of last year.

BULLION MARKET.

NEW YORK, Friday Evening, July 22.

The market has had a natural reaction from the depression of a week ago; but as there would appear no other reason for the rise, it is quiet and rather nominal at the rates given.

DAILY RANGE OF SILVER IN LONDON AND NEW YORK, PER OZ.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
July 16...	51½	111½	July 20...	51½	111½
July 18...	51½	111½	July 21...	50½@51½	111½
July 19...	51½	111½	July 22...	51½	111½

BULLION PRODUCTION FOR 1881.

We give below a statement showing the latest bullion shipments. These are officially obtained from the companies, where that is possible; and where official statements can not be procured, we take the latest shipments published in those papers nearest to the mines reported. The table gives the amount shipped for the week up to the date given, as well as the aggregate shipments to such date, from the first of January, 1881.

The shipments of silver bullion are valued at \$1.29-29 per ounce, Troy; gold at the standard \$20.67 per ounce, Troy. The actual value of the silver in the following table is therefore subject to a discount, depending on the market price of silver. If the price of silver be counted at \$1.12 per ounce, which has for some months been about its average value, the following figures, where they relate to silver bullion, should be diminished to about 13½ per cent to arrive at actual value.

MINES.	States.	For the week.	Month of July.	Year from Jan. 1st, 1881.
*Alice, g. s.	Mont.			\$510,008
*Barbee & Walker, s.	Utah			81,155
*Belle Isle, g. s.	Nev.			12,060
*Big Pittsburg, s.	Colo.			57,949
Bodie, g.	Cal.	7,330	22,730	229,768
*California, g. s.	Nev.			110,664
Caribou, s.	Colo.	3,054	8,396	99,728
Christy, s.	Utah	3,489	9,800	216,036
*Chrysolite, s.	Colo.			304,118
Concordia, g.	Cal.			2,224
Connor, s.	Utah			46,573
*Contention, g. s.	Ariz.			28,720
Con. Virginia, g. s.	Nev.	2,400	2,400	148,960
*Copper Queen, c.	Ariz.			299,531
Crismon-Mammoth, g.	Utah		3,000	38,541
*Custer, g. s.	Idaho			427,921
*Deadwood-Terra, g.	Dak.			340,372
*Derbec, Blue Grav., g.	Cal.			53,022
*Eureka Con., g. s. L.	Nev.	34,600	103,350	814,241
Exchange Silver				44,400
Fresno Enterprise, g.	Cal.			9,609
*Frisco M. and S. Co.	Utah	2,500	2,500	237,659
German's Smelt. Wks.	Utah	4,425	13,195	183,844
Grand Central Mill.	Ariz.			375,854
*Grand Prize, s.	Nev.			51,658
Hale & Norcross, g. s.	Ariz.			33,090
Harshaw, s.	Ariz.			267,836
*Head Center	Ariz.			80,231
*Homestake, g.	Dak.			468,030
Horn-Silver, s. L.	Utah	67,500	80,000	585,868
Idaho, g.	Cal.			213,000
*Independence, s.	Nev.			17,108
*Indian Queen, s.	Colo.			109,389
Iron Silver	Colo.			264,331
Jocuisa, s.	Mex.			156,888
*Little Chief, s. L.	Colo.			131,602
Mack Morris.	Ariz.	5,361	5,361	117,381
Mingo Smelt. Wks.	Utah			4,554
*Modoc	Cal.			34,704
Morgan Smelt'g Wks.	Utah			24,179
Morning Star	Colo.			15,200
*Mount Potosi, g. s.	Nev.			74,319
*Navajo	Ariz.			128,124
Nooday, g.	Cal.			197,343
Northern Belle, s.	Nev.	22,300	63,200	733,874
*Onaida, g.	Cal.			47,210
*Ontario, s.	Utah	56,388	112,353	1,308,601
*Ophir, g. s.	Nev.			5,170
Pascoe, s.	Utah	1,380	4,040	25,355
Rebellion	Colo.			10,512
Richmond, s. L.	Nev.			626,955
Robinson Con., s.	Colo.			107,000
*Sierra Nevada, g. s.	Nev.			179,001
Silver Bow	Mont.			71,942
Silver Cliff	Colo.			22,775
Silver King, s.	Ariz.	26,600	83,010	387,358
*Sullivan, s. L.	Maine.			5,340
Standard, g.	Cal.	39,400	99,159	1,151,613
Star, s.	Nev.	4,100	17,860	103,184
Stormont, s.	Utah	3,928	7,928	85,177
Syndicate, g.	Cal.	4,730	4,730	53,847
Tintic M. and M. Co.	Utah	6,305	6,305	66,472
*Tip Top, s.	Ariz.			209,590
*Tomahstone	Nev.			727,395
*Union Con., g. s.	Nev.			43,106
Vandewater.	Utah			1,700

Total amount of shipments reported to date. \$14,516,314

* Official. † Net. C. Copper. G. Gold. S. Silver L. Lead.

UTAH.

Salt Lake City.—For the week ending July 15th, the bullion shipments aggregated \$168,041.46.

MISCELLANEOUS.

Bullion Receipts from the Mines to New York.—The bullion received from the mines at the various offices in this city during the week ending with yesterday, as compiled from various sources, amounts to \$262,667.11, as against \$452,102.99, reported in our last.

Exports of Gold and Silver from New York.

Week ending July 16th.....	\$154,000
Corresponding week last year.....	48,243
Since January 1st.....	6,354,388
Corresponding period last year.....	4,899,005

The amount of bullion withdrawn from the Bank of England on balance on the 20th inst. was £50,000. The statement of the Imperial Bank of Germany shows an increase in specie of 2,160,000 marks.

The weekly statement of the Bank of France shows a decrease of 14,900,000 francs gold and 1,175,000 francs silver.

The Carson Mint has now stored within its walls 300,000 ounces of silver bullion.

WASHINGTON, July 16, 1881.—During the week ending to-day, there were 141,500 standard silver dollars put in circulation, against 119,000 during the corresponding period in 1880.

The Graphic says information has come to the Treasury Department that the standard silver dollar is being taken with great avidity in South America, and bids fair to become the favorite coin in those countries. The only thing apparently that prevents its general use at once is the fact that there is little direct trade between the United States and South America, and the European governments, through whom the commerce passes, discourage the employment of the coin in business transactions. If the proper encouragement were to be given now to direct trade by this government, it is thought that there would soon be no plethora of silver dollars in the bank vaults of the United States. We now have to pay in gold for the South American products chiefly, because the trade passes through the hands of English and German middle-men.

July 18.—The Treasury Department to-day ordered a transfer of \$5,104,466 in gold bullion from the bullion fund of the New York Assay Office to the Philadelphia Mint, to be coined into eagles and half-eagles. This makes about \$10,000,000 in bullion similarly transferred during the present month.

July 20.—The Treasury Department to-day purchased 130,000 ounces of fine silver for delivery at the Philadelphia, San Francisco, and New Orleans mints.

A circular has been prepared by the Mint Bureau for the purpose of ascertaining the amount of gold and silver used in manufactures and the arts in the United States during the last fiscal year. It will be forwarded by mail to manufacturers with a request that they fill up a blank form which will be inclosed, calling for the amount of United States coins melted and worked up, fine bars used, and foreign coin, dust, and old manufactured articles made into new work. Nearly 3000 answers were received last year, which showed that there had been an aggregate of \$12,098,363 in gold and silver used in the arts during the fiscal year of 1880.

Bullion Receipts at San Francisco from the Pacific Coast Mines.—The San Francisco Call states that these receipts during the first six months of 1881 were \$19,540,100, against \$19,220,500 during the same time in 1880, \$27,636,400 in 1879, and \$37,390,700 in 1878. The production for the past six months consisted of \$7,166,300 in Doré silver, \$4,219,600 in gold bullion, and \$8,154,200 in coin.

METALS.

NEW YORK, Friday Evening, July 22.

From all sides, the reports come that there is a very large consumption going on and a large fall trade is expected. There have not, however, been many large transactions in metals during the week, nor have there been any material changes in prices. Lead appears to be the exception in this respect.

Copper.—There has been but a small business at 16½@16¾c. Chili Bars are quoted at £58 10s. @ £58 15s. The market here being supplied, the shipment back from Europe of some Lake copper has a weakening tendency. We quote at 16¾c.

Our London advices include July 7th, from which we take the following:

July 4th. The sales, including the 2d, aggregated about 300 tons, g. o. bs. selling at £58½@£59 cash, and £59@£59½ forward delivery.

July 5th. Better business and inclination to purchase. Sales about 400 tons at £58½@£59 cash, and £59 13-16 three months prompt.

July 6th. Market very quiet, with £59 cash as the quotation.

July 7th. Market still quiet, with some Chili Bars, g. o. bs. offered at £58¾ net money, but holders refused to allow any brokerage. A correspondent says: The customs returns continue to show a large falling off in the imports into England, the decrease for the first six months of the year being 11,601 tons, compared with same period of 1880. Exports are fairly maintained, the decrease over same period being only 1336 tons. The home consumption this year, to 30th June, would appear to have been but 12,387 tons, against 19,119 tons last year; a decline which it is hard to explain on any other supposition than that manufacturers must have reduced their private stocks to a very low point.

STATISTICS OF COPPER—JANUARY TO APRIL AS PER CUSTOMS RETURNS.

	Imports.		
	Jan. 1 to April 30.	1880.	1879.
Pure in pyrites.....	4,753	6,088	4,323
" precipitate.....	7,193	5,738	4,541
" ore.....	3,434	4,611	3,550
" regulus.....	1,216	3,334	3,365
Bars, cakes, etc.....	9,594	14,861	16,544
	26,190	34,642	32,353
	April only.		
	1881.	1880.	1879.
Pure in pyrites.....	1,330	1,495	1,015
" precipitate.....	1,287	1,706	1,187
" ore.....	1,200	897	707
" regulus.....	543	1,723	954
Bars, cakes, etc.....	2,424	4,287	4,847
	6,784	10,108	8,710
	Exports.		
	Jan. 1 to April 30.	1880.	1879.
Raw (English).....	5,694	4,508	5,271
Sheets.....	4,485	5,107	4,603
Yellow metal at 60 per cent.....	2,935	3,041	3,293
Brass at 70 per cent....	988	720	802
	14,102	13,376	13,969
Foreign.....	3,090	5,434	4,460
	17,201	18,810	18,429
	April only.		
	1881.	1880.	1879.
Raw (English).....	1,492	652	1,376
Sheets.....	1,018	1,401	1,140
Yellow metal at 60 per cent.....	642	840	969
Brass at 70 per cent....	247	253	241
	3,399	3,146	3,726
Foreign.....	1,051	911	890
	4,450	4,057	4,616

Tin.—There have been no large transactions, although there has been a very fair jobbing business. Straits in London is quoted at £90 on spot. Singapore quotes \$28¼, and Penang \$27½, with exchange at 3s. 9¼d. Straits here is quoted at 20¼@20½c.; Billiton, 20¾c.; and L. & F. at 20¾@20¾c.

STATISTICS OF FOREIGN TIN—LONDON AND HOLLAND.

	June 1 to 30.		London.
	Imports.	Deliveries.	
Australian and Straits.....	811	1,083	
Banca (ex sale).....	Nil	423	
Billiton.....	363	349	Holland.
	1,174	1,855	
	Stocks.		
	June 30.	May 31.	
Australian and Straits.....	8,412	6,684	
Banca (ex sale).....	807	1,290	
Billiton.....	1,853	1,839	Holland.
	11,132	11,813	
Approximate quantity afloat.....	Australian. 1,350	1,300	
	Straits..... 600	250	
	Billiton... 1,550	1,100	
	Tons.....14,632	14,363	
Australian and Straits.....	£89	£88	

	January 1 to June 30.		
	1881.	1880.	1879.
Sales of Banca by Trading Co.....	2,038	1,722	2,071
Imports—Billiton.....	1,904	1,841	1,927
" Straits.....	3,332	590	3,030
" Australian.....	4,829	4,970	4,487
Totals brought to market.....	12,103	9,123	11,515
Actual deliveries of foreign.....	11,050	10,518	10,472
In transit—Straits and Australian.....	2,335	4,193	1,812
	June.		
	Imports.	Approximate shipments.	
Australian.....	604	800	
Straits.....	147	500	
	811	1,300	

STATISTICS OF TIN—JANUARY TO APRIL, AS PER CUSTOMS RETURNS.

	Jan. 1 to April 30—		
	1881.	1880.	1879.
Imports, foreign.....	7,493	7,638	6,540
Exports { Foreign.....	3,069	3,566	1,880
{ English.....	1,361	1,544	1,690
	4,430	5,110	3,570
	April only.		
	1881.	1880.	1879.
Imports, foreign.....	1,001	1,245	2,128
Exports { Foreign.....	373	1,026	315
{ English.....	372	318	388
	745	1,344	703

Our London advices include July 7th, from which we take the following:

July 4th. Tin has risen from 6@9d. per cwt. The sales, however, amounted to but about 125 tons

for the 2d and 4th. The business was done at 89% @ 89% s. sharp cash, and 89 1/2 @ 89% s. fourteen days.

July 6th. Market very quiet at 89% s. sharp cash, 89 1/4 @ 89% s. fourteen days.

July 6th. Market quiet at 89% s. short fixed prompts, and a small quantity at 90s. usual terms. About 50 tons three months fixed sold at 90 1/4 @ 90% s. In Banca, 400 slabs sold at 90s. cash next day.

July 7th. Market neglected, with sellers at 89% s. early cash.

Messrs. Vivian, Younger & Bond, of London, say under date of July 7th :

During the past month, the price of foreign rose from 90s. @ 91s. 9d. spot, and up to 92s. 9d. forward. From this point, a reaction set in, until 88s. was reached, but the market closes firmer again at 89s. 9d. @ 90s.

The shipments for the month were 800 tons from Australia, also 1390 tons from the Straits, of which 800 tons were for America.

The deliveries from London warehouses were 1095 tons, and from Holland 775 tons.

At the Billiton sale in Batavia, on the 21st ult., 13,000 piculs sold at an average of 61.66fl. per picul, equal to about £92 5s. laid down in Holland.

The stock of foreign tin in London and Holland is thus estimated :

Table showing tin stock in London and Holland for 1881 and 1880, with columns for Tons and various grades.

Quantity of tin afloat for Europe... Quotations on the same dates being for Straits...

Tin Plates.—Coke tins are very strong. Other kinds are dull and neglected. We quote, per box, as follows : Charcoal tins, Melyn grade, 1/2 cross, 3/4 @ \$6 1/2 ; Allaway grade, \$5.70 @ \$5 3/4.

Messrs. Robert Crooks & Co., of Liverpool, under date of July 7th, say that tin and terne plates, after a recovery of quite 6d. from lowest point, are again showing signs of depression.

Lead.—Sales of 1700 tons at 4'70 @ 4'90c. have been made during the week, and the market closes strong at 4 1/2 @ 5c., with upward tendency.

The San Francisco Commercial Herald of July 14th says :

The ship Wildwood for New York carried lead 8625 half pigs, or 565 short tons, shipped by Daniel Meyer, and 2000 pigs, or 215,330 lbs., shipped by the Selby Smelting and Lead Company.

The shipments of lead over the St. Louis & San Francisco Railroad for the week ended July 14th were 235 tons.

Messrs. Vivian, Younger & Bond, of London, under date of July 7th, say of lead :

The advance was not maintained, the demand being slack at £14 12s. 6d. @ £15 5s. for English, according to brand ; Spanish soft without silver, £14 2s. 6d. @ £14 7s. 6d. ; Silver Lead worth £14 @ £14 5s., as in quality.

Spelter and Zinc.—There is a fair business in the former, and prices are improving. We quote at 4 1/4 @ 5 1/2 c. Sheet Zinc is quiet at 7c.

Antimony.—There is a little business doing in this article. Stocks are light and prices have improved. We quote Cookson's at 14 1/2 c. and Hallett's at 14 1/4 @ 14 1/2 c.

Quicksilver.—The San Francisco Commercial Herald of July 14th says :

Spot stocks are light. Principal holders demand 38c. The London price is £6 7s. 6d.

Table showing exports by sea for the first six months of 1880 and 1881, with columns for To, Flasks, Value, and 1881 Flasks/Value.

Table showing monthly receipts at San Francisco for 1880-Flasks and 1881-Flasks, with columns for Month and values.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, July 22.

There is a very large business doing in all departments of the iron trade, and in most at a profit. Better prices are looked and hoped for, but with the exception of pig-iron, there is but little cause for complaint.

American Pig.—We are reported sales of about 5500 tons of iron, including 4000 tons of Thomas, at our quotations. First-class brands are in demand, and not plenty.

Scotch Pig.—Owing to higher freights and advancing prices in Glasgow, prices are much firmer. The sales aggregate about 2000 tons for the week.

Messrs. John E. Swan & Brothers, of Glasgow, under date of July 8th, report 120 furnaces in blast, as against 117 at the same time last year.

Messrs. J. Berger Spence & Co., of Manchester, England, under date of July 9th, say : Speaking generally, the metal market is in much the same condition as when we wrote last, with, in some few instances, a more hopeful feeling, and 1s. and 2s. added to last week's rates.

Rails.—Sales of 18,000 tons of steel at \$55, delivered at tide-water, for next year's delivery, are reported. In addition to this, several thousand tons are said to have been sold for next year's delivery at \$57 at mills.

Old Rails.—There has been but little doing in these. Ts. are quoted at \$26 firm, and D. Hs. at \$27 1/2 @ \$28, with but very few offerings.

Wrought Scrap.—There have been sales of about 1000 tons at \$25 1/2 @ \$26 1/2 from ship and warehouse. Yard scrap is quoted at \$28 @ \$30.

Philadelphia. July 23.

Bar iron was advanced by the storekeepers here from 2 1/4 @ 2 1/2 c., at which figure business is abundant. Mill prices remain at 2 1/2 c., but this is in reality an improvement over actual selling prices, which have been from 2 1/8 @ 2 3/8 c. for a year past.

We publish the following letters from our regular correspondents :

Baltimore. July 18. [Specially reported by R. C. HOFFMAN & Co.]

The iron market shows an improved feeling, with a good demand for improved grades wheel iron, and inquiries for deliveries running through remainder of the year.

Cincinnati. July 13. [Specially reported by JACOB TRABER & Co.]

During the past week, only a moderate business has been done in pig-iron for foundry uses, with no demand whatever for forge irons.

Table showing prices for various iron products like Hanging Rock Charcoal Pig-Iron, Tennessee, etc.

Louisville. July 19. [Specially reported by GEORGE H. HULL & Co.]

The market has been very quiet during the past week. Prices on standard brands nominally unchanged.

Table showing prices for FOUNDRY IRONS, No. 1 and No. 2.

Table showing prices for MLL IRONS, No. 1 Charcoal, No. 1 Ste'l & Coke, etc.

Table showing prices for CAR-WHEEL AND MALLEABLE IRONS, Hanging Rock, Alabama and Georgia, etc.

Richmond. July 18. [Specially reported by ASA SNYDER.]

Transactions for the past week have been good. Prices very firm at last quotations. Scotch Pig-Iron No. 1... Anthracite Pig-Iron No. 1... Virginia Coke Pig-Iron, No. 1...

St. Louis. July 16.

[Specially reported by HOFFER, PLUMB & Co.] There is no change to report in the condition of this market, and quotations are as at last writing.

Table with 2 columns: Item and Price. Includes ROYAL BLAST CHARCOAL, COKE AND COAL, MILL IRONS, and CAR-WHEEL AND MALLEABLE IRONS.

John H. Austin & Co.'s Special Market Report.

LONDON, E. C., July 7. STEEL RAILS.—£5 15s. @ £6 5s. per ton. Some business is reported at £6 per ton, f. o. b. Wales, for 50 pounds section, August shipment. The market continues quiet but steady.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, July 22.

There has been a very good business during the month; fully as large, if not larger than during the same month in any previous year. Prices have been very well maintained. It may be said, however, that there has been a little falling off in the demand this week as compared with last week, and so as a consequence a slight weakening of prices in some quarters.

The production of anthracite coal last week was 655,533 tons, as compared with 353,397 tons the previous week, and 393,340 tons the corresponding week of 1880. The total production from January 1st to July 16th was 13,663,325 tons, as against 11,107,215 tons for the like period of last year, showing an increase this year of 2,556,110 tons.

Our Philadelphia correspondent, under date of July 21st, says:

The city and line trade shows a slight improvement, and the demand for shipment is active, new orders coming in freely, while many old ones are still unfilled. Consequently the prices are daily stiffer, the stocks at tide-water very much reduced, and the trade here can take care of all the production now without any further reduction.

Bituminous.

There is not much business doing in this class of coal, and the competition is so great that prices are being constantly forced down. The steamship business is not nearly so large as it was, and many steamers are now coaling at Nova Scotia. The event of the week was the termination of the contest between the Baltimore & Ohio Railroad and the George's Creek & Cumberland Railroad.

a very large business at prices which will not only give them a large market, but also a fair profit. At the same time, it is announced that the Chesapeake & Ohio Canal has made financial arrangements to enable it to increase the size of its locks before the end of this season. This change of conditions will improve the annual statements of the American and Maryland companies this year, but it will be next year before important improvements will be noticeable.

San Francisco. July 14.

There has been a spot reduction of 50c. per ton on Seattle and other coast coals. The general market is dull, causing forced sales of foreign at low rates. The arrivals during the week include the following: Antioch, 1000 tons; Seattle, Yosemite, 2000 tons same; Hylton Castle, 1500 tons; Wellington; Whistler, 800 tons; Renton's Seattle. The last reported sale of Australian was made at \$6.25. We quote trade prices to the jobbers at \$9 for Wellington and Carbon Hill; Seattle, \$7. The Br. ship Knight of the Garter, from North Shields, has 2151 tons, and the Br. ship East Croft 1820 tons Sydney.

Table showing imports of coal by sea. Columns: Month of June, Six months of 1881, and Same time in 1880. Rows: Domestic (Eastern), Australian, Coos Bay, Departure Bay, British Columbia, Seattle, English, Scotch and Welsh, Carbon Hill, Mount Diablo (estimated), Totals.

STATISTICS OF COAL PRODUCTION.

Comparative statement of the production of anthracite coal for the week ending July 16th, and years from January 1st:

Table with 5 columns: TONS OF 2240 LBS., Week, Year, Week, Year. Rows: Wyoming Region, D. & H. Canal Co., D. L. & W. RR. Co., Penn. Coal Co., L. V. RR. Co., P. & N. Y. RR. Co., C. R. of N. J., Penna. Canal Co., Lehigh Region, L. V. RR. Co., C. R. of N. J., S. H. & W. B. RR., Schuylkill Region, P. & R. RR. Co., Shamokin & Lykens Val., Sullivan Region, St. Line & Sul. RR. Co., Total, Increase, Decrease.

The above table does not include the amount of coal consumed and sold at the mines, which is about six per cent of the whole production.

Table with 2 columns: Total same time in 1876, 1877, 1878, 1879. Values: 7,765,048 tons, 10,844,644, 8,028,518, 13,120,529.

The Production of Bituminous Coal for the week ending July 9th was as follows: Tons of 2000 lbs., unless otherwise designated.

Table with 3 columns: Region, Week, Year. Rows: Cumberland Region, Md., Barclay Region, Pa., Broad Top Region, Pa., Huntingdon & Broad Top RR., East Broad Top, Clearfield Region, Pa., Snow Shoe, Tyrone and Clearfield, Alleghany Region, Pa., Pennsylvania RR., Pittsburg Region, Pa., West Penn RR., Southwest Penn. RR., Penn & Westmoreland gas-coal, Pa., RR., Penn RR.

The decrease in shipments of Cumberland Coal, over the Cumberland Branch and Cumberland & Pennsylvania railroads, amounts to 113,987 tons, as compared with the corresponding period in 1880.

The shipments of Cumberland Coal, over the George's Creek & Cumberland RR., by the Maryland and the American Coal companies, for the week ending July 16th, amounted to 477 tons, making a total of 34,325 tons since the beginning of transportation.

The Production of Coke for the week ending July 9th, and year from Jan. 1st:

Table with 3 columns: Tons of 2000 lbs., Week, Year. Rows: Penn. RR. (Alleghany Region), West Penn. RR., Southwest Penn. RR., Penn. & Westmoreland Region, Pa. RR., Pittsburg, Penn. RR., Snow Shoe (Clearfield Region), Total.

Horsford's Acid Phosphate, Tonic in Feeble Digestion.

I have found Horsford's Acid Phosphate to be a good tonic where there was enfeebled digestion. Altamont, Ills. G. SCHLAGENHAUF, M.D.

ADVERTISING RATES.

(NONPAREIL MEASUREMENT.) Our advertising rates are equitably graded, and will apply to all alike. No deviation whatever from the rates given herewith will be allowed.

Table with 10 columns: Lines, Inches, One issue, 1 Month (4 issues), 3 Months (13 issues), 6 Months (26 issues), 9 Months (39 issues), 12 Months (52 issues). Rows: 1/4 Column, 1/2 Column, 1 Page, 1 Column or 1/2 Page, 1/4 Page, Full Page.

Double these rates for outside front, add 80 per cent for outside back page, and 50 per cent for page next reading matter.

THE EXCHANGE Silver Mining and Milling Co., OF NEVADA.

Capital, \$1,000,000. In 100,000 Shares.

W. G. GUION, of New York, President. H. W. HOWELL, of New York, Treasurer.

This company declared its first dividend July 1st, 1881, and monthly dividends will be paid regularly hereafter. 10,000 shares of the treasury stock now offered at \$2 per share, to provide funds for increasing the capacity of the company's mill.

L. P. BAYNE & CO., 54 Broad St., New York, General Agents.

L. D. CORTRIGHT. R. E. BREWSTER

MINING OFFICE OF L. D. CORTRIGHT & CO., NO. 18 WALL ST. NEW YORK.

Members of New York Mining Stock Exchange. California Office: 328 Montgomery Street, San Francisco.

PETRY & HECKING, ENGINEERS, DORTMUND (Westphalia). Sole manufacturers of PELZER'S PATENT MINE VENTILATOR. Efficient, durable, cheap. For any quantities of air. Small sizes for hand-power. Up to 80 per cent useful effect. Now extensively used in Germany and Austria. Full particulars and illustrated price list free on application.

"EAGLE" ANVIL WORKS Trenton, N. J. WARRANTED Solid Steel Face and Horn of Hard-temper, and not to Break or Bend. All Sizes—10 lbs. to 500 lbs. For Miners, Prospectors, and Blacksmiths. SEND FOR CIRCULAR.

DIVIDENDS.

ROBINSON CONSOLIDATED MINING CO. DIVIDEND NO. 4.

New York, July 2, 1881.
 The Board of Directors have this day declared a monthly dividend of Fifty Thousand Dollars, payable on and after July 15th, at the office of the company, 18 Wall Street.
 The transfer-books will be closed from 3 o'clock P.M. of the 9th until 10 o'clock A.M. of the 16th inst.
FINANCIAL STATEMENT FOR JUNE, 1881.
 Surplus on hand as per last statement (May, 1881)..... \$35,950.54
 Received from sales of ore and bullion during month of June.... 74,650.53
 Bullion at Newark Smelting and Refining Works, and in transit thereto, estimated..... 45,000.00
 Cash and bullion at mines as per report of Thomas Ewing, Manager. 50,000.00
 Received from sale of bullion in excess of estimated amount and in transit to Newark Smelting and Refining Works, as per May statement..... 4,998.16 \$210,599.23
 Deduct bullion on hand, as per May statement..... \$55,000.00
 Disbursements for month of June.. 29,639.73
 Deduct dividend for July 15th..... 50,000.00 134,639.73
 Surplus on hand July 1st..... \$75,959.50
 JAS. K. SELLECK, Secretary.

INDIAN QUEEN MINING AND MILLING COMPANY.—The regular monthly dividend, No. 14, from the net earnings of the mine for June, of two and a half per cent on the par value of the stock, will be paid July 19th, 1881, at the office of the company, No. 7 Exchange place, Boston.
 Transfer-books will close the 15th instant, and reopen on the 20th instant. MICAH DYER, JR., Treasurer.
 C. C. LANE, Secretary.

OFFICE OF THE GREEN MOUNTAIN GOLD MINING COMPANY, of Colorado, No. 18 Wall Street, New York, July 13th, 1881.
DIVIDEND NO. 25.
 The Board of Trustees have this day declared a dividend of SEVEN AND A HALF CENTS per share for the month of June, on the capital stock of this company, payable on the 25th inst.
 Transfer-books close on the 18th, and reopen on the 27th of July. J. JAY PARDEE, Secretary.

OFFICE OF THE STARR-GROVE SILVER MINING COMPANY, No. 2 Nassau st., cor. Wall st. New York, June 15, 1881.
DIVIDEND NO. 8.

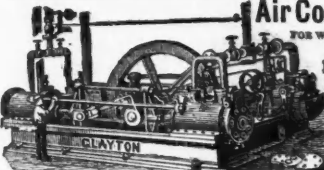
The Board of Trustees have this day declared the regular monthly dividend of ten cents a share, being one per cent on the capital stock of the company, payable on the 30th inst., at this office.
 The transfer-books will be closed from the 21st to the 30th inclusive. WM. S. CLARK, President.
 JOHN R. BOTHWELL, Secretary.

New York, July 2, 1881.
THE STANDARD CONSOLIDATED MINING COMPANY to-day declared its regular monthly dividend of SEVENTY-FIVE CENTS PER SHARE, payable July 12th, 1881, at the Farmers' Loan and Trust Co., 28 Exchange Place, New York.
 Transfer-books close July 5th, and open on 13th inst.
 M. R. COOK, Vice President.

New York, July 9, 1881, No. 18 Wall Street.
THE TIP TOP SILVER MINING COMPANY has declared dividend No. 1 of TWENTY CENTS per share, payable on the 25th inst., at the office of the Transfer-Agents, THE FARMERS' LOAN AND TRUST COMPANY.
 Transfer-books close on the 20th inst.
 P. W. HOLMES, Assistant Secretary.

OFFICE OF COPPER QUEEN MINING COMPANY, 34 and 36 Thomas Street.
 New York, July 15, 1881.
 The Board of Directors of this company have this day declared a monthly dividend (No. 2) of Twenty-five Thousand Dollars, being 10 cents on each share of the capital stock of the company, payable on and after August 1st, 1881, to stockholders of record, at the office of the company.
 Transfer-books close July 28th, and reopen August 3d.
 A. A. HAYES, Jr., President.
 L. ZECKENDORF, Secretary and Treasurer.

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CALIFORNIA STAMP MILL. 'THE MOUNTAINEER.'

THIS MILL,

Though so Light and Portable, is capable of crushing ordinary hard

QUARTZ ROCK, on sixty six-inch drops per minute through a screen,

No. 6 Slot, to amount to two hundred and fifty to three hundred lbs. per hour.

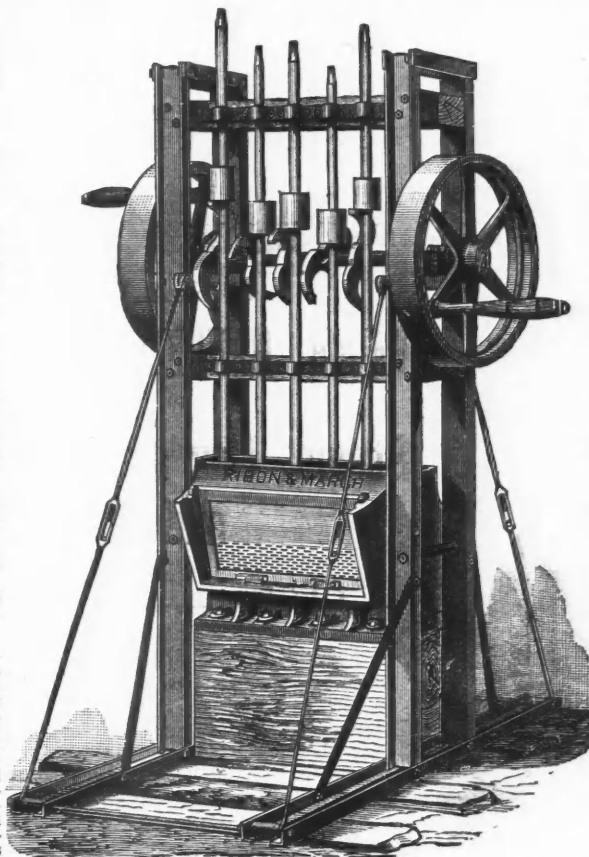
PRICE, F. O. B., \$350.

Weights

OF PARTS.

- Iron Frame (in sections)..... 500 lbs.
- Mortar (feed 1 1/2 x 2 1/4 in.)..... 500 lbs.
- Cam Shaft..... 40 lbs.
- Fly Wheel Pulleys (30x3 1/2 in. each) 150 lbs.
- Cams..... 20 lbs.
- Stems..... 34 lbs.
- Tappets..... 16 lbs.
- Heads..... 32 lbs.
- Shoes (4 1/2 in. face) 20 lbs.
- Dies (4 1/2 in. face) 25 lbs.

The above cut represents our Portable Prospecting Five-Stamp Mill. It weighs but two thousand pounds complete, ready for operation. It is put together with bolts and nuts instead of rivets, and can be readily taken apart, and transported anywhere on the backs of animals, as the



heaviest piece does not weigh over five hundred pounds.

The Mortars are made of two styles—one for ordinary stamping or crushing, and the other with flaring back and front ledges to support inside copper plates for amalgamating in the battery.

It is mounted in a wrought-iron frame, and has two balance wheels arranged to be used with hand, horse or other available power. All wearing parts, such as Cams, Tappets, Heads, Shoes, and Dies, are made of best Cast Steel.

In ordering, state which mortar is required.

3-16 inch Copper Plate, fitted, price, \$5 per set of two.

Also, if desirable, we furnish 1/2-inch copper plate for outside amalgamating table, cut and fitted to order, 31c. per lb.; in sheets squared to order, 28c. per lb.

Small iron amalgamating pan, with revolving copper fingers, suitable when dismounted for a Clean-Up-Pan, and small 150.oz. Retort, \$45.

Horse-Power Machine, available for One or Two Horses, price \$50.

3-inch belting, two-ply rubber, per foot, 20c. Single leather, per foot, 27c.

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FINELY AND FULLY RUBY-JEWELLED.

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CLOCKS FOR CHURCHES, PUBLIC BUILDINGS, RAILWAYS, GALLERIES, VESTRIES, BANKS, OFFICE, SCHOOL AND HOUSE USE.



THE BEST ROOF FOR MILLS.

We can furnish you a Better Roof than you ever had, for the Least Money, and if desired, although not necessary, will send a skilled man to teach your own men how to lay

NEW AND REPAIR OLD ROOFS EASILY, WITH IMPROVED PLASTIC-SLATE,

applied with trowel or brush. Complete Roofing, including Double-Slated Felting, Nails, and Coating, for

FLAT or STEEP ROOFS, 2 and 3 Cents per Square Foot.

ROOFS LAID AND GUARANTEED 10 YEARS.

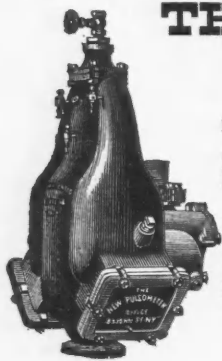
WRITE FOR CIRCULAR.

Describe your roof, and get our estimate free. Refer to R. Hoe & Co., New York; Harper & Bros., Publishers, New York; Lawrence Bros. & Co., Bankers, 16 Wall Street, New York; and 82 Fire Insurance Companies.

Established 1857. Any handy man can lay this roofing. **TRY IT.**

EDW. VAN ORDEN & CO., 72 Maiden Lane, New York,

Importers of Trinidad Asphalt, Asphalt Rock, etc.



THE NEW PULSOMETER. CHEAP, ECONOMICAL, EFFICIENT.

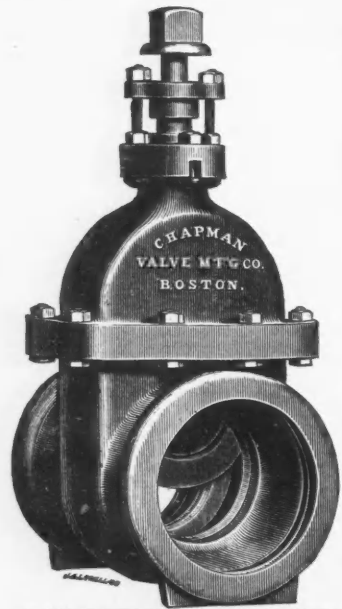
OFFICE OF JOSEPH FIRMENICH, Steam Syrup Refinery, }
1 to 25 Mortimer Street, and 383 to 412 Jefferson Street, }
PULSOMETER STEAM PUMP CO.: } BUFFALO, N. Y., May 16, 1881.
Yours of 14th received and noted. The No. 4 New Pulsometer (ball valves) is used for
elevating thick solution of meal and water. The suction is six feet vertical, and it forces
it through fifty feet of pipe at an elevation of thirty feet. It seems to work very satisfac-
torily so far. We shall want more of them in our works. Yours truly,

J. FIRMENICH.

PULSOMETER STEAM PUMP CO.: GREENPORT, L. I., N. Y., May 6, 1881.
In regard to the No. 3 New Pulsometer we purchased of you, we have to say that it gives
us complete satisfaction, far beyond our expectations. It is used for pumping water into
tanks for supplying steamboats. It stands 90 feet from well, raising the water 9 feet ver-
tical and forcing it up 15 feet. We can cheerfully recommend it to any one in want of a
pump for supplying water. Yours, etc.,

H. FORDHAM & SON.

PULSOMETER STEAM PUMP CO.,
83 JOHN STREET, NEW YORK.
BRANCH OFFICES: } Chicago, 193 Lake Street, H. F. CASWELL.
} Boston, 73 Kilby Street, S. B. EVERETT.



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WITH POSITIVE DRIP.

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AMERICAN DEVELOPING AND MINING Investment Company.

Incorporated under the Laws of the State of New Jersey.
Capital Stock, \$1,000,000.

100,000 SHARES; PAR VALUE, \$10.

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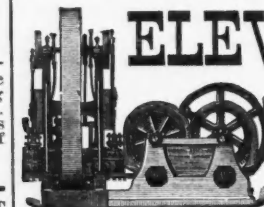
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