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* Illustrated.

MINING NEWS.

FOREIGN NEWS.

MARKETS:

THE resumption of gold exports on a considerable scale—some $4,000,000 going this week—which is reported in another column, is not the danger signal as which such exports were regarded a year ago. The meaning of the present outflow of the yellow metal is simply that at present rates of exchange, and with the large accumulations of money held by the banks, there is a narrow margin of profit in shipping gold rather than in buying bills. With a fall of half a cent or so in exchange the shipments will cease. With trade on the sounder basis which we are rapidly approaching, there is nothing to fear.

Late advices from Birmingham, Ala., state that the General Council of the United Mine Workers of that State, controlling about 8,000 miners, has ordered a general strike to take place April 14th. This is the outcome of the conference which was noted in our columns last week, but as the men were under agreement to remain at the present schedule until July 1st no immediate trouble was anticipated. In Pennsylvania a serious uprising is reported among the miners at Uniontown and some other points Well-informed operators say that there is reason to fear that there will be very serious trouble in that State within the next few days.

Reports from the blast furnaces, so far as yet received, indicated a very considerable increase of production in April. The statements made so far, which may be slightly increased, show that on April 1st there were 11 more furnaces in blast than on March 1st, while the weekly capacity shows a gain of about 16,600 tons, or nearly 15 per cent., over the March statement. A considerable part of the gain was in the starting up of the Illinois Steel Company's plant, to which reference has been already made; much of the rest is in the Pittsburg and Shenango Valley districts, where the furnaces are already working well up toward their normal output. The increased production is apparently about keeping pace with consumption, since no increase in stocks is reported, but in fact a small decrease. This gain in pig iron production is another evidence of the steady gain in business, which might be much greater if the tariff question were only definitely settled.

There has appeared in various papers, and in this journal last week an advertisement of the Lawrence Land Company, of Cripple Creek, Colo. This company has a capital stock of $1,000.000, and claims to have 1,400 town lots in Lawrence, five miles from Cripple Creek, and in connection, with it the Columbine-Victor Deep Mining & Tunnel Company and the Beekman Gold Mining Company. These companies publish various circulars and opinions of experts concerning their properties, and name the following gentlemen as connected with them: Arthur B. Meeker, president; John E. Phillips, vice-president; W. T. McClurg, treasurer; Andrew G. Clark, secretary; and the same gentlemen, with Francis A. Riddle, of Chicago; Geo. W. Dithridge, of New York; C. E. Judson, Chicago; Hon. Wilbur F. Sanders, Helena, Mont., and Chas. Henrotin, Chicago, directors. In the Colorado Springs market letter of Doubleday, Rope & Co., there appears the statement that no articles of incorporation for the Lawrence Land Company can be found. Mr. J. J. Hagerman, whose name appeared in "The Economist" as a director, says that he is in no way connected with it. The letter continues that this townsite was recently offered for sale for $1,000 cash and a balance of $13,000 payable at a later date. In view of these statements the public has a right to ask for further information as to the condition and prospects of the Lawrence Land Company before investing in the stock.

Some too sanguine people have been expressing the opinion that the veto of the Seigniorage bill has "killed the fiat money party and discouraged its leaders." It may have done the latter, and we would be very glad to know that it had succeeded in accomplishing the former; but we do not believe that it has done so. The fact is that the "fiat money" or "cheap money" delusion has a wonderful amount of vitality, and has in the past proved exceedingly hard to kill. So few people think carefully of and appreciate the real nature and functions of money, that there always will be a number who are attracted by the allurements of "cheap money," and who will not, or cannot, appreciate its dangers. The greatest injury ever done to the cause of true bimetallism was when the fiat-money men took up silver as a good rallying point. They are not bimetallists in reality, or even silver monometallists, for that matter; if they succeeded in getting their silver standard to-morrow they would be ready to drop it the next day and go back to the unsecured paper of the old Greenback party. They are not, and never have been, sincere silver men, and they have succeeded only in bringing discredit upon the real friends of the white metal, whose efforts and arguments they have discredited. These so-called "silver men" do not really want silver dollars, but Argentine "cedulas," and the more strongly they are repudiated by true bimetallists the better it will be for the cause which the "Engineering and Mining Journal" has always

advocated, and which, we believe, is now surely and steadily making its way in the financial centers of the world.

For a few years past the chemical industry has been in a condition of peculiar uncertainty. The old Leblanc process has been doomed, the ammonia-soda process (Solvay's or Monde's) having proved far more economical; but since chlorine, or rather bleaching powder (chloride of lime), was made only by the Leblanc process, its price was advanced until it not only compensated for the loss in selling Leblanc soda below cost, but left the British Alkali Union fair dividends on its immense watered capital.

The electrolytic process for the manufacture of soda and chlorine by the direct decomposition of salt has long been the dream of the industrial chemist, but the cost of electricity and the unsuspected difficulties which are always developed in the introduction, on a commercial scale, of a new process have until very recently rendered these processes inapplicable except under peculiar conditions. The solution of the problem has, however, been constantly studied by able practical technologists, and to-day may be said to be an accomplished fact, a practical economic success.

This has been brought about partly through the great reduction in cost of motive power through improvements in methods of making producer gas and saving its by-products, and the use of gas engines which are now made from 100 to 200 H. P., and, by coupling, any desired power, and partly through improvements in the electrolytic methods themselves by which currents as low as three volts are used in regular work decomposing the sodium chloride.

The second volume of the "Mineral Industry," now in press, gives, in an extremely interesting and instructive article, the history of the development of the British alkali industry, describing the several processes in use, even the very latest electrolytic process.

It is said that the United Alkali Union is contemplating the entire abandonment at no distant date of the Leblanc process.

THE MISSOURI GEOLOGICAL SURVEY.

It is with regret that we note the action of the Geological Survey Board of Missouri in dismissing the State Geologist, Arthur Winslow. We have on many occasions referred to the shortcomings of some State surveys, but the work of the Missouri surveys, under Mr. Winslow, has been carried out in a practical and thorough manner which deserves only the highest commendation. Apart from this, whatever may have been the real or imagined reasons upon which the Board based its action, it has exceeded its privilege in declining to make them known. The fact that Mr. Winslow and the Board have not always agreed as to the policy to be pursued by the survey may be assumed as affording in "incompatibility temper" a sufficient reason for his dismissal, but in view of the excellent work which he has done, it seems to the outside world more probable it is the Board and not the State Geologist that is incompetent. Whatever may be the final outcome, it is to be hoped that there will be no unnecessary delay in publishing such work as is completed and in carrying forward to completion the work so well begun by Mr. Winslow. There are, we understand, a number of reports for which the data have been collected, and which are in various stages of completion, some partly written and others ready for editing. These should by all means be finished, and it needs no argument to prove that Mr. Winslow, who alone is thoroughly acquainted with all of the details of the work, should complete these. State surveys are of such immense value to the commonwealth that it is very regrettable to have them interrupted, especially when their officers have shown so high an appreciation of the practical ultilitarian side of the work as has Mr. Winslow.

THE FUTURE OF SILVER.

The future of silver, and, in fact, the stability of the world's commercial and financial prosperity, are at present in a condition of unstable equilibrium, which may at any time be disturbed by the blind acts of an ignorant and fanatical people.

As has been said many times in these columns nothing short of an international agreement for bimetallism can maintain the price of silver at anything like that formerly held or which will permit its production on a large scale. With all the large coinage markets closed against it, the only outlet for silver is in the continued absorption of the metal by India and China, and this is due to ignorance of the conditions imposed by the financial legislation of all the great commercial nations.

At any moment some fanatic may inspire the East Indians with the belief that silver has lost or is losing its value, that its possession is no longer an evidence of wealth, that its price will go down to that of tin or copper, and that while it has any value they had better sell their hoard and buy gold, the only standard of value, the only evidence of wealth. If such an inspiration should seize them, it might permeate the nation, as a fire spreads over the prairie, and its effect would be that silver would be dumped on the market without regard to cost of production, and a sudden great demand for gold set in which would inevitably cause a great advance in its purchasing power—that is, would cause a heavy decline in the value of everything else.

The incalculable disasters which lie in this possible condition are too near as well as too serious to be ignored.

A condition of commercial and financial safety which depends for its permanence or collapse upon the unreasoning action of an ignorant and fanatical people is surely too barbarous to command the support of enlightened statesmen.

THE BRITISH MANUFACTURED IRON TRADE.

The production of pig iron and steel in Great Britain was referred to in our last issue. The returns of the manufactured iron trade have now been published by the British Iron Trade Association, showing a decided decrease in the production of puddled bar. In 1889 there were 2,25 ,756 tons of puddled iron made in that country; in 1890, 1,923,221 tons; 1891, 1,733,902 tons; 1892, 1,560,697 tons, and in 1893, 1,363,974 tons, showing a decrease in the latter year of 196,723 tons as compared with 1892.

Comparing this with the production of Bessemer steel, which reached its maximum in 1889 with an output of 2,140,791 tons, in 1893 it was 1,493,454 tons, a decrease of 647,337 tons, as against a decrease of 889,782 tons of puddled iron in the same period. As compared with the production in 1882, it is noted that puddled iron then constituted 57 per cent. of the iron and steel production, whereas in 1893 it was but 30 per cent. It is a noteworthy fact that during the same period while the finished iron and steel production declined 693,000 tons, there was a decrease of over 1,664,000 tons in pig iron.

The following table shows the production of puddled bar by districts, and the number of puddling furnaces active and total in the districts:

	Tons.	Active furnaces.	Total.	Finished iron. Tons.
Cleveland	227,402	334	674	218,058
South Stafford and Worcester	137,555	808	1,224	385,832
North Stafford	124,230	235	353	98,623
Lancashire	174 000	253	285	189,207
Scotland	201,719	255	347	168,212
South and West York	105,672	237	322	101,231
South Wales	31,689	54	69	28,091
Shropshire	23,064	54	105	17,859
Derbyshire	24,978	70	102	26,976
Other districts	13,665	30	54	25,052
Total	1,333,974	2,350	3,535	1,259,141

The detailed statement of production of various kinds of finished iron shows that the Cleveland district produced 104,729 tons of ship plates, out of a total of 115,586 tons; South Staffordshire, 122,209 tons sheet iron, out of a total of 186,892 tons; the same district 83,974 tons boiler plate, and Lancashire 60,114 tons, out of a total of 293,489. Cleveland produced 35,530 tons and Scotland 24,380 tons angle iron in a total of 107,902 tons. These figures show a marked decline in the puddled iron industry of Great Britain.

THE POORMAN CONSOLIDATED.

The Poorman Consolidated Mine, of Owyhee County, Idaho, whose stock is traded on in London, seems to be working up a boom in that market, as the stock has advanced to 7s. a share. We had occasion in our issue of February 17th to warn investors concerning this enterprise. The company has seen fit to threaten the "Engineering and Mining Journal" with a libel suit unless we should state on our own authority that the company owns two mills and that it has not paid any dividends. We have made further inquiry in this matter, and from the evidence of well-informed and what we believe to be entirely trustworthy and disinterested witnesses we have no hesitation in repeating our warning

While it appears that since its reorganization under a New Jersey charter last year, the Poorman Consolidated Company has not paid or earned any dividends, yet the same mines before that reorganization under the name of the "Poorman Mines, Limited," and under the same promoters were reported in London "Truth" of April 20th, 1893, to have produced as follows:

October	1892	470 tons	realized	$24,150
November	"	495 "	"	25,370
December	"	510 "	"	26,400
January	1893	535 "	"	27,650
February	"	525 "	"	27,500
March	"	515 "	"	27,750

And the company was then paying large dividends. The facts were that not only were no dividends earned, but this statement of production of ore and bullion *was absolutely false*. At the time substantially no ore was and but little is now being produced, and even the few men who have been kept at work at the mines have several times complained, as have storekeepers in the vicinity, of not being paid.

Mr. Kemp Van Ee, who we believe was the chief promoter of this concern, we have had occasion before to speak of in these pages as a veteran promoter of worthless enterprises. A number of these can easily be mentioned, and the British investers have had good reason to remember them.

With regard to the mills which the company was so desirous we should say it owns, our information is to the effect that the five-stamp mill at which the company milled a little ore, paying so much a ton for milling, belongs to R. H. Leonard, unless he has recently sold it to the company, which we have no reason to believe. The other, or new 10-stamp mill, known as the Ruth mill, is said to be the property of the "Ralph Pool," and does not belong to the Poorman Company. The manager of this mill Leach, a friend, and said to be a partner of Van Ee, has recently been preparing the mill for work. We understand the workmen who built this mill have filed a claim on it for their wages, and the ownership of the mill will be decided at the next term of court. The mine, which was worked out at the time the large output reported in "Truth" was doing duty in London, a short time ago struck a new ore chute, which, as far as our information goes, may be 130 ft. long and about 2 ft wide, and which may assay about $16 gross per ton.

Same 250 or 300 tons of such ore may be on hand, an amount which might keep a 10-stamp mill running for two weeks. No doubt this will be used to "boom" the stock and allow the crafty manipulators to unload on the London lambs. The whole enterprise seems to be of a piece with others that Van Ee has brought out, and while this appears to have some good men connected with it, that only makes it the more dangerous. We repeat our warning with increased emphasis.

A BRITISH VIEW OF THE AMERICAN EXPORT COAL TRADE.

The Glasgow "Herald" in discussing the coal situation. gives the following opinion of American competition:

"When, during the strike of the Midland collieries last year, it was stated that coal was being imported into England not only from the continent but also from the United States, incredulity not unmixed with alarm was expressed. It is true the imports were small, and that the coal brought over from Belgium was found unsuitable for the English factories. But while not much American coal was actually landed into this country, a good deal of it was consumed by Atlantic steamers which would otherwise have been British coal, so it came to the same thing. What then are the possibilities of the United States competing with us on coal on a permanent basis? Great Britain has at present the cheapett coal in the world, but it is not generally known how the cost of production has been brought down in the United States to the level of that of many of our own coalfields. Little room remains for doubt that during a famine produced by the recurrence by such a crisis as that of last year, opportunity would be found for launching American coal extensively on our markets. It would all be a question of faith, and faith is not a question of profit in these days of ocean tramps and fierce competition in shipment."

Continuing, the "Herald" gives a review of the statistics of the coal production of the United States and the average price, laying special stress on the West Virginia coalfields. It refers then to the ease of transporting coal from these fields, in some cases by water and others by rail, and the low cost at which it can be delivered on the seaboard. Regarding New Orleans, it thinks that while coal for England would not be sent down from the Kanawha field to that city, still it may become an important coaling port for steamers engaged in Western trade. The most suitable port for export purposes, it thinks, is Norfolk, which is supplied from the Pocahontas and New River regions. Regarding Pocahontas coal, the "Herald" says that this is of a quality which will compete with British coal, and names some of the steamship lines which have taken this coal in preference to all others, noting the Campania and Lucania, which used it on their remarkable runs between the two countries. It says, however, regarding these runs, that while it is not to be supposed that they were made because Pocahontas coal was used, it is evident that American coal is as good as British in enabling steamers to develop their best paces.

Referring to our export trade the "Herald" gives a table of our exports in detail, and says that from them it will be seen that in 1893 there was an increase of over a million tons in the coal which we sent out from this country, but no doubt a great deal of that debited to the United Kingdom, Germany and France was bunker coal, though the large shipments to Canada, Cuba and Mexico are certainly indicative of active competition. "Of course, West Virginia coal cannot compete with Cardiff or Scotch coal in point of price on this side of the Atlantic in ordinary times. Freight is always against that. But extraordinary times are only too frequent in the coal trade, and it is not necessary that c al for steamer purposes should be landed here. If the coaling stations of the world can be supplied as well from West Virginia as from Wales or Tyne, then American competition in coal is an important economic fact.

"In conclusion, we may quote the closing words of the special report Sir Julian Pauncefote: 'On the one hand, the almost unlimited resources of the coalfields of the United States, the excellence of the quality of the coal, the possibilities in the system of mining, and greater reductions in the cost of freight; on the other hand, the immense amount of coal consumed within the United Kingdom, the recent increase in the average of value at the pit's mouth, the great losses suffered during the coal crisis, form considerations which tend in the direction of the establishment of trade relations of such a nature abroad as may result in a great development of the export of coal from the United States.'

We commend the subject alike to Coalmasters' Associations and to Coalminers' Federations."

The "Herald" is quite right; the United States will become a great coal exporter and will inevitably take many of the markets now supplied by British coal.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

Geological Surveys of Missouri. By Arthur Winslow. Pages 14. Reprinted from the Journal of Geology.

Monthly Bulletin, Bureau of the American Republics. Pages 64. Published by the Bureau of American Republics, Washington, D. C.

Notes on the Lead and Zinc Deposits of the Mississippi Valley and the Origin of the Ores. By Arthur Winslow. Pages 7. Reprinted from the Journal of Geology.

Weekly Market Letters. Valuable Information of Leading American Exchanges. Published by Clapp & Company, Bankers, New York. Pages 150. Illustrated.

The Ohio Mining Journal. Whole Number 21, embracing the proceedings for the year 1892. R. M. Haseltine, Secretary, Columbus, Ohio. Pages 159. Price 25 cents.

The Coal Measures of Missouri. By Arthur Winslow. Abstract from the Mineral Resources of the United States, 1892. Pages 8. Published by the Government Printing Office, Washington.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials only will be published when so requested.
All letters should be addressed to the MANAGING EDITOR.
We do not hold ourselves responsible for the opinions expressed by correspondents

Chlorination.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: I send you a few lines in regard to the first use of the term of "chlorination." The term "chlorination," though in general use by technical writers at present, expressing the impregnation of moist or wet ores—principally gold ores—with chlorine is still absent from our dictionaries. The word was coined by G. F. Deetken, when the Plattner chlorine process with American patented apparatus was first introduced by him into California in 1859–60. The terms "chloration," from "chloros," "chlorare" and "chlorination," from the English "chlorine," were first used in the early advertisements in San Francisco papers, proving the correctness of this assertion. Chlorination finally kept the field in preference.

AUBURN, Placer Co., Cal., March 30, 1894. G. F. DEETKEN.

The Kingston School of Mining.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: I notice in your issue of March 31st a letter from Prof. W. A. Carlyle, of McGill University, Montreal, in which he assumes that the Kingston School of Mining writes for the newspapers reports of its meetings and revises the proofs. He objects to a statement which appeared in a former issue of the "Engineering and Mining Journal," to the effect that "the first mining school in Canada has been recently opened in Kingston, Ont.," a statement which he thinks ignores the mining engineering departments of McGill and Toronto universities. It might be contended by the writer of the paragraph that a mining school is not the same as a mining engineering department in a university; but your correspondent, whoever he is, must fight his own battles. The Kingston School of Mining can hardly be held responsible for newspaper paragraphs, and is not called upon to defend them. That we have not ignored the mining departments of McGill and Toronto is sufficiently shown by the following quotation from the address given at the opening of the school, in October, 1893, by Mr. Hamilton Merritt, our lecturer on the economic geology of Ontario, etc.: "Let me congratulate the Board of Governors on having decided to create this institution as a separate school. I believe your decision will eventually cause it to pass in front of those branches of the universities of McGill and Toronto which enable students to qualify in subjects essential to mining engineering."—"Queen's Quarterly."

A good educational atmosphere does not tend to produce that narrowing of the intellectual vision assigned to us. It is somewhat difficult to see by what course of reasoning Professor Carlyle (who must know that self-respecting educational bodies do not send puffs to the newspapers) has reached the conclusion that this school has been "trying to advance its own interests by claiming to be the first and only school in this country offering a course in mining engineering." Such a position would be consistent neither with honesty nor with good sense. McGill University has occasionally been referred to in the press as the only university in Canada having a mining department; but I do not know that anybody has yet called McGill to account for this unambitious flight of the reportorial imagination.

What the Kingston School of Mining can justly claim is to be the first in Canada to have given a special short course for prospectors, mine foremen, etc., and to have sent one of its staff to conduct extramural classes in mining.

As to our curriculum and equipment, you have other columns devoted to subjects of that kind, and doubtless Professor Carlyle and other readers may later find there a contribution from this school. Unfortunately it cannot yet advertise as one of its staff a lecturer who has got his experience in Arizona, but it has men who have seen something of mining as it is carried on in Germany, England and Michigan, not to speak of Canada.

KINGSTON, Canada, April 2, 1894. W. L. GOODWIN.

THE RUSSIAN GOLD MINING INDUSTRY.

The production of gold in Russia dates from the middle of the eighteenth century, when deposits of this metal were discovered almost simultaneously in the Urals and the government of Archangel. In the Urals gold was found accidentally in 1744 on the spot where the Beresovsk gold mines were subsequently situated, near the town of Ekaterinburg. These mines began working in 1748. Only 10 years after their opening their production attained one pood of metal per year, while during the years 1808 to 1810 they gave as much as 22 poods per year. From 1814, how-

ever, the output began to decrease gradually, owing to the impoverishment of the gold-bearing veins as the depth of working increased.

In the government of Archangel gold was first discovered in 1745 in the Kemsk district, at the Boitzk copper mine, where particles of gold of various sizes were found disseminated in a variegated copper ore. After being intermittently worked, this mine was ultimately closed in 1794, after giving a total output of 3 pouds and 32¾ lbs. of gold. Gold was also obtained, in 1745, from the silver smelted from the ores of the Smeinogorsk mine, in the Altai. In 1812 the gold industry, and especially the exploitation of gold-vein deposits, was opened to all Russian subjects. Private individuals were only allowed to work gold-bearing sands in 1819.

The first discovery of alluvial gold was made in 1814 at the above mentioned Beresovsk mines. In Siberia alluvial gold was first discovered in 1829 on the eastern side of the Alataou mountains, dividing the systems of the Yenisei and Tomi. In 1840 and 1841 rich alluvial deposits were found both in the southern and northern systems of Yenisei district. The richness of these deposits is clearly shown by the fact that in 1847 the Yenisei district alone gave more than 1,200 poods of gold. From this time the discovery of alluvial gold gradually extended over Siberia, and the gold mines acquired more and more localities, extending farther and farther east and at last reaching to the most eastern limits of Siberia.

The general character of the Russian gold deposits is as follows:

1. In the Orenburg region small gold workings mainly predominate, worked in greater part by small parties of miners. The deposits have neither the thickness nor the extension which distinguishes the Siberian deposits. The majority are not situated in the valleys of rivers, but on plains, on the summits or declivities of mountains, forming separate and independent, but small and irregular, beds. An exception is presented at the Miassk workings, where, at the present time, a considerable industry has been established.

2. The deposits of the government of Perm are also distinguished for their poorness and variableness and are of inconsiderable size. Those of the Bogoslovsk region are the least variable in their production. The deposits here sometimes extend over several versts and somewhat recall those of eastern Siberia.

3. The deposits of the Altai mountains differ sharply in their internal character from the alluvial beds deposited from the Sayansk and Yablonov mountains of eastern Siberia along the river systems of the Yenisei, Lena and Amour with their tributaries. The Altai deposits are not rich nor thick; are narrow in their extension, and have an unequal and faulty stratification. Those of the Tomsk district are particularly poor. The Achinsk and Minousinsk districts are richer than those of the Tomsk. In general, the gold deposits of western Siberia are poor and it is not rare to find workings where it is impossible to place more than ten or fifteen men.

4. The gold workings of the Yenisei, which were formerly distinguished for their considerable richness, continuity and unvariableness, have, with the working out of the richer deposits, gradually changed their character and become of a kind necessitating their being worked by small enterprises. In general this kind of exploitation is becoming more and more frequent in this district.

5. The deposits of the Nerchinsk district, Amour region and Yakutsk province, are distinguished for their richness, continuity and considerable extension. In these parts large enterprises predominate and there are all the conditions for their success. In the Vitimsk and Alekminsk regions some of the deposits are exploited by underground workings. In general the richness of the gold deposits of the rivers Lena, Amour and their tributaries shows itself in every respect, beginning with their width, size of stratification and the amount of gold they contain. Instead of five to seven "sagenes," which form the width of the poorer systems, the deposits of eastern Siberia are 100 to 200 and more sagenes wide. They are four to six feet thick, uniform in their formation, and without faults. The average contents of gold in the sands are from two to three "zolotniks" and frequently more, while the poorer deposits of other districts do not contain more than 20 to 30 "dolia." Thus the yearly production of gold from the workings of such deposits attains 50 to 100 poods, a figure which is impossible for the poorer districts. It is evident that the method of working the richer and poorer deposits must vary considerably.

A greater or less yield of gold in individual districts and in different years, is dependent upon a variety of conditions. The gold industry is considerably influenced by legislative measures and their frequent modifications, and especially by the collection of dues upon the yield of gold, and to this fact may be ascribed some of the most decisive fluctuations in the production of this metal. On the other hand, the various forces of nature play an exceedingly important part in the gold industry. The most essential element in the extraction of nearly all gold by washing gold-bearing sands, is water. A dry summer and a scarcity of water are very injurious, while an excessive amount of water, especially if it appears suddenly, frequently bursts the reservoirs and sluices and produces a perfect drought. It often happens that in the course of one summer there is a scarcity of water followed by too great an abundance. But the injury produced by a dry, hot summer, with its scarcity of water, is compensated by its utility in thawing the peat soil which covers the gold-bearing deposits, for in those localities where the gold industry is most developed, the entire soil is frozen, and it is necessary to thaw it before the gold-bearing sand can be washed. Besides these conditions the price of bread also has a most important effect, and the harvest of the preceding years determines the cost of labor, which in some localities reaches 900 to 1,400 roubles per man for a working year, which may be only four or five months.

One of the most, if not the most, important factor in the yield of gold is the exchange value of the paper rouble, as by law the gold mine owners are obliged to hand over all the gold extracted by them to the Government which returns it to them in the form of gold coin. As all their accounts are estimated in paper roubles, it is clear that a very important part must be played by the relative values of the metallic and the paper rouble. The lower the exchange the more desirable is it to extract the greatest possible amount of gold, and it often happens that the gold-mine owners make their profits on the exchange alone. It will be readily understood from this enumeration of the most important factors influencing the gold industry, that a series of bare figures giving the production might lead to an entirely erroneous conclusion.

The amount of sand washed depends upon the number of laborers occupied in the mines. The following table gives the number of men employed in the gold mines of different districts:

Years.	Number of men employed— Urals.	W. Siberia.	E. Siberia.	Total.
1881	35,741	6,400	39,681	82,102
1882	31,651	6,653	26,768	65,072
1883	40,241	7,148	26,252	73,641
1884	40,930	8,094	27,441	76,465
1885	39,594	8,624	27,442	75,312
1886	38,794	9,158	25,593	73,546
1887	46,379	11,616	23,203	82,158
1888	47,842	11,460	24,803	84,105
1889	47,066	10,585	26,697	84,348
1890	44,086	9,512	28,242	81,840

The private gold-mine owner is obliged to forward all the gold extracted by him to the nearest State smelting-houses. There are three such smelting-houses in the Russian Empire: one at Ekaterinburg, for the Ural district, one at Tomsk for western Siberia, and one at Irkutsk for eastern Siberia. Besides these, the Emperor's cabinet, under whose direction are the works of the Altai and Nerchinsk districts, has its own laboratories and smelting houses, where the unrefined gold is smelted and assays taken for determining the amount of chemically pure gold it contains Besides gold dust these laboratories also treat the silver smelted in the Empire and separate the gold it contains.

The legislative measures introduced by the Russian Government for the private gold industry have been frequently modified as the development of the industry has progressed. Up to the commencement of the present century the exploitation of gold formed a Government monopoly. In 1812 private individuals were first allowed to prospect for gold in the Urals on their own property. In 1826 Count Kankrine, the Minister of Finance, asked the Emperor Nicholas I. to grant certain private individuals special privileges for prospecting for gold on the Crown lands of the Governments of Viatka and Tobolsk. Similar privileges were afterward granted to various individuals throughout the whole of Siberia, so that in 1838, when the first private gold-mining statute was edited, there were already an many as 200 persons occupied in the gold industry. Owing to the progress made in the gold industry the statute of 1838 was revised in 1851. Lastly, in 1870 new regulations for the private gold industry were published. In these regulations the previously existing diverse rules for different localities were changed for a general regulation act covering the gold mines of the whole Empire. During the last 22 years some essential modifications have been also made in this.

The chief conditions governing the exploitation of gold are now as follows: In granting the landowners or persons nominated by him perfect freedom in the prospecting and exploitation of gold-bearing sands and ores, and requiring only that the exploitation should be carried on without injury to the health or danger to the lives of the workmen, the law demands the payment of a definite tribute upon the gold extracted and the fulfillment of certain formalities in the exploitation of gold on state lands, and the properties appertaining to His Majesty's Cabinet. These gold-bearing deposits and veins are let to private individuals for their temporary exploitation until they become exhausted. That is to say the gold-bearing deposit is regarded as movable property. The exploitation of gold is permitted to all persons possessing civil rights, both Russians and foreigners, with the exception of Jews. All persons desirous of working gold deposits or veins are obliged to obtain a permissary certificate from the mining administration. Any locality which is not under exploitation, and which has not been previously claimed, is free for prospecting, and the gold deposits on it may be occupied under preliminary surveys over an area of not more than five versts along the direction of the valley or stream, and over the whole breadth of the same.

In the case of gold bearing veins the area is limited to one verst radius from the gold miner's claim, marked by a post. Should the gold miner ultimately wish to exploit the claim, he is obliged to make a declaration of the gold deposit, or vein, before the police direction of the district in which it is situated. This declaration gives the right of legally acquiring the claim. To each working there is allotted a locality designated in the declaration. This allotment extends from a definite starting point, and always in the opposite direction to the current of the stream. For ore deposits the area of the allotment is limited to one square verst, the width not being less than one-third of the length, while for alluvial deposits the working area must not exceed five versts, and in European Russia the whole area must not exceed one square verst. The methods of workings are left to the judgment of the gold miner, but the extraction of gold, both in open and underground workings, must be conducted without injury to the health or danger to the lives of the workmen.

There are special rules regulating the use of water on the gold workings and its consumption on neighboring enterprises. The gold miner extracting gold on private lands pays a tribute to the government on the yield of metal, while those working on state lands or on property belonging to His Majesty's Cabinet also pay a rental for the locality occupied by them. The tribute on the yield of gold is levied on the amount of pure gold and silver contained in the unrefined metal. In the Olekmin district, as the richest, the tax amounts to 10%, a rental of ten roubles per "dessiatine," for the workings on state lands; in the provinces of the Amour the tax is 5% and the rental five roubles per "dessiatine," while in the remaining parts of Siberia and in European Russia the tax is 3% and the rental one rouble per "dessiatine."

The gold workings on the lands appertaining to His Majesty's Cabinet are divided into three categories, according to their richness, and pay a tribute to the cabinet to the extent of from 5 to 15% and a rental of 15 kopecks per sagene on the length of the workings. Besides this, the gold miner has to pay the expense of transporting the gold from the state smelting-house at Ekaterinburg, Tomsk, or Irkutsk to the Imperial Mint at St. Petersburg, and the cost of converting the gold into coin. The gold and silver having been smelted and assayed, the proprietor receives bills of credit for the amount of pure metal supplied by him. These bills of credit are payable in gold and silver coin or in ingots, and may be used as a means of exchange between private individuals and banks, and are accepted in payment at the custom-house. Besides which the Siberian gold-mine owners are able to obtain advances on their gold dust at the Tomsk, Yenesei and Irkutsk branches of the State Bank to the amount of 2 roubles per zolotnik. This is a great help to the gold-mine owners, who are frequently in want of capital.

* The Industries of Russia, Mining and Metallurgy. By A. Keppen. Vol. IV.

THE TIERRA SECA GOLD SEPARATOR.

The accompanying illustrations show the "Tierra Seca," as it is called, a machine intended to separate gold from crushed ores where water is scarce and a dry process must be used. Fig. 1 is an elevation of the machine and Fig. 2 cross-section on the line, N N, Fig. 1. The main parts of this machine are: The blowing fan; the feed-hopper; the vibrating shot-box and the gold receiver.

The blowing fan is an ordinary high-pressure fan, which blows air into the shot-box, C, through the leather nozzle, A', the force of the blast being regulated by the gate, A".

The feed-hopper, B, is used as a reservoir for the material from the crushing plant; there is a horizontal sliding trap, B', in the bottom, which regulates the flow of the material into the secondary feeding-hopper, C', at the back of the shot-box, and which is a portion of the same.

The vibrating shot-box, C, is divided into two parts: (C) shot-box proper, and (C') regulating feed-hopper. This hopper regulates the flow of the material into the shot-box, by means of a vertical sliding door between the two, kept in position by means of two thumb-screws. The shot-box, C, is divided horizontally into three tiers, O, P and L (Fig. 2), by means of the steel sheets R R and T T. The two tiers, O and P, are subdivided into four compartments. These four compartments in tier O (Fig. 2) are the receptacles for the shot riffles, kept in place by the screws Z, as shown. Directly underneath the shot riffles is the dividing steel sheet, R R, in each compartment, which slopes downward toward the sides, so that any material falling thereon slides down on to the movable sheets, V V, in each partition, and thus on to the steel sheets, T T, which slope toward the center, and downward toward the front end of shot-box, so that all material resting thereon may find its way to the gold receiving tube, D', which is placed at the lowest end. The air blast from fan A passes through the leather nozzle A' into the back end of vibrating shot-box. This blast acts direct into tier L L (Fig. 2), and is so directed as to give most of its force into the first two shot-box compartments by means of the deflecting valves operated on by the screws x and x', which can be regulated to any degree of deflection. The air currents are subsequently regulated independently, in either or each of the shot riffle compartments, by means of the sliding ports V V (Plate 3), operated on by the milled-headed screws y, y', y" and y'". This box receives a ½-in. side-shaking motion by means of the crank shaft and gearing at the side. Either or all of the shot riffles are easily removable by unscrewing and taking out the screws, Z, shown in Figs. 1 and 2.

The gold receiver, D, is an oval iron receptacle 2 ft. 6 in. long, 4 in. high, and 6 in. wide; it is attached to the shaking frame of the shot-box, and is locked. It receives all the material passing through the shot riffle bottoms, which are constructed out of steel wire gauze of 30, or any other mesh, as the quality of gold warrants, through the tube D'.

The points which vary in this machine are two in number: Depth of shot in shot riffles and regulation of air current.

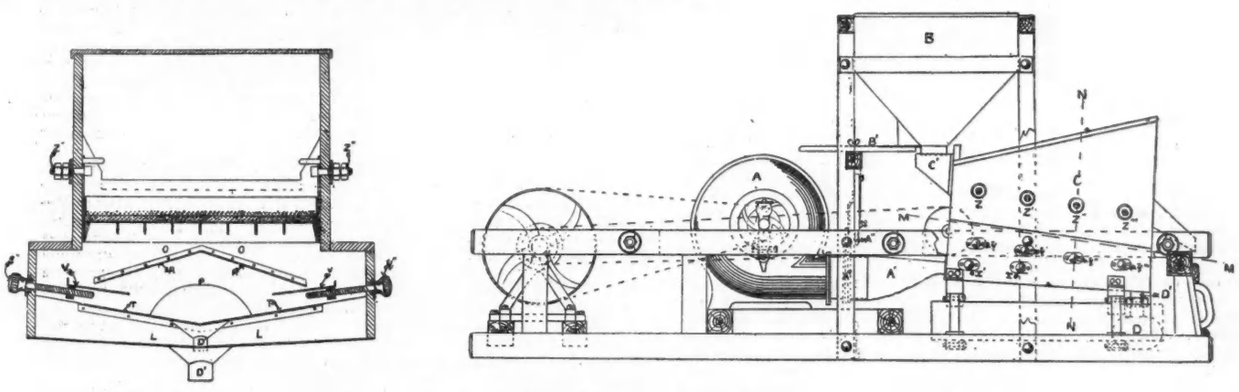
For the regulation of depth of shot, when the material to be treated contains a large amount of pyrites, or base metals, it is advisable to have a greater depth of shot, necessitating the lowering of the shot riffles to as great a depth as the pins will allow. But when the material contains very little pyrites, or base metals, and the gold is in a fairly coarse condition, then the depth of shot can be decreased and the shot riffles themselves raised commensurately.

The regulation of the air blast depends entirely on the quality or class of gold, which is easily determined by the prospecting machine. Thus, if the particles of gold are nearly uniform in size, then the deflecting valves x' and x will simply be opened sufficiently to give an equal current of air to each of the four compartments containing the shot riffles when the ports y, y', y" and y'", are equally opened, the force of the blast being then regulated by the lever operating on the blast gate A"—this blast to be sufficient to keep the material in an apparent state of motion from one riffle to another until it eventually passes to the tailings sheet and then to the tailings pile. When the material contains gold of a variety of grades, it is necessary to open the deflecting sweeps x' and x to their full extent, thus giving most air to shot riffles 1 and 2, and also to leave the ports y full open, the others, y', y" and y'", being closed in an increasing degree the further they are away from the feed-hopper end.

In working, the material to be treated being crushed to the degree of fineness of the finest gold in the stone, a little is tested in the prospecting machine to ascertain the quality of the gold to be saved. The shot riffles being out of the machine, the ports y', y" and y'" can easily be regulated, as the ports themselves are then exposed to view. The gold receiver, D, is then securely fastened in place by means of the wide nut, which is attached to tube of receiver, and also fits on the screw D' under the front end of the shot-box; thus, when the receiver is in place, the nut is screwed up until the joint is covered—the receiver being then locked in place. After the machine is duly oiled, it is started, the main shaft having a speed of 800 revolutions per minute. The feed-hopper, B, is to be kept full of evenly crushed material. The regulation of blast gate A", and the inflow of material in the shot-box C out of hopper C', are points which are readily found out by practical experience and frequent use of the prospecting machine on the tailings. The hopper C' should be kept about three-fourths full as nearly as possible.

Cleaning up, when working on one ore, consists simply in stopping machine for a very short time, taking off the gold receiver D, pouring the material contained therein into the melting pot, replacing the gold receiver and restarting the machine. It is not necessary to take out the shot riffles unless a final clean-up is to be made.

A machine of the size shown, having a capacity of about 10 tons a day, will require, it is stated, about 1 HP. to run it, and will weigh 700 lbs. The machine is being introduced by Mr. C. Wetzler, of London.



THE TIERRA SECA GOLD SEPARATOR.

BRIQUETTE FACTORIES AT THE BLANZY COLLIERIES, FRANCE.*

The Blanzy Company was the first in France to make briquettes, their works commencing operations in 1845. The original plant consisted of hydraulic presses by which only one briquette was made at a time. Tar was used as the agglutant and the product had to be passed through drying stoves for the purpose of giving it consistency. New methods of mixing and increased facilities for large production rendered new machinery necessary. The present plant consists of two factories, Nos. 2 and 3, one having three Révollier presses and the other four Biétrix presses.

At Factory No. 2 where the Révollier presses are at work, the method of manufacture is as follows: The coal dust containing 14% to 15% of water is taken in wagons from the draining tanks of the washing-house and tipped into a pit, from which it is raised by buckets to a hopper in the upper part of the works. From another pit dry pitch broken by a Carr disintegrator is raised in buckets to the same hopper. The buckets are so arranged as to deliver 9% pitch to 91% coal. After being mixed by passing through endless screws the coal and pitch is "pugged" for eight to ten minutes in a pug-mill. The mill is jacketed with superheated steam. The mixture then falls into the molds and is compressed by means of hydraulic rams, averaging from 142 to 156 lbs. per square inch. This lasts about half a minute and leaves only 4% of wate in the briquette. After compression the patent fuel is left on a haulage chain for 40 minutes when it is ready for loading. The three machines produce 240 tons daily.

The Biétrix presses at Factory No. 3 work more rapidly than those just described. This rapidity of production requires that the coal be dried to remove the large quantity of water contained before being pressed. The coal and pitch are mixed in proportions as before and carried by endless screws into a reverberatory furnace having a revolving sole. The mixture after turning around from 8 to 16 seconds is taken by an inclined creeper to the pug mill. It now contains from 6% to 8% of water, which is further reduced by the press, the pressure being 2,300 lbs. per square inch. Each press makes 22 to 23 briquettes per minute, or an aggregate for the four of 330 to 340 tons daily. An auxiliary press attached to No. 4 in Factory No. 3 makes round or "cannon ball" briquettes. The total production at Blanzy is 550 tons per day.

Nickel in New Caledonia.—A report from the Belgian consul at Nouma states that two-fifths of the total area of New Caledonia contains nickel, and one-tenth of this has been conceded to mining companies, about 120 square miles being already worked. The ore is said to contain 8 to 10% nickel. The annual returns show that 5,000 tons nickel ore, 1,500 tons chrome iron, 700 tons cobalt and 210 tons auriferous quartz were exported during the past year.

* M. Dupont de Dinechin at the Chalon-sur-Saône meeting of the Société de l'Industrie Minérale.

THE MINERAL INDUSTRY OF GREECE.

Written for the Engineering and Mining Journal by E. Grossmann.

The accompanying table of production shows clearly the bad effects which the fall in prices of the chief metals has had upon the mineral industry of Greece. The English coal strike also contributed to this by increasing the freight charges. The chief sufferers from low prices were the zinc producers and the lead works of Laurium; while the increase in freight affected the iron ore mines of Laurium and of Seriphos. The high exchange of gold which stood at 160 per cent. (one franc, gold = 1.60 drachme) somewhat lessened the bad effect of low prices.

One of the chief smelting works, Laurium, treated exclusively the old slags and dump-heaps. The slags are nearly all worked out, and of the dump-heaps only the poorer portions remain, viz., those containing 3–4% lead, and 70–100 grams silver per ton. Concentrating works capable of treating 1,000 tons of raw material per day were completed during 1893. There were about 6,700 tons produced from these old dumps during the year, the rest of the lead or a little more than half being obtained from new workings, from which only the purest galena was extracted. The average silver contents of the lead was about 2,000 grams per ton. Since their erection to the end of 1893, the Laurium works have smelted 283,800 metric tons of lead of the value of $31,860,000.

The Laurium mines have also produced considerable quantities of zinc ores. Since 1875 to the end of 1893 there have been exported from these these mines 555,000 metric tons of calcined calamine, of the value of $12,265,600. There has been a gradual decrease in the production of zinc ores in the last few years, due to the exhaustion of old workings, but there exist several deposits which only require to be properly developed to yield large quantities.

Since 1881 manganiferous iron ore, containing 38–40% iron, and 12–18 manganese, which (if it contained 4 to 6% lead), had only been used as flux, has been exported. It is estimated that altogether about 200,000 tons have been consumed as flux, while to the end of 1893 1,065,880 tons of the value of $2,679,500 have been exported.

Iron Ores of Seriphos.—The iron mines of Seriphos are very ancient, the island being used by the Romans as a colony for convicts who were made to work the mines. Exploitation was commenced in 1870, but there were only 42,000 tons produced to the year 1880. Since then a French company has operated the mines, and has exported the following quantities in tons of 2,000 lbs:

Year.	Total exports.	Exports to U. S.	Year.	Total exports.	Exports to U. S.
1881.....	5,150	....	1888.....	18,150	6,950
1882.....	6,250	.....	1889.....	37,750	18,775
1883.....	28,100	4,800	1890	89,470	36,460
1884.....	21,645	13,185	1891.....	76,350	19,980
1885.....	7,350	2,900	1292.....	142,445	41,440
1886.....	32,640	26,300	1893.....	67,670	....
1887.....	51,215	45,380	Total..	544,135	217,170

The hematite ores contain: 46-48% iron, 2-3% manganese, 2·5-4% silica, and 0·02% phosphorus; limonite ores: 50-53% iron, 4-8% silica and 0·035-0·04% phosphorus. Good, natural ports allow large steamers to load rapidly.

Silver ores of Milo.—Silver was discovered in Milo, and in the neighboring isles of Kimolo and Polino about ten years ago. In 1890 the government prevented a company, having a concession to work lead-silver mines, from further exploiting these silver deposits, and ordered an examination by government engineers, which is briefly resumed in the following:

In these islands there exist in several places verticular masses of heavy spar, intermixed clay, surrounded by clay and decomposed trachyte. These masses are imbedded in fresh trachyte. The heavy spar, clay and trachyte carry silver. It is estimated that there is no less than 10,000,000 tons of this ore. The silver is unevenly distributed, and the ore is not rich, averaging about 164 grains per ton (5½ oz.). Some assays have given as much as 4,000 grams per ton.

The engineers being of the opinion that large quantities of ore averaging 250 grams per ton, could be profitably worked, the government in February 1893, offered to grant a lease to the highest bidder to mine 150,000 tons within 15 years. It was easy to foretell that under these conditions and with the low price of silver no one would undertake to mine 8 oz. ore.

Magnesite.—This mineral holds an important position. Its occurence in nature as magnesium carbonate appears to be rather limited, and nowhere else can it be found in such workable quantities as in Greece. The composition of the ore is as follows: Magnesium carbonate, 96-98%; silica, 1-1·5%; alumina, 0·5-2%; calcium carbonate, 0·5-1·5%; iron carbonate, 0·3-0·5%. The manufacture of bricks from burnt magnesite was first carried out in Styria, Austria, but for some years past there has been an establishment at Eubea. After many experiments and difficulties on account of the high temperature necessary (above the melting point of platinum) to burn the magnesite to a tenacious substance, they succeeded about the middle of 1893 in carrying on the operations continuously The maximum compressibility of magnesia is at 1,800° C. with a dimunition of 80% in volume. The "Chamotteskine" and "Dinas Bricks" used in the construction of the furnace (Hoffmann's circular) were unable to withstand the heat; now the magnesium bricks are used.

The specific gravity of these compact bricks is 2·64 and their composition is: Magnesium carbonate, 93·25-96·25%; calcium carbonate, 1·5-3·00%; silica, 1·5-2·5%; iron oxide and alumina, 0·75-1·25%.

Emery is found in several of the Greek islands, but chiefly in Naxos, where it has been exploited for a long while, and occurs in boulders in crystalline limestone of the Archian age. These mines could very easily compete against those of Asia Minor, situated between Smyrna and Ephesus, as they are purer, containing, before undergoing any cleaning, 68-70% corundum against 65% of the Symrna deposits. The old method of fire-setting is still used on account of the difficulty of boring, even with the hardest steel. The price of emery in blocks at the coast of Naxos is 65 frs. per metric ton; loads of at least 300 tons can be obtained, but on account of the bad ports, it is difficult and expensive to ship such large blocks. Between the years 1869-1886 the quantity of Naxos emery produced was 41,344 metric tons, valued at $1,809,220. From 1869 to 1889, the government supplied emery at the fixed price of 218·80 frs. at Naxos. Since then the competition of the Smyrna mines has brought the price down, as stated above, to 65 frs.

METHOD FOR THE DETERMINATION OF IRON IN IRON ORE.

Written for the Engineering and Mining Journal by Mixer & Dubois.

It is rather surprising that the method described below, although in general use in the Lake Superior region, should be so little known outside of it. The method may be named, in a descriptive sense, the "stannous chloride, hydrochloric acid and permanganate" method, and we do not know to whom credit should be given for having first formulated it. Blair, the generally accepted authority on iron analysis, makes no mention of it. David H. Browne, in his admirable paper "Hints to Beginners in Iron Analysis," published in the Journal of Analytical and Applied Chemistry for June, 1891, describes a somewhat similar method, but remarks that it is "one in which the 'personal equation' or liability of the analyst to err is a potent factor." This statement is not borne out in the method which we describe, but the fact that it is somewhat different in detail from Mr. Browne's method may account for it. The outline of the method, as used in our laboratory, differs only in a few unimportant manipulative details from that practised in neighboring laboratories, and is substantially as follows:

For ordinary work less than half of a gram of ore is weighed out, the particular weight, and the strength of the permanganate solution being so adjusted that by using a 50 c.c. burette the per cent. may be read directly, the value of 1 c.c. being 2%.

We fill a carboy with a solution containing 250 grammes of permanganate and connect it directly with the burette by glass tubing.

For extremely accurate work a 100 c. c. burette may be used, with a more dilute solution.

The ore weighed out is placed in a No. O lipless beaker, and 2½ c. c. of stannous chloride solution added. (This solution is made up as follows: One pound of stannous chloride is dissolved in one pound of concentrated hydrochloric acid and water, and further diluted to 2 litres). Then 10 to 15 c. c. of hydrochloric acid (1:1) is added, a watch glass put on the beaker, which is then placed on an iron plate and the contents boiled until the ore is completely dissolved. This will generally require from one to five minutes, depending upon the character of the ore, and the proportion of stannous chloride used, it being most advantageous to have enough stannous chloride present to reduce nearly all the iron to the ferrous state, that is, so the solution only has a light yellowish green color. The rapidity with which the ore dissolves, owing to the presence of the stannous chloride, is a great advantage in shortening the time of the analysis, and is of considerable theoretical interest as to its exact cause.

When the ore is dissolved, and while still hot, additional drops of stannous chloride are cautiously added from a burette, until the yellow color just disappears, the solution being constantly agitated by giving the beaker a slight rotating motion, thus doing away with the use of a glass rod. To the contents of the beaker are added about 5 c. c. of a saturated solution of mercuric chloride, to take up the slight excess of stannous chloride, which reaction is shown by the formation of mercurous chloride, a white, silky precipitate. The solution is now poured into the titrating beaker, of about 500 c. c. capacity, diluted with water, and 5 to 10 c. c. of the titrating solution added. The titrating solution is prepared by dissolving 160 grammes of manganese sulphate in water and diluting to 1,750 c. c., to which is added 330 c. c. of phosphoric acid and 320 c. c. of sulphuric acid.

The solution is now ready for titrating, which is done in the usual way. After the mercuric chloride has been added the titration must be performed immediately.

As is well known, the permanganate solution rarely varies, when protected from light and changes in temperature, by casing around the carboy.

Nevertheless, we always make sure of it by running one or two analyses of a standard ore with every set of determinations, which, being under precisely the same conditions, will immediately indicate any error in weight or solution; this precaution we consider very important, as it takes little extra work and insures the accuracy of the results.

Our duplicates generally agree, and rarely differ more than one-tenth of one per cent. In a standard ore that was recently submitted to several chemists for analysis, the three chemists using this method reported 67.02%, 67.02% and 67.08% as their respective results, and the average by all methods, was 67.04%.

We think that there may be claimed for this method greater rapidity of working and equal accuracy, to any other method now employed in iron analysis of ores. If its advantages should be equally recognized by those who may be induced to try it, we hope that it may at least receive a trial at the hands of the Committee on Standard Methods of Iron and Steel Analysis.

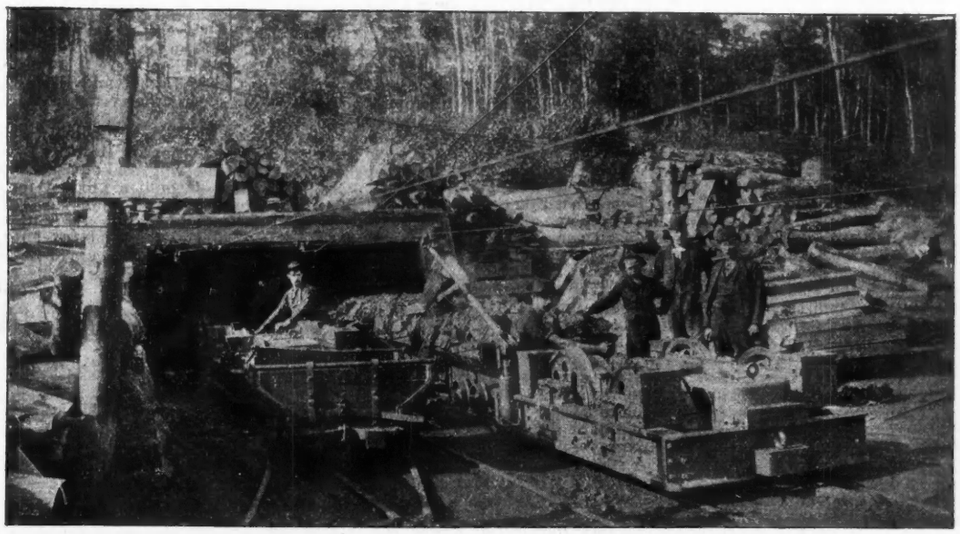
The Ohio Ship Canal.—Hon. Bellamy Hover, of Cincinnati, will appear before the Committee on Rivers and Harbors, at Washington, to advocate an appropriation for the proposed ship canal from the great lakes to the Ohio River via Toledo and Cincinnati.

Production of Pure Tungsten.—A new process for manufacturing pure tungsten on a commercial scale has been brought out by Herr Krug, of Magdeburg. The process consists in forming first the chloride of the metal, then oxidizing this and reducing the oxide by means of an electric arc, pure metallic tungsten resulting.

Harvard Geological Expedition.—The Geological Department of Harvard University will send an expedition to Gay's End, Martha's Vineyard, to investigate the strata formation and fossils of that section. The party will start early in April and will consist of eight students of the department, headed by Dr. Jackson and J. A. Woodworth, his assistant

ELECTRIC HAULAGE AT BEAR RUN MINE, PA.

Since electricity was first introduced as a power in mining operations, its use has extended rapidly, replacing the mine mule in haulage and furnishing both power to operate mining machines and light for the mines. The accompanying illustration shows the electric haulage system at the Bear Run mine of the Blossburg Coal Co., near Landrus, Tioga county, Pa.



GENERAL ELECTRIC COMPANY'S HAULAGE SYSTEM AT BEAR RUN MINE.

The mine has been equipped by the General Electric Company with two of its T. M. M., that is "two motor mining" type of locomotives, each of 30 H. P. They are propelled by two W. P. 30 motors, one being geared to each axle. Current is brought to the motors by a specially designed trolley arm, on which the trolley wheel is swivelled to permit of its adjustment to the various irregularities of the wire line. The trolley arm can be set in sockets on either side of the locomotive, which may thus be run into headings on either side of the main haulageway, which is lighted by incandescent lamps placed at the entrance to each cross-head 100 yards apart. The dimensions of the machines are: Horse-power, 30; speed, six miles per hour; draw bar pull, 1,500 lbs.; gauge, 36 in.; wheel base, 30 in.; diameter of wheels, 28 in.; width over all, 48 in.; length over all, 9 ft. 6 in.; height above rail, 31 in.; weight, 7,500 lbs. The current is furnished by a General Electric D 62, 75 H. P. generator, driven by a Harrisburg Ideal 80 H. P. engine.

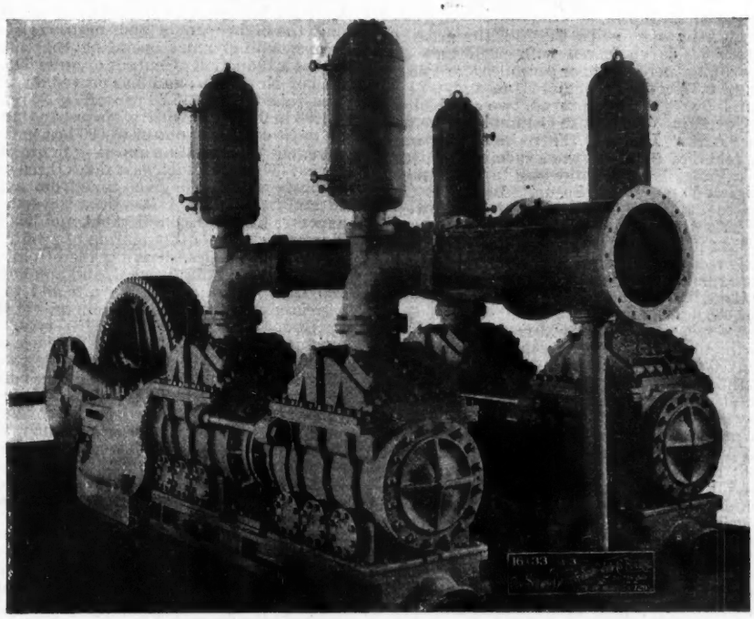
The maximum load which these locomotives have been called upon to handle is 32 loaded, mine wagons each weighing 3,200 lbs., and the way has at one part a 3% grade. The daily haul of the locomotive is about 650 tons.

THE PUMPING ENGINES AT AUSTIN, TEX.

The pumping plant which has been placed at the river dam in Austin to supply water to that city consists of two duplex double plunge power pumps, each having a capacity of 4,000,000 gals. per 24 hours, delivered into a reservoir under a dynamic head of 165 lbs.

The engines are heavily constructed, the diameter of the water cylinders being 16¼ in., and the length of stroke 33 in. The valve area of both the suction and discharge valve decks is 55 per cent. of the area of the plungers. The engine beds are of the Tangye type, very heavy, with cast steel cross-heads, adjustable slides, and heavy connecting rods and stub ends. The shafts are of hammered steel 11⅛ in. in diameter. The weight of each pumping engine is about 60 tons.

The pumps are driven by mortise spur gears with 18 in. face. Each water cylinder takes its supply through a 13 in. suction pipe from the forebay, having a head of about 10 ft. of water on the suction valve, and discharges through two 18-in. discharge pipes into one 24-in. main, which leads to the reservoir.



THE PUMPING ENGINES AT AUSTIN, TEX.

The plant was erected by the Stilwell Bierce & Smith Vaile Co., of Dayton, O., which also supplied the Victor turbines used to operate the pumping engines.

The Chesapeake & Ohio Canal.—A proposition has been made by which the State of Maryland was to have sold its interest in this canal to the Baltimore & Ohio Railroad. Business men holding claims against the canal object to the proposed sale, as they say the railroad would likely close the former and use the towpath for a roadbed.

ABSTRACTS OF OFFICIAL REPORTS.

CENTRAL RAILROAD COMPANY OF NEW JERSEY.

The annual report of the Central Railroad Company of New Jersey shows the net surplus revenues of the company over operating expenses, taxes, extraordinary repairs and fixed charges to amount to $2,138,789.97 as against $2,330,384.77 for 1892. The gross earnings amounted to $14,967,956.50; operating expenses and taxes $9,117,052.06, leaving net earnings $5,850,904 44. The income from investments amounted to $868,616.56, and balance of premiums on bonds sold, discounts, etc., $154,918.27, making a total of $6,874,439.27. Fixed charges of interest and earnings due under rentals amounted to $4,735,649.30, leaving surplus for the year $2,138.789 97, as noted. Against this there is charged dividends amounting to $1,574,142.50, leaving a balance credited to profit and loss $564,647.47. Of the authorized capital stock of $30,000,000 there is outstanding $22,497.000, an increase of $29,000 during the year. The funded debt of the company is $47,066,100, an increase of $1,959,577.89 for the year. The current assets December 31st, 1893, amounted to $7,137,963.11, and current liabilities at same period $4 330,230.76, leaving a surplus of assets over liabilities of $2,807,732.35.

GENERAL ELECTRIC COMPANY.

The second annual report states that this company represents the union of the Edison Electric Light Company, The Edison General Electric Company, The Thompson-Houston Electric Company, and the Thompson-Houston International Electric Company. To acquire these companies the General Electric issued $35,459,700 common stock and $4,251,900 preferred stock, and afterward sold for each $10,000,000 debenture bonds, the total being $44,711,600. The obligations of the company, direct and indirect, on January 31, 1894, amounted to $1.984,000, representing a reduction of debt since July 31, 1893, of $6,750,000. The number of local companies operating incandescant and arc lights has increased from 1,158 in 1892, to 1,277 in 1893, and 1,479 at the beginning of 1894. The total number of electric railway companies has increased from 214 in 1892, and 435 in 1893 to 541 at the beginning of 1894. The consolidated balance sheet shows assets amounting to $45,928,449.23, including $12,454.967.42 profit and loss. The liabilities are $44,711,600 stock and bonds; $26,200 mortgages; $1.150,759.45 interest and notes, and $39.889.78 sundry credits, a total of $45,928,449.23. A statement of profit and loss shows on the debit side interest, dividends, taxes and World Fair expenses $2,592.378.95, and amounts now charged off $14,687,466.12, and on the credit side, surplus, January 31, 1893, $1,024,954.59; manufacturing and selling profit, $3,189,884.37; dividends and interests, $433,293.06. Interest, discount and exchange, $76.745.63, and debit balance carried forward, $12,454.967.42; total, $17,179.845.07.

THE CANADIAN PACIFIC RAILROAD COMPANY.

At the thirteenth annual meeting of the shareholders of this railway, the president's annual statement showed that the gross earnings for the year ending December 31st, 1893, were $20,962,317.44. Deducting from this the working expenses, which amounted to $13 220,901.39, the net earnings were $7.841.416.05. Adding to this the interest earned on deposits and loans, $209.762.87, and deducting the amount of fixed charges accrued during one year, $5,338 597.22, the surplus was $2.612,681.70. From this a supplementary dividend of 1 per cent. was paid on August 17th, 1893, and a full half yearly dividend of 2½ per cent. on February 17th, 1894, amounting in all to $2.275,000, leaving a surplus of $337,681.70, to be carried forward, which, with the surplus of previous years, makes a total surplus carried forward of $7,261,213.14.

The working expenses for the year amounted to 63·07% of the gross earnings, and the net earnings to 36·93% as compared with 60·67 and 39·33% respectively in 1892. The earnings per passenger per mile were 1·69 cent, and per ton of freight per mile 0.87 cent, as against 1·69 and 0·84 cent respectively in 1892. Several leases were approved, two of which were railways promoted by the Government of British Columbia. The first is from Nakusp, on the Upper Arrow Lake, to the Slocan silver-mining district, about 34 miles at a rental of 40% of the gross earnings. A second was the lease of the Nicola Valley Railway, intended to reach the coal fields of the Nicola Valley, about 50 miles from Spence's Bridge, B C.

The total sales for 1893 of Canadian Pacific and Manitoba Southwestern lands were 107,348 acres for $352.847, an average price of $3 29 per acre, against 392,467 acres for $1.355.618 in 1892, an average price of $3.45 per acre. Of the lands previously recovered by the company from cancellation of sales 10.365 acres were resold during the year at a profit of $3,824. The quantity of land of the Canadian Pacific land grant remaining unsold on December 31st was 15,792,388 acres, and of the Manitoba and Southwestern land grant 1,098.086 acres, which with 190,000 of the Columbia and Kootenay grant, makes the total land owned by the company 17,080,474 acres. The amount received from town sites during the year, after deducting all expenses, was $15,234.99. The report concludes:

The condensed balance sheet shows assets amounting to $238,420,508.86, made up as follows: Railway lines, $171,997,315.35; equipment, $17.163,225.22; China and Japan steamship lines, $3 504.327.16; acquired securities held against debentures and preference stock issued, $20.257,122.63; real estate relizable $1,166.207.16; advances on land, $2,112,729.29; balance due on lands sold, $2.746.964.75; advances on railways and lake and ferry steamers, $2,289.920.81; material and supplies on hand, $2,241,176.58; accounts receivable and miscellaneous securities, $4,396.458 08; due from Dominion Government for mail transportation, $250,463.02; treasury assets, $10,294,598.81.

Against this, representing the liabilities, are: Capital stock, $65,000,000; 4% preference stock, $6.424,000; mortgage bonds, $48.088,586.33; 4% consolidated debenture stock, $39,819.675; land grant bonds, $18,426,000; current liabilities, $2.878.008.78; interest on funded debt and rental of leased lines, $1.784 986.27; dividend on ordinary stock, $1,625,000; dividend on preferred stock, $64.240; cash subsidy from Government and provincial and municipal bonuses, $25,646,060 30; land grants, less expenses and rebates, $19,995,986.15; town sites, $1,409,253.89; surplus earnings, $7.261.213.14.

STANDARD CONSOLIDATED MINING COMPANY, CALIFORNIA.

The report of this company for the year ending January 31st, 1894, shows the receipts as follows: Bullion sold, $171,536; miscellaneous, $2,920; cash on hand at beginning of year, $43,335; total, $217,791. The expenditures were: Mine account, $90,888; mill account, $45.472; electric plant, $11,212; taxes, office expenses, etc., $9,631; total $157,203; leaving a balance of $60,588. From this were paid dividends Nos. 81 and 82, amounting to $18,903, leaving $41,685 cash on hand at the close of the year.

The work done shows 12,420 tons of ore mined at a cost of $6.022 per ton; 7,017 tons of waste were taken out. Development work included 2,426 ft. drifts; 944 ft. crosscuts; 1,588 ft. upraises; 174 ft. winzes; 227 ft. old drifts reopened. In the mill 12,615 tons ore were worked; the year is divided into two periods, owing to the change in methods mentioned below. For the first nine months the average value of ore was $15.69 gold and $1.82 silver, a total of $17.51 per ton; cost of milling, $3.781 per ton. For the last three months the value of the ore was: Gold, $21.78; silver, $2.35; total, $24.13. The cost of milling was $3.73 per ton. The percentage saved was 74·1%. The total bullion product was 7,927 fine oz. gold and 10,507 fine oz. silver. There were 111½ tons concentrates treated, having an average value of $54.87 gold and $28.48 silver, or $83.35 in all, per ton. From these concentrates the average extraction by first amalgamation was 77·7%.

The report of Mr. Thomas H. Leggett, president and manager, says: "Owing to the cessation of operations in May, caused by the urgent necessity of repairing the shaft timbering, and on account of the falling off in the grade of the ore mined, our bullion product for the past year is less than that of the preceding one by $67,846. Nevertheless we have paid two dividends, our cash surplus is practically undiminished, and we are able to declare the usual dividend, payable next month. These results have been accomplished only by the exercise of the strictest economy in all departments of the business. Unquestionably we would have been enabled to have paid at least one more dividend during the year had the Westinghouse Electric & Manufacturing Company promptly put their apparatus into successful operation after its installation in May. Our water power plant was completed and ready to run on December 1st, 1892, while the wire line was finished the month previous. The electrical apparatus was to have been shipped on October 1st of that year, but did not leave Pittsburg until March, nor reach Bodie until April, 1893. After its installation there were numerous accidents and disasters to the machines, so that not until last October did we begin to realize on the investment made. All during that month, with the exception of but two days, the mill was run by electric power, and the saving effected is clearly shown by the cost of milling for that month, viz.: $2.32 per ton, as against the average cost for the preceding eight months of $3.78, a difference in favor of electric power of $1.46 per ton. This is equivalent to a saving for the month of $2,100, an amount considerably in excess of that anticipated in the last annual report. The mill was operated all through the month of December by electric power, effecting an almost equal saving, but we were obliged to run by steam power for a couple of weeks or so in November and again in January, from trouble with the water power, due to the formation of ice in the ditch. Thus far in February we have had no stops from this cause; and in another month we will be entirely free of all danger from such cause.

"Our milling work has been up to the average; in fact, the mean percentage of extraction for last year exceeds that of the previous one by 1·3%: while the total expense of operating the mill is $10,500 less than in 1892, the chief saving being that effected in fuel consumption through the use of electricity as a motive power. Early in November, it was determined to cease extracting from the West ledge, and other wide but low grade ore-veins (assaying but $8 to $12 per ton), and to work only the higher grade (and narrower) ledges, reducing the mine force correspondingly, and operating the mill on half-time only, since this meant a reduction of output of quite 50%. This change was made on the 11th of November, and has proved an advisable one. The grade of ore was raised from $15.86 per ton in November to $24.59 in December, and $31.96 in January, with a corresponding increase in profit, from none at all in November to one of $8,000 last month. It is, of course, impossible to reduce the operating expenses in direct proportion to the reduction of output (50%), inasmuch as it takes three or four miners to obtain the same quantity of ore in a given time from a 6-in. ledge that one miner would extract from a 3 or 4 ft. vein. Nevertheless, the reduction in running expenses has been considerable, and has had a very appreciable effect in increasing the monthly margin of profit. We have milled 260 tons of ore for outside parties, deriving therefrom a revenue of $1,592; and having extra stamps at our disposal, and an abundance of power, we will be enabled, during the coming year, to add to our income by the treatment of a greater quantity of the custom ores of the camp.

"Under the heading of Ore Reserves, the condition of the mine leaves much to be desired. The larger bodies of fair grade ore have been exhausted, and only those of low grade remain in any quantity, and these will yield no profit, nor even pay the costs of mining and milling. The prospecting work during the past year has been fairly successful, but only narrow seams have been discovered, and no ore bodies 6 or 8 ft. wide, and of an average grade, such as we had to call upon during the previous years. We have, however, curtailed expenses here—the expenditure amounting to $21,000 less than the total mining expense for 1892. A portion of this is, however, due to the shut-down in the month of May, but large reductions have been made in both the consumption and first cost of lumber and fuel at the mine. In every annual report issued under the present management it has been clearly stated that we are working over old stopes, and extracting remnants of former ore bodies, and that the new ledges, occasionally discovered, are of but secondary importance, being minor branches of the main ledges that were worked out in former years. Under such conditions it is evidently impossible to forecast the future, or make any predictions whatever in regard to the payment of dividends. There is, however, always the chance of encountering ore by the prospecting work that is being steadily carried on, and while the field is becoming more restricted, there are still blocks of ground that may yet produce fair amounts of paying ore. Further, we have the advantage now of being able to operate the mill by electric power, enabling us to work a higher grade and lesser quantity of ore, without the loss of time and money accompanying each start and stop of the mill, when the same is being driven by steam power. This, aside from the direct saving in fuel consumption of from $35 to $40 per day of 12 hours.

COAL MINING IN CHINA.

Through the courtesy of H. Mandl & Co., Tientsin, China, we are in receipt of the following interesting information concerning coal mining in that country.

Mining enterprise in China is still nearly undeveloped if we consider it from a modern point of view. On the other hand the Chinese have obtained ores and coal in the most primitive fashion nearly all over the country. The Province of Yunnan Szechnan and parts of Hunan are rich in good copper ores. Iron is found in Hunan Kwangtung, first-class ores in Shensi, Shansi and Honan. Coal is abundant in all the Northern Provinces. It is sold in nearly all towns and villages for home consumption, near the places where it is found, as the total absence of means of transport do not allow the carrying of it to places more than say 10 miles distant from any mine.

The working of these mines is simply sinking a shaft in places where coal (and iron and copper just the same) is found near the surface and abandoning the same as soon as water drives the workmen out. Thus the coal gained is mostly soft surface coal, though on the north better coal and anthracite are found. Good coking coal for use in iron furnaces has not been found. In Manchuria very good ores of copper, silver, iron and lead have been found of late. Copper too in Kansua.

There is no doubt a great field for mining enterprises all over the empire if taken in hand properly by strict management, appliances of modern machinery and the necessary capital. Foreigners are at present not allowed to own any landed property in the interior, nor could such properties be mortgaged to foreign capitalists. This, of course, excludes all chances of foreigners opening and working mines. The only mines worked on modern principles and superintended, though not managed, by foreign salaried engineers, are in Chihli and Hunan. They are semi-official enterprises, and the parties interested are the leading officials and a few wealthy private individuals.

The oldest establishment is the coal mine at Kaiping, or as it is called officially, Tongshan, some 40 miles north of Tientsin. The mine is connected with Tientsin and Tongku (a wharf on the Peiho River near the mouth of the river) by the only existing railway in China. A short line of railway in Formosa is absolutely local and of no importance.

The Kaiping mine is called in English "The Chinese Engineering & Mining Company." It gains coal between the railway stations Tongshan and Kuyeh, the principal mine being near Tongshan where two shafts are sunk and furnished with all modern machinery as hauling, pumping, etc., subterranean galleries, tramways, etc. A depth of 1,200 ft. has been reached, and five strata of coal worked, together about 100 ft. in width. The production in 1893 was a total of 350,000 tons. Price at the mine Tls. 3.00 per ton.

The company is now sinking two new shafts near the Kuyeh station at a place called Linshi. The work will be similar to the Tongshan mine, but it is not completed yet. The shafts have reached a depth of 600 ft. Four strata are worked of 38 ft. together. The production in 1893 was 120,000 tons at Tls. 2 per ton at the mine. The company works a mine of galena containing some silver near a place called Chong du Mongolia. The silver turned out in 1893 was Tls. (about an ounce) 300,000. The amount of lead we could not ascertain. The wages of a miner for 8 hours a day are 12 taels cents.

In the Province of Hunan coal and iron mines are being developed by the present Governor General. The iron is found in excellent quality and great quantity near a place called Tiehshanpu, some 14 miles from the Yangtse River. The name of the place means "Iron mountain," and has been known for ages. The working ceased long ago when the forests that supplied the charcoal for melting had been annihilated. The Governor General started in search of coalfields near the iron mines, and such were found about 5 miles distant, at a place called Shihhuiyao. The strata, two, are 14 ft. and 24 ft. thick respectively, but the coal is too soft to be of much use for puddling purposes. Another mine near Niangan-shan only a few miles distant from the iron shows better coal. While soft, it cokes well.

All these mines have been started by means of Belgian, English and German mining engineers, but have not been developed enough yet to enable anybody to judge the probable results obtainable.

NOTE ON THE COPPER MINES OF SINGHBHOOM, INDIA.

By Harold Harris.

It is not generally known that in Singhbhoom, Chota-Nagpore, Bengal, there is a large belt of copper-bearing country extending over a distance of 80 miles in length. Having the opportunity to visit this district in the early part of 1893, I spent some two months examining that part of the country. The geological formation is submetamorphic, consisting principally of micaceous, chloritic schists, quartzites, and steatite, otherwise known as pot stone or soap stone, the whole formation resting on gneiss granite. All along this tract of country there are large heaps of slag and numerous old workings, some of them very extensive in length and width, clearly showing that the ancients who worked in these mines thoroughly understood the art of copper mining, and also of smelting from the oxidised ore. As to whether they understood the manipulation of sulphides is uncertain, but everything seems to indicate that they did not, as none of the old workings are down deep enough to strike the pyritic ore. At the present time a company is opening up a new mine to the depth of the old workings at Rajdoha. It has sunk two vertical shafts, each 14 ft. diameter, one at Rajdoha and one at Rakka, some eight miles apart. The shaft at Rakka is down to a depth of 247 ft., having passed through copper-bearing ground from the surface. During the sinking two valuable beds of copper ore were passed through. Crosscuts have been driven from the bottom of the shaft, and intersected these beds again in as healthy a state as in the shaft. The ore is all sulphide, and a bulk of 10 tons of undressed ore, from the richest portion of the lode, was sent to Liverpool and sold on a dry assay of 13⅝ of copper. An analysis by the author, in the laboratory at Mason College, Birmingham, of a sample of this ore gave the following results:

	Per Cent.	Probably existing as:	Per Cent.
Copper (Cu)	15·50	CuS	23·33
Iron (Fe)	26·25	FeS	37·67
Silica (SiO_2)	21·00	FeO	3·00
Sulphur (S)	21·50	SiO_2	21·00
Alumina (Al_2O_3)	2·80	Al_2O_3	2·80
Phosphorus pen·oxide (P_2O_5)	3·25	P_2O_5	3·25
Lime (CaO)	3·50	CaO	3·50
Magnesia (MgO)	2·00	MgO	2·06
Nickel and cobalt (Ni + Co)	1·20	NiO + CoO	2·00
Silver (Ag)	0·004	Ag	0.004
Water at 100°C	1·35	H_2O	1·35
	98·154		99·854

A good feature in this ore is the entire absence of arsenic, which was carefully sought for, but not found. The percentage of phosphorus is unusually high. The presence of nickel and cobalt, although only in such small quantities, is a very interesting feature. Until lately this tract of country was practically inaccessible for commercial purposes. It consists principally of jungle and forests. Within the last three or four years the Bengal Nagpur Railway, from Asansol, on the East Indian Railway, to Nagpore in the central provinces, on the Great Indian Peninsular Railway, has passed through the country and opened it up. I have no doubt that the future of this copper bearing country will be a very important one as its wealth in copper becomes known.

VAUTIN'S ELECTROLYTIC SODIUM PROCESS.*

In this process a cathode of fused lead is used. This has a considerable affinity for sodium, which is deposited upon it instead of floating to the surface of a heavy liquid.

The anodes are arranged at the top of the vat, while the melted lead forms the cathode at the bottom. The electrolysis goes on quietly until the lead is sufficiently charged with sodium. The alloy can then be run off. If caustic soda is to be made, it is allowed to cool. It then forms a heavy brittle grey alloy. This is put into water. The hydrogen is given off and caustic soda is produced. The lead sodium alloy crumbles, and after the sodium is withdrawn it remains as a powder, or in small fragments. The lead is not dissolved by the caustic soda, though after crumbling it is comparatively finely divided. This is no doubt due to the traces of the sodium in it which prevent the oxidation. The lead is, of course, used over and over again as a cathode. The chlorine is led off to lime chambers in the usual way.

The lead alloy must not be regarded as being useful only for the manufacture of caustic soda. It is applicable to most processes for which sodium is at present employed. For instance, it may be used for acting on ferrocyanide of potassium to produce cyanide of sodium and potassium. It must be remembered that cyanide of potassium is generally estimated by silver nitrate or iodine; that is to say it is estimated by its cyanogen. If the cyanogen is combined with sodium instead of potassium, the percentage of cyanogen comes out higher, and the average analyst passes the salt as being extra pure. It is possible, in fact, to make cyanide which will show that it contains more than 100% of potassium cyanide, according to the ordinary method of estimation. It is injudicious to sell salt of this composition, as it arouses suspicion in some minds. It is also possible that sodium peroxide may be made by treating the lead alloy with just enough water to form oxide of sodium. The lead can then be removed and the oxide of sodium heated to convert it into the peroxide.

Mr. Vautin has recently modified his process so as to make it more continuous. That is to say, the process as already described can be made continuous by adding lead and salt, and withdrawing the sodium alloy and chlorine continuously, and the soda can be taken out of the lead without cooling it, by means of steam at a sufficiently high temperature. Mr. Vautin has gone further than this, however; a pipe is led from the bottom of the furnace, that is, from the cathode to a second chamber. This pipe, which is, of course, filled with melted lead connects the lead which forms the cathode with the lead, in the second vessel. It is found that the diffusion of sodium in melted lead is very rapid; astonishingly rapid, in fact. The lead in the second vessel is treated with steam which produces fused caustic, which is run off as formed. There is some tendency to form the oxide instead of the hydrate, but that is a matter of no importance.

There is another difficulty—namely, the action of the chlorine on the iron. Mr. Vautin protects the iron in a simple and ingenious way. He uses a mixture of chlorides for the electrolyte, so as to secure a low melting point. He then dips the iron to be protected into fused common salt, which forms a protective coating which does not melt at the ordinary temperature of working.

THE CANADIAN COAL FIELDS.

More than usual interest attaches this year to the Canadian coal fields because of their possibilities as competitors for part of the United States trade. Canada is divided into four coal producing regions: Nova Scotia, New Brunswick, Alberta and British Columbia. Of these Nova Scotia and Algoma yield almost the entire coal output of the Dominion. Through the courtesy of Mr. Edwin Gilpin, Nova Scotia, Inspector of Mines of Nova Scotia, the following information has been secured concerning that province:

On the Island of Cape Breton the existence of coal has been known since the days of the earliest explorers. The old fortress of Louisburg was supplied with fuel from workings which are still open in Cow Bay, but it was not until 1784 that any regular mining was done, even on a small scale, royalties being from 50 to 75c. per ton, while the price was about $2.50. In 1826 King George gave to his brother, the Duke of York all mineral lands in Nova Scotia not previously granted. The latter assigned his rights to the General Mining Association, Limited, of London

* Abstract from the Journal of the Society of Chemical Industry, London.

* (Industries and Iron, London.)

which in 1858 relinquished its title to the greater part of the grant, continuing operations in Cape Breton, Picton and Cumberland Counties, and at its Sydney colliery, which is still producing Other companies started on the lands released and worked with varying success. A few years ago 18 companies were engaged in mining, but at present the six following are the only ones active: In Cumberland County, the Canada Coals & Railway Company, Cumberland Railway & Coal Company; in Picton County, the Acadia Coal Company and the Intercolonial Coal Company, and in Cape Breton, the General Mining Association, Limited, and the Dominion Coal Company.

The output of these companies for 1893 is estimated at 2,464,000 tons of 2,000 lbs., of which about 896,000 tons were shipped up the St. Lawence River to Quebec, Montreal and other cities, the remainder being consumed locally and in the neighboring colonies and exported.

The most eastern coalfield, Cape Breton, has only two operators. During the past year the Dominion Coal Company, Ltd., H. M. Whitney, of Boston, president, purchased the Gowrie, Caledonia, Ontario, Glace Bay, International, Gardner, Old Bridgeport and Low Point mines, and is introducing new and more economical methods.

The area of the Sydney coalfields, in Cape Breton has been estimated at about 250 square miles: but recent explorations indicate a larger extent of workable coal. A section of seams in the Glace Bay district, occuring within 1,600 ft. of strata, shows nine seams of the following thicknesses, respectively, commencing at the top: A, 3 ft.; Carr, 6 ft.: Barasois, Hub, 12 ft.; Harbor, Victoria, Sydney, 8 ft.; D, 3 ft.: North Head, 4 ft; McAulay, Phelan, 8 ft.; Ross, or Emery, 4½ ft: Gardner, 4½ ft.

The coals are all free burning bituminous, well suited for steam, gas, or domestic purposes. The seams are, as a rule, quite regular and free from faulting.

In Pictou County the Acadia and Intercolonial companies own a large portion of the productive area. The seams vary from 4 to 14 ft. in thickness, and are inclined and intersected by numerous faults. The Pictou coals are less bituminous than those of Cape Breton, but yield an excellent fuel for steam making. Some of the seams produce a coal which cokes well.

Cumberland County operations are carried on at the Joggins by the Canada Coals Company, and at Springhill by the Cumberland Coal & Railway Company. At the latter point three stopes are operating, the annual output being about 400,000 tons. The coal seams vary from 4 to 9 ft., resembling in dip and character the seams of Pictou County. Coal is shipped over the Intercolonial Railway to Parrsborough, on the Bay of Fundy. At the Joggins mine a 6-ft. seam is worked to produce 100,000 tons per annum, and other beds are being developed. The character of the coal is intermediate between the Pictou and Sydney coals, and largely used for steam purposes.

In New Brunswick the mining operations are of little importance. In the Grand Lake coal field some small operations have been started, but as a rule such coal as is mined is by the inhabitants for their own use. In Alberta the Alberta Railway and Coal Company has mines at Lethbridge; and the Canada Northwest Coal and Lumber Syndicate is operating at Canmore, in the Cascade coal basin, mining a very fair quality of semi-anthracite. The old mines of the Canadian Anthracite Coal Company, in the same locality, are now operated by H. W. McNeill & Co. Some lignite is mined in the province, but almost exclusively by farmers, who use it themselves. The production of coal in Alberta has increased steadily, and within the past two years very rapidly. In 1891 there were 174,131 net tons mined, and in 1892 this had increased over 100%, the output for that year being 351,338 tons.

In British Columbia there are five companies, operating in all sixteen openings. A large proportion of the output is exported to California and the remainder taken by steamships or for local use. The New Vancouver Coal Mining & Land Company, Ltd., one of the largest operators, owns the Naniamo colliery, working five shafts. The coal varies from 5 to 12 ft. in thickness in different parts of the seam, and in some places is seriously disturbed by faults. Dunsmuir & Sons, operating the Wellington colliery, have four openings in which the coal varies from 4 to 8 ft. in thickness. The East Wellington colliery operates two openings, the seam varying from 2½ to 7½ ft., and the Union colliery has three slopes and two tunnels in coal varying from 2 to 8 ft. in thickness. On Tumbo Island in the Straits of Georgia, the Tumbo Island Coal Mining Company, has started operations. A number of these mines are using electric coal cutting machines, and all of them are well equipped with improved machinery. A small amount of coal for local use is mined in the Tertiary rocks of the Nicola Valley.

The output of British Columbia, which increased from 759,517 net tons in 1890 to 1,152,588 tons in 1891, showed a decrease in 1892 to 826,335 tons.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Supreme Court of California.

Right of Location Upon Intersecting Veins.

Revised Statute United States, Section 2322, giving locators of quartz claims exclusive possession of all the surface within their location lines, and the entire depth of all veins whose apex is within the surface lines extended vertically, is not repealed by Section 2336, providing that, where two or more veins cross each other, the prior location shall have all ore within the space of intersection, but the latter shall have right of way for working through said space, since the latter section may apply to ledge locations made before May 10, 1872, and to possible intersections on the dip; and the former still stand to preserve to the prior locator under federal laws, the ownership of a vein crossing his on the strike, whose apex is within his surface lines. Section 2322 of the Revised Statutes of the United States, which is a re-enactment, in this respect, of the act of May 10, 1872, provides that locators of quartz claims, where no adverse claim existed on the 10th of May, 1872, so long as they comply with the laws of the United States, and local customs, "shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes and ledges throughout their entire depth, the top or apex of which lies inside of such surface lines, extended downward vertically." This language is clear and explicit, and, in designating the property rights of locators, is in no wise ambiguous or uncertain It expressly, and in language which needs no construction, grants to such locators every ledge or lode, the top or apex of which lies within the surface lines of the location; that is, such part of the ledge as lies within such lines. And there is no limitation or exception of any such ledge on account of the direction in which it may run. It may be parallel with the originally discovered ledge, or may approach it at right angles, or at an obtuse angle, or at an acute angle, it may intersect it or not, and still it will be clearly within the language of the said section. It is contended that this positive language of said section 2322 is overcome or repealed, or in some way rendered nugatory, by the provisions of section 2336 of said Revised Statutes. That section is as follows: "Where two or more veins intersect or cross each other, priority of title shall govern, and such prior location shall be entitled to all ore or mineral contained within the space of intersection, but the subsequent location shall have the right of way through the space of intersection for the purposes of the convenient working of the mine. And where two or more veins unite, the oldest or prior location shall take the vein below the point of union, including all the space of intersection." It will be observed, that this latter section does not undertake to give any person the right to make a valid location of a quartz ledge across either the surface ground or the lode of a prior locator. It merely assumes that there may be instances where there may be certain kinds of intersections of lodes where both the prior and the latter locators may have some rights, and if there can be a reasonable and apparent construction of section 2336, by which it will not be in conflict at all with section 2322, then such construction should govern. Wilhelm v. Silvester, 35 Pac. Rep. 997 (591).

United States Supreme Court.

Right of Inspection of Mines.

A statute authorizing the court, upon the petition of a party having an interest in a mine, after due notice and hearing, to order an inspection thereof when necessary for ascertaining, enforcing or protecting the petitioner's rights, is not invalid as a taking of property without due process of law, although it does not define the right or interest of the petitioner, or require him to give bond, or provide for a jury trial or an appeal. The statute under which proceedings are had is section 376 of the Code of Civil Procedure, and is in these words: "Whenever any person shall have any right to or interest in any lead, lode, or mining claim which is in the possession of another person, and it shall be necessary for the ascertainment, enforcement or protection of such right or interest that an inspection, examination or survey of such mine, lode, or mining claim should be had or made; or whenever any inspection, examination or survey of any such lode or mining claim shall be necessary to protect, ascertain or enforce the right or interest of any person in another mine, lead, lode, or mining claim and the person in possession of the same shall refuse for a period of three days, after demand therefor in writing, to allow such inspection, examination or survey to be had or made, the party so desiring the same may present to the district court or a judge thereof of the county wherein the mine, lead, lode or mining claim is situated a petition under oath setting out his interest in the premises, describing the same; that the premises are in possession of a party, naming him; the reason why such examination, inspection or survey is necessary; the demand made on the person in possession so as to permit such examination, inspection or survey, and his refusal so to do. The court or judge shall thereupon appoint a time and place for hearing such petition and shall order notice thereof to be served upon the adverse party, which notice shall be served at least one day before the hearing. On the hearing either party may read affidavits, and if the court or judge is satisfied that the facts stated in the petition are true he shall make an order for an inspection, examination or survey of the lode or mining claim in question in such manner, at such time and by such persons as are mentioned in the order. Such persons shall thereupon have free access to such mine, lead, lode or mining claim, for the purpose of making such inspection, examination or survey, and any interference with such persons while acting under such order shall be contempt of court. If the order of the court is made while an action is pending between the parties to the order, the costs of obtaining the order shall abide the result of the action, but all costs of making such examination or survey shall be paid by the petitioner." It is objected that the statute does not define the quality of "right to or interest in" the mining claim which entitled to an inspection. But does the amount of a party's interest determine the question of the constitutionality of a statute passed to enable an accurate determination thereof? Suppose it be true that a petitioner has but a limited interest in a mine: has not that petitioner a legal right to the protection of that interest, equal to that of the other owners? Has he not the same constitutional right to any means of ascertaining and enforcing that interest that belongs to any other party interested in the mine? Indeed, it may be said to be generally true that the weaker a party, and the smaller his interest, the greater the need of the strong hand of the court to ascertain and protect his rights. It is true the quality of the right or interest is not defined; but it must, in order to come within the statute, be a "right to or interest in" the mining claim. The language is general and comprehensive, because the intent is to include within its purview every actual right, every real interest. While it is possible that in any particular case a court may err in determining the existence of a right or interest, the same possibility attaches to all litigation. If it be the duty of the state to protect the rights of its citizens, it certainly cannot be a violation of that duty to provide a uniform rule for the admeasurement of all rights of a similar character, large or small. The failure to require a bond, or in terms to allow an appeal, is not fatal to the constitutionality of the act. It is familiar knowledge that the circuit courts of the United States are not compelled, in granting preliminary injunctions, to take from the plaintiff a bond of indemnity to the defendant, and frequently they do not take any. As in such cases the matter of a bond is within the discretion of the judge, so, whether a bond shall be required as preliminary to an inspection, is a matter within the discretion of the state. The right to an inspection does not depend upon a bond, and the order for an inspection does not cease to be due process of law, because a bond is not required. No inspection is ordered by the court or judge until there has been a hearing and an adjudication of the petitioner's right; and while further testimony in the future litigation

between the parties may show that such adjudication was erroneous, and that there is, in fact, no right on the part of the petitioner, yet that is a result common to all litigation, and does not gainsay the statement that the inspection is based upon a right established by judicial determination. Nor can the withholding (if it be withheld) of an appeal affect the question of due process. An appeal simply means a second hearing, and, if one hearing is not due process of law, doubling it cannot make it so. This statute provides all reasonable protection to the party against whom the inspection is ordered; the failure to require a bond, or to provide an appeal, or to have the question of title settled before a jury, is not the omission of matters essential to due process of law. It follows, therefore, that there is no conflict between this statute and the Fourteenth Amendment of the Constitution of the United States.—Montana Company v. St. Louis Mining and Milling Company, 14 Sup. Court Rep. 510.

Tin in Bolivia.—It is stated that tin ore has been frequently found near Lake Titicaca. In some places the ore occurs in very small deposits, but others are claimed to be quite extensive. The ore is said to be very pure.

Coal in Holland.—Ancient records show that coal was worked in Holland so early as 1113, says the London "Colliery Manager," though we may be sure that the method of working—the outcrop, probably—differed very considerably from that adopted in modern collieries. It is this early working which has now developed into the Kerkrade mine, the only colliery at present worked in Holland, the deposit being probably a prolongation of the Wurm coalfield, near Aachen or Aix-la-Chapelle. Kerkrade is situated in Dutch Limburg, quite near the Prussian frontier. The mines are owned by the government, and are worked by means of two shafts with about 300 men, of which 216 are underground hands. Quite recently large coal deposits, both bituminous and non-bituminous, have been proved to exist in the immediate neighborhood of the Kerkrade colliery, a bore hole put down at Heerlen, six miles from Aachen, having proved seams of coal at 393 ft. and 852 ft. There are, however, about 312 ft. of water-bearing measures and shifting sand to pass through. Notwithstanding these difficulties and the relatively great depth at which the coal occurs, a concession of 8,450 acres has been applied for, and granted, to a company called the Maatschappij tot Exploitatie van Limburgsche Steenkolen, the headquarters of which are at Heerlen. The capital is fixed at 1,500,000 fl., and all the shares have been taken.

Canadian Shipping in 1893.—During the past year 27,547 vessels entered and cleared at Canadian ports, as against 30,961 in 1892 and 31,321 in 1891. The total tonnage, however, was slightly less than that of 1892, which was the highest in the history of the Dominion. Last year's tonnage was 10,608,611. The registered tonnage of both British and Canadian shipping was higher than in any previous year, with the exception of 1887; the tonnage of the British vessels last year amounted to 3,780,915, and of Canadian 2,189,925. Undoubtedly there is a growing tendency toward the construction of larger vessels. The total tonnage of vessels arrived at and departed from Canadian ports on inland waters amounted to 7,930,923, the number of vessels being 35,634, an increase of 1,300 vessels. The total coasting trade of Canada last year amounted to a tonnage of 24,579,123. Of this Ontario is credited with 9,829,834 tons, the largest in her history. Quebec and Nova Scotia increased half a million each, the figures respectively being 4,433,796 and 4,390,852. New Brunswick totaled 1,083,134; British Columbia, 3,630,833, and Prince Edward Island 1,198,538. There was an increase of 35 in the number of vessels built last year, but a decrease in the tonnage of 5,800 tons. The average selling price has declined from $37 per ton in 1868, to about $11.50 per ton in 1893. The actual number of vessels built in Canada was 313, and of Canadian vessels sold 42.

Determination of Manganese in Manganese Bronze.—An adaptation of the usual method in use for the determination of manganese in iron and steel is used by Mr. Jesse Jones, chemist for William Cramp & Sons, Philadelphia. A determination may be made in less than an hour, and the results are accurate for all practical purposes. The method consists in dissolving 5 to 10 grams drillings in nitric acid, 1·20 sp. gr., care being taken to avoid an excess of acid. When the solution is complete it is transferred to a 500 c. c. cylinder without gathering, and made up to 300 c. c. A current of hydrogen sulphide is then passed through until the solution is colorless. About 180 c. c. is then decanted off through a filter, corresponding to three or six grams of the sample and boiled down to about 10 c. c. It is then transferred to a small beaker and 25 c. c. strong nitric acid added. It is again boiled down and nitric acid and potassium chlorate added. This is repeated and the solution boiled until free from chlorine, when it is cooled with water and filtered through asbestos. It is washed with colorless nitric acid and then the asbestos felt and precipitate placed in a beaker and dissolved in ferrous sulphate, using five c. c. at a time. This is titrated back with permanganate. The permanganate solution is made of 1·149 grams potassium permanganate in 1,000 c. c. water; one c. c. equals one mgr. manganese. Ferrous sulphate solution is made of a strength that five c. c. corresponds to 10 c. c. permanganate solution.

The Walrand Steel Process.—This process, as modified by M. Legénisel, has been introduced into Germany by the Hagen Gusstahlwerke, of Hagen, Westphalia. The plant at these works consists of two vessels of from 500 to 700 kilograms capacity each, producing 4,000 to 5,000 kilograms per shift of twelve hours. The principle of the process is to make an addition of ferro-silicon—or in the case of basic lining, ferro-phosphor in liquid form after the first period of blowing. The effect of an addition of about five per cent. ferro-silicon is that the temperature becomes higher by about 200° Celsius, and the possibility of pushing the burning of the carbon further than in the old method without introducing at the same time a surplus of oxygen is thereby created. The Hagen Company is now enabled to blow hard as well as mild qualities. The specimens taken from castings which had not been subjected to any further treatment had at the tensile test a breaking strain of from 42 to 50 kilograms per square millimeter, and from 25 to 22% elongation. The castings are of smooth surface, and show no blowholes; they are equal to crucible steel castings. London "Industries" says that the principal advantages claimed for the process are: (1) Relative cheapness of the plant; (2) Good quality of the castings; (3) No continuous operation, as is the case with open-hearth smelting, which requires a daily production of at least 30 tons, small open hearths being too expensive.

Coal Fields of Assam.—In the report of the administration of Assam for 1892–1893 it is stated that the chief fields of this province lie along the northwestern face of the eastern Naga Hills, the greatest of them being that of Makum, where there is a seam 100 ft. thick, containing at least 75 ft. of solid coal. Some very large seams in this field have been traced for more than a mile without diminution. The coal was scarcely worked until ten years ago, when the Makum mine was leased to the Assam Railways and Trading Company, and a railway was constructed from the Brahmaputra at Dibrugarh. Since that time the output has risen steadily, and last year reached 164,000 tons. The coal is of excellent quality, not surpassed by any and equaled by few coals in India, and is now exported in large quantities for the use of ocean-going steamers. But there are other coal fields in the province besides those at Makum. The Garo Hills have one field which it is estimated contains 75,000,000 tons of good workable coal; and at the exit of the Jadukata River near the western boundary of the Khasi Hills, coal is found almost at the level of the plains, and the coal-bearing rocks are exposed over an area of 30 square miles. From this field a tramway might easily be made to the plains of Mymensingh, and coal brought within reach of a market. There are other minor fields, such as those at Cherra Punji and Lakadong, which it is estimated contain from one to one and a half million tons of coal. The wealth of the Assam Valley has hitherto depended mainly on tea; but the time must come, with the development of its extensive coal fields, when its minerals will come to the front.

PATENTS PUBLISHED IN GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy:

WEEK ENDING MARCH 24th, 1894.

4,475 of 1893. Coke Ovens. F. Brunck, Dortmund, Germany.
7,594 of 1893. Electrolysis of Salt. F. M. Lyte, London.
7,818 of 1893. Ore Grinding Mills. R. Wallwork, Manchester.
8,552 of 1893. Blasting Apparatus. H Gibbs, Birmingham.
8,907 of 1893. Electrolysis of Salt. H R. Browne and M. Guthrie, Liverpool.
9,224 of 1893. Improvements in Brazing. C. J. Hill, Coventry.
9,762 } of 1893. Amalgamator. W. A. Green, Aberystwith.
11,182 }
21,706 of 1893. Ball Mills. M. J. Davidsen, Paris.
23,881 of 1893. Electric Welding. C. L. C. ffin, Detroit, Mich.
24,274 of 1893. Electric Separation of Metals. C. Kellner, Vienna.
2,011 of 1894. Treatment of Zinc Lead Sulphides, Carrying Gold and Silver. The Emmens Zinc Company, New York.

WEEK ENDING MARCH 31ST, 1894.

5,058 of 1893. Pulverizers. J. Hunt, Allentown, Pa.
5,197 } of 1893: { Electrolytic Soda and Bleach. J. Hargreaves, Widnes, and T. Bird,
5,198 } { Liverpool.
5,218 of 1893. Improvements in the Cyanide Process. J. S. Macarthur, C. J. Ellis and the Cassel Company, Glasgow.
5,546 of 1893. Coke and Coal Gas Manufacture. P. Dvorkowitz, London.
7,119 of 1893. White Lead. A. C. J. Charlier, Glasgow.
8,456 of 1893. Refining Steel. B. H. Thwaite, London.
9,085 of 1893. Puddling Furnaces. S. Meredith, Tipton.
9,271 of 1893. Manufacture of Manganese Peroxide. G. S. Albright, Birmingham, and J. J. Hood, London.
9,406 of 1893. Manufacture of Wrought Iron. J. H. Ladd, London.
10,584 of 1893. Electrolytic Apparatus. H. Y. Castner, London.
11,316 of 1893. Tuyeres. R. Graves, Flimby.
12,997 of 1893. Carbonate of Soda. La Société Marcheville Daguin & Co., Paris.
2,900 of 1894. Electro-deposition of Metals J. Rudholzner, Munich.

PATENTS GRANTED BY THE UNITED STATES PATENT OFFICE.

The following is a list of the patents relating to mining, metallurgy and kindred subjects issued by the United States Patent Office:

TUESDAY, APRIL 3RD, 1894.

517,449. Pumping Machinery. Morrison Foster, Sewickley, Pa.
517,454. Enamel for Coating Sheet Metal, etc. John Henneman, Chicago, Ill., Assignor of one-half to Richard E. Stupe, same place.
517,459 Bit for Well-Drilling Apparatus. Stephen A. Horton, Clarksville, Tex.
517,520. Miner's Safety-Lamp. Jesse Graham and Harry Chapman, Morley, England.
517,527. Apparatus for Hardening and Tempering Steel Wire. Edwin Oddy, Joseph Crossley, Enos Smith and Al Smith, Cleckheaton, England.
517,529. Centrifugal Pump. Gomer W. Price, San Francisco, Cal.
517,540. Smoke-Consuming Furnace. Jean F. Chazotte, Montreal, Canada. Assignor of two-thirds to Gustave des Trois Maisons and Antoine Roy, same place.
517,556. Subaqueous Rock-Breaker. Peter S. Ross, Newark, N. J.
517,603. Centrifugal Separator-Bowl. Daniel J. Davis, Chicago, Ill.
517,627. Furnace. Francis H. Richards, Hartford, Conn., Assignor to Eckley B. Coxe, Drifton, Pa.
517,628. Hydraulic Air-Compressor. Emile Schutz and John H. Henderson, Sierra City, Cal.
517,632. Fine-Fuel Furnace. Carl Wegener, Berlin, Germany.
517,637. Continuous Kiln. Peter L. Youngren, Oakland, Cal.
517,644, 517,645. Furnace, Eckley B. Coxe, Drifton, Pa.
517,681. Process of Making Fuel-Gas from Crude Oil. Charles F. A. Convert, Chicago Ill. Assignor to the Liquid Carbonic Acid Manufacturing Co., same place.
517,689. Rock Drilling and Splitting. George M. Githens, Brooklyn, N. Y.
517,690. Packing for Rock-Drilling Engines. George M. Githens, Brooklyn, N. Y.
517,716. Rolling Mill. Richard G. Wood, Allegheny, Pa. Assignor to the W. Dewees Wood Company, McKeesport, Pa.
517,717. Rock-Crusher. Charles E. Wyman, Martinsburg. Assignor of one-half to John H. Stotsenburg, New Albany, Ind.
517,721. Grader and Amalgamator. John A. Armbruster, Chicago, Ill.
517,726. Excavating or Dredging Machine. Julius E. A. Braun, Dautzschen, near Torgau, Germany.
517,737. Molding Machine. William Edgar, Sanford, Fla.
517,767. Amalgamator. Nathan L. Raber, Corvallis, Ore.
517,782. Self-Dumping Mechanism for Coal Elevators. Alexander Walker, What Cheer, Ia.
517,799. Ore Separator and Classifier. John P. Foley, Bertram H. Dunshee and David H. Anderson, Phillipsburg, Mont.
517,808. Manufacture of Monolithic Pipes in Situ. Ernest L. Ransome, Oakland Cal.
517,811. Artificial Stone. Augustinus Wallenberg, Chicago, Ill.
517,815. Rock Drilling and Boring Machine. Isaiah N. Day, San Jose, Cal.
517,826. Boiler. Hamilne W. Reynolds, Geneva, N. Y., Assignor by direct and mesne assignments to Amos B. Smith, Ella J. Reynolds and James C. Knapp, same place.

PERSONAL.

Mr. A. Burch, has resigned as superintendent of the Beck mine, Eureka, Utah.

Mr. L. A. Hine, mining engineer of Chicago, has just returned from a professional trip to the Black Hills, where he has been making an examination of several gold properties.

Mr. David J. Lloyd, formerly vice-president and general manager of the Edinburg, Ill., Coal Mining Company, has leased the property of the Lick Creek Coal Company, Chatham, Ill.

Mr. C. F. Cline, superintendent of the press shop of the Carnegie Steel Company, Homestead, Pa., has resigned. He had charge of Sill and the others who gave information about the defective armor plate to Secretary Herbert.

Mr. A. C. Hamilton has resigned from the superintendency of the Bullion Mining Company, Virginia City, Nev., and Harry M. Gorham has been appointed to fill the vacancy. Mr. Gorham is also superintendent of the Chollar and Potosi mining companies on the Comstock lode.

Mr. Alexander Dick has been appointed business manager and associate editor of the "Canadian Colliery Guardian," of Halifax, N. S. Mr. Dick has had much practical experience in coal mining. He was at one time connected with the "Colliery Engineer" and established a Correspondence School of Mining at Scranton, Pa. Recently he has done work on the forthcoming volume of the "Mineral Industry."

OBITUARY.

Chas. H. Dannenhauer died in Allentown, Pa., on April 9th, aged 73 years. He was at one time identified with the iron industry of the Lehigh Valley.

John J. Satterfield, of Buffalo, N. Y., one of the pioneer oil producers of Butler and Armstrong counties, Pa., and formerly of the firm of Taylor & Satterfield, died in Paris, Pa., on April 5, aged 52 years. He was born in Greenville, Pa., and in 1882 was general manager of the Union Oil Company.

Jesse W. Fox, a pioneer of Utah, died on April 1st at Bountiful, Utah, aged 75 years. He went to Utah in 1849. Being the second surveyor in the territory his services were required in the extensive surveys which were made in the early days. The lines of the Utah Central from Ogden to Salt Lake, and the Utah Southern extension to Frisco, were run by him, and for years he was engineer-in-chief of both roads. He was territorial surveyor for many years.

M. Jablochkoff, the famous electrician and inventor of the Jablochkoff candle, died in Saratoff, Russia, on April 5th. He was an officer in the Russian Army, when in 1876 he invented one of the earliest successful practical electric lights, known as the Jablochkoff candle. In 1877 it was publicly introduced in one of the great shops of Paris, and afterward in some of the streets of that city. The device of M. Jablochkoff consisted of two flat strips of carbon placed vertically side by side and about an eighth of an inch apart, the space between them being filled with some insulating substance like kaolin or gypsum. The current was made to ascend one of the rods, leap across the insulating substance and descend the other rod. The invention attracted much attention at the time of its first application, but has been superseded by more economical forms of arc light.

SOCIETIES AND TECHNICAL SCHOOLS.

New York Railroad Club.—The next meeting of this club will be held Thursday, April 19th, at 12 West Thirty-first street, New York. The rules for interchange will be the subject discussed, and the suggested changes to the National Association.

American Metrological Society.—The annual meeting of this society will be held in the Columbian University, Washington, D. C., on Friday, April 20th, at 2 p. m. T. C. Mendenhall, will report on the International Electric Congress at Chicago. A. A. Michelson will give an account of his work at the International Bureau, near Paris, in determining the value of the meter in terms of wave lengths of light. The committee on color standards will make an interesting report.

Boston Society of Civil Engineers.—The annual meeting of the society was held at its rooms, 36 Bromfield street, Boston, Wednesday, March 21st, President John R. Freeman in the chair. Messrs. Austin B. Fletcher, of Cambridge; Perry Lawton, of Quincy; Henry C. Mildram, of Boston. Harold Parker, of Lancaster, Cecil H. Peabody, of Boston; Henry O. Peckham, of Watertown; Thomas F. Richardson, of Winchester; Albert F. Sargent, Jr., of Malden; Franklin A. Snow, of Providence, R. I.; Richard H. Tingley, of Providence, R. I., were elected members of the society. The annual reports of the Board of Government, the secretary and the treasurer were read, and from them it appears that the present membership of the society is 322, a net of gain of 12 during the year. Eleven meetings have been held during the year with an average attendance of 86. The funds of the society are shown to be in good condition, a net increase of $581 being reported. Reports were also received from the several special committees of the society. The election of officers resulted as follows: President, William E. McClintock; vice-president, Henry H. Carter; secretary, S. Everett Tinkham; treasurer, Edward W. Howe; librarian, Henry F. Bryant; director, Frank O. Whitney. Mr. William E. Foss read a paper in which he presented some new modifications of formulas for the flow of water in pipes and channels. Mr. George Bowers, city engineer, of Lowell, gave an account of that city's experience in obtaining a supply of water from driven wells. Mr. Bowers exhibited a large number of photographs illustrating the work, and also showed the screens used.

INDUSTRIAL NOTES.

The Wood Novelty Works, of Roanoke, Va., was recently damaged $10,000 by fire.

We are advised that the report that the Mexican Central Railway Company expected to purchase the Cuernavaca & Pacific Railroad is without foundation.

The Chicago Iron Works, Chicago, Ill., is offered for sale by Rockwood King, receiver. The plant has a complete equipment of machinery and tools for manufacturing mine machinery.

Romaine Bros.' fireworks factory at Petersburg, Va., exploded on April 7, causing the death of eleven men, and injuries to a number of others. The loss is about $75,000, partially covered by insurance.

An accident occurred on April 11, at the steel plant of King, Gilbert & Warner at Middleport, O., by which 10 men were fearfully burned by the upsetting of a mass of molten metal. Four of the injured will die.

The New York State Electrical Company, of Canisteo, N. Y., has purchased the plant and real estate of the Malleable Iron Company, at Youngstown, O. The former company will manufacture electrical supplies at its new works, and employ from 50 to 100 men at first.

The Ohio Steel Company, Youngstown, O., has ordered from the Youngstown Bridge Company a pit furnace building 54 × 175 ft.; a mill building 79 × 420 ft.; a pot bed building 85 × 140 ft, and a saw shed 35 × 86 ft. Cupola, boiler, producer and bottom houses have recently been completed.

The Pittsburgh Boiler Scale Resolvent Company, Pittsburg, Pa., has issued a neat and very useful little pamphlet describing its boiler resolvent and the method of using it. The extended use of this material in the Spanish-American countries has made it necessary to issue a similar pamphlet in the Spanish language.

The East Tennessee, Virginia & Georgia Railway has been ordered by Judge Horace H. Lurton, of the United States Court of Appeals, to be sold some time during June. J. W. Caldwell has been appointed special master to attend to the sale. The minimum price asked is $1,500,000. This action is at the instance of the Central Trust Company, of New York, without objection from the bondholders, and is part of the proposed reorganization by Drexel, Morgan & Co.

The Saurer petroleum engine is a Swiss invention now being introduced in this country by the Thomson Electric Welding Company, of Lynn, Mass. The fuel is refined petroleum or ordinary kerosene oil, which is vaporized and mixed with the proper amount of air in the cylinder. A special form of governor is used, and should the belt break the engine cannot run beyond its rated speed. No slide valves are used. It is claimed that an 8-H. P. engine can be run with an amount of oil costing 8c. per hour, or 1c. per H. P. per hour.

The largest press in the forging department of the ordnance works of the Bethlehem Iron Company, South Bethlehem, Pa., on April 10, forged a field ring for the Cataract Construction Company, which proposes to utilize some of the power furnished by the Niagara Falls. The ring is an immense affair weighing about 60,000 lbs. It was cut from a 54 in. ingot weighing about 120,000 lbs. When placed under the heavy pressure of the 14,000-ton press it was compressed into the required dimensions as easily and readily as if made of the most malleable material. The outside diameter of the ring is 141¾ in. and the inside 128 in.

Van Wagoner & Williams Company, of Cleveland, O., has passed into the hands of the Van Wagoner & Williams Hardware Company, with capital stock $750,000. Of this over half a million is fully paid up. The basis of the reorganization was the payment of all indebtedness in full in preferred stock. The officers of the new company are: C. S. Van Wagoner, president; William H. Williams, vice-president; Sylvanus Bourne, treasurer; C. T. Stork, secretary. Mr. Van Wagoner will have charge of the manufacturing and general business, and, with Mr. Bourne, will be in Cleveland. Mr. Williams will be in general charge of the sales department, with headquarters in New York, where Mr. Stork will also be located.

The American Steel Casting Company, which was organized a short time since, has been incorporated under the laws of New Jersey, with a capital of $4,200,000, and comprises the Pittsburg Steel Company; Sharon Steel Casting Company, Sharon, Pa.; Syracuse Steel Casting Company, Syracuse, N. Y.; Norristown Steel Casting Company, Norristown, Pa., and the Standard Steel Casting Company, of Chester, Pa. The offices of the company are at Chester. The officers are: President, J. K. Bole, Cleveland, O.; vice-president, Daniel Egan, Sharon, Pa.; treasurer, S. J. Williams, Alliance, O.; secretary, Augustus Trump, Pittsburg; consulting engineer, Charles W. Roepper, Alliance, O. The directors are: J. K. Bole, Daniel Egan, Frederick Frazer, Augustus Trump, George J. H. Hampert, Henry Weston and Charles N. King.

Jarvis-Conklin Mortgage Trust.—Fresh proposals have been made to the creditors of this company by which the issue of 4% debenture stock will be made to mature in 25 years instead of being permanent. This will be offered to all creditors, but existing debenture-holders will have the option of receiving another class of debentures, maturing, one-third in 10, one-third in 12½, and one-third in 15 years from October 1st, 1893, and bearing interest at 4% without any contingent interest in the earnings of the company, such as is attached to the debenture stock above mentioned. A certain proportion of the earnings will be carried every year to a reserve fund, to be applied to the redemption of the debentures, and until they are paid off there are to be seven British representatives on the board: four creditors and three shareholders. The time for sending in assent to the reorganization scheme has been extended to April 20th.

President J. S. Osgood, of the Colorado Fuel and Iron Company, says that the company's steel plant is in full operation. Recent repairs on its No. 2 furnace have increased the daily capacity from 91 tons to a maximum of 186 tons and an average of 167 tons. The company is making cheaper pig iron than ever before. It has sufficient steel rail orders to operate full force to August 1st. Other orders are in prospect to carry the mill through the season. The capacity of the mill is 350 tons of steel rails per day. The reduction made by the company in the price of steel rails is much less than the reduction which it is able to make in wages and other expenditures, so that its margin on steel rail production has been increased. The reduction in wages, both at the mines and at the steel plant, will average fully 25%. This is about the reduction in all operating expenses. The company is manufacturing merchant iron and has enlarged its output. Its old markets are restricted as compared with previous operations, but it has secured new markets which more than counterbalance this restriction. The company's earnings in its coal business have been more seriously cut into, owing to reduced railroad traffic and smelter operations, than was first believed would be the case. However, the loss of revenue from this source will be more than made up through the improved condition of the iron and steel works.

MACHINERY AND SUPPLIES WANTED.

GENERAL MINING NEWS.

On April 11th, the National Miners' Convention in session at Columbus, O., unanimously adopted resolutions to the effect that "on and after 12 o'clock noon, Saturday, April 21, 1894, no coal shall be mined in any State or Territory where the organization has control until authorized by the National officers or Executive Board." This will probably be the largest strike of coal miners this country has ever seen.

The convention later supplemented this resolution with another resolution authorizing the National Executive Committee to declare a similar suspension of work at any time during the year, if the first strike does not secure the desired end.

Standard Oil Company.—The annual report of this company, of New York, was filed with the Secretary of State, at Albany, on April 6th. It shows paid up capital of $7,000,000; debts not exceeding $13,150,000, and assets at least equal to $20,150,000. The report is signed by Wm. Rockefeller, president, and John D. Archbold, H. H. Rogers, W. H. Tilford and Paul Babcock, Jr., directors.

ALASKA.

Alaska Treadwell Gold Mining Company.—Dispatches from Alaska announces the March clean-up as follows: Shipment of bullion, $37,322; ore milled, 13,201 tons; sulphurets treated, 190 tons; of bullion there came from sulphurets, $5,464. The estimated gross expenses for the month have been $21,388. The net profits available for dividends for the first ten months of the present financial year are about $388,000. In March the mining operations were delayed by severe weather.

Mr. E. W. Geiger, of Port Townsend, Washington, has started up the Yukon River in Alaska with a

Hayward bronze dredger, which he proposes using on the Cassier bar at the mouth of Hootolinqua River. The machine has a capacity of one cubic foot of earth at each stroke. The dredger shovel is in three parts, scooping the dirt up as the parts come together. The scoop weighs 108 lbs., the machinery and fixings 500 lbs., and the entire outfit, comprising provisions, etc., aggregate 5,000 lbs. Those accompanying Mr. Geiger, and who hold an interest in the project, are William and Louis Maas, associated with the firm of Katz & Waterman; C. G. Smyth, formerly of the Everett Nail Works; J. Dickerson, of Nevada, and S. J. Fraker. The outfit was principally purchased at Port Townsend. They departed on the Rustler and will start their machine in operation as quickly as possible, and if they meet with success a large dredger, located at Tacoma, will be shipped to them next year by the steamer Francis Cutting to St. Michael's and thence up the Yukon by the river steamboats. Yukon miners say it will prove successful, and lead to the incoming of other dredgers.

ARIZONA.

Mavicope County.

(From our Special Correspondent).

Golden Cliff Mine, Humbug District.—This property, with the Mountain View and Cronate Queen mines, have been sold to L. W. Morgan for $300,000.

Pima County.

Columbia Gold Mining and Milling Company.—The "Arizona Leader," in a recent issue, speaks as follows of this company, owning the Morning Star, Alice and Great Western mines, in the Hilands mining district, Columbus City, Pima County, Ariz. It is owned largely in Cleveland and Youngstown, Ohio: "Recently Mr. William S. Mack and R. N. Dickman arrived at the mines and after investigating them selected a number of samples for assay. The results were such that Mr. Dickman telegraphed his principal in Cleveland that the mines were worthless. The Columbia Gold Mining and Milling Company prints in its prospectus a report signed by Andrew Donnan, who states that he visited the mines in company with Mr. Chr. Johnson, of Casa Grande. The report is entirely incorrect and the prospectus is unreliable. It is asserted that the mine was salted. Probably twenty thousand dollars have been invested in these properties:"

Yuma County.

Harquahala Gold Mining Company, Limited.—The superintendent's report for February says that the total length of the main cross cut, 6th level, is now 250 ft. Connection has been made with the bottom of the deep winze on the iron vein, which was cut at this point; it is 3 ft. wide and goes about $8 per ton. Drifting south on this vein has commenced and advanced 20 ft. The vein in the face has narrowed, due to a fold in the limestone footwall. The vein is 2 ft. wide and its average value $11 per ton in gold. A drift has been started southerly on the Discovery vein, 6th level, south. The face is all in ore, of a milling value of $18 per ton. The new shaft is now down 272 ft. The station has been cut and timbered at the 6th level and a trip plat excavated. This completes the work in connection with the new shaft to the present deepest level of the mine; the old shaft is entirely abandoned, and all hoisting is now done through the new shaft. In the Golden Eagle group the main tunnel has been advanced 35 ft. through quartzite. Small seams or stringers of quartz have been encountered a few inches wide. The assay values vary from $2 to $10 per ton in free gold. The air compressor is now in place and working satisfactorily. The dynamo, which was run in connection with the mill engine, has been removed and placed alongside the compressor. The diamond drill is in operation and doing well so far. The elevator of the mill ore bins has been completed. The new additions to the bins will hold double the capacity of the old ore bins. The battery blocks for the additional stamps are in place. All the timbers are on the ground and being framed ready for erection.

CALIFORNIA.

Butte County.

On one branch of Rocky Honcut an old mine that had not been worked for 30 years, until recently, miners are now finding pay dirt, says the Biggs "Argus." The mine is an old channel about three miles long. The miners are preparing to drift during the summer months. A number of men are in the vicinity prospecting for quartz, and some promising claims have been located. Considerable gold has been taken out of the various mines, and indications point to busy times about Bangor during the coming months.

Bishop.—The new shaft in this mine at Bangor is now down 51 ft., and it is thought it will have to be sunk 27 ft. deeper to reach the pay gravel.

Calaveras County.

Gwin.—Mr. F. F. Thomas, who organized the Kennedy Company of Amador County, has secured a working bond on the Gwin property for $100,000 on four years' time, says the San Andreas "Prospect." The old workings are down to a depth of 1,300 ft. An electric plant will probably be erected on the Mokelumne River. It is estimated that it will cost from $50,000 to $75,000 to put the mine in shape for working.

Utica.—It is rumored in Angels that the Utica Mine is to be sold to the Brownlow syndicate, of London. The mine has been paying good profits recently. It has stood in the name of Alvinza Hayward, the heirs of the Hobart estate, and Charles E. Lane. It is said the Hobart heirs wish to dispose of the property in order to partition the estate.

Nevada County.

Reports are that quartz mining has a boom at North Bloomfield and considerable prospecting is being done in that section. New locations are being made every day. The Busy Bee Company and the White Diamond have found good pay rock and are employing several men.

Gaston Ridge.—According to the Grass Valley "Telegraph," this mine will soon be worked in an active way. The Gaston Ridge has lately been called the California, and is near Graniteville. Alvinza Hayward and other capitalists are interested in the property.

Pittsburg.—A good strike is reported at this mine, near Nevada City, says the "Transcript." A pay shoot was encountered on the 500-ft. level, the rock from which shows considerable free gold and sulphurets of high grade.

(From our Special Correspondent.)

The Sunrise Mining Company, Grass Valley.—This corporation has just filed articles of incorporation and named the following officers for the year ensuing: E. H. Baxter, president; G. F. Hill, vice-president; D J. Halloran, E. F. Baxter and J. P. Sweeney, directors. The company has been formed to develop and work a mine located on Osborne Hill, one and a half miles south of Grass Valley.

Placer County.

Mayflower Gravel Mining Company.—A bullion shipment valued at $7,500 was received last week at the San Francisco office of this company.

San Bernardino County.

The first clean-up of the Campbell mill at Vanderbilt, which occurred after a 40-hour run, resulted in a $500 bar of gold, 950 fine. The concentrates for the 50 hours will yield $150. The tailings went $240.

COLORADO.

Mineral surveys approved by the United States surveyor general for Colorado during the week ending March 31st: No. 8,786, Pueblo, W. C. Dillon; 8,750, Pueblo, Little Maud; 8,794, Leadville, Gratification; 8,806, Gunnison, River and River No. 1 placers; 8,810, Gunnison, Kensington, Lorraine, Northwestern and Dolly Varden placers; 8,856, Pueblo, Nora S.; 8,640, Pueblo, Arapahoe; 8,725, Pueblo, J. M. F.; 8,711, Pueblo, Mary Alice; 8,772, Leadville, Branch and Democrat lodes; 8,781, Pueblo, D.'s Own.

Clear Creek County.

Allan Mill.—This mill, which has been being built up Chicago Creek, near Idaho Springs, begun operations last week.

Argo.—The Argo tunnel is being pushed through at the rate of about 150 ft. per month.

Populist.—Charles De Voss has leased and bonded the Populist mine, situated on Griffin Mountain.

Reynolds.—It is stated that a large body of high grade ore from 12 to 18 in. thick has been disclosed in the deepest workings on the Reynolds mine, situated on Silver Creek. In other portions of the property there are large bodies of ore of an inferior grade, which at the present price of silver cannot be mined with a profit.

West Extension Anglo-Saxon.—In several of the workings of this mine the ore vein has a promising appearance. The mill returns show that the ore carries between 2 and 3 oz. in gold and a good amount of silver to the ton, also a fair per cent. in lead. A tunnel will probably be started near the base of the mountain to intersect with the vein at a greater depth.

The following items of Yankee Hill mining news are taken from our exchanges:

Jessie.—Work is in progress on a shaft-house on the Jessie mine. As soon as this is finished sinking will be renewed. At present the only work being done is drifting and stoping in the first level east and west. This mine is producing more than enough ore to keep 15 stamps running steadily at the Pioneer custom mill.

Texas.—A carload of the smelting ore will shortly be shipped from the Texas mine to Denver. Similar shipments will be made from the Louisa and Centennial mines. Ore shipments have been made to the Pioneer custom mill from the Jessie, the Golden Lily and the Ebert mines.

El Paso County.

The miners' union at Altman has rejected the proposition made by the mineowners to accept $2.75 for 7 hours and 40 minutes' work.

Summit Mining and Milling Company.—The annual meeting of this company was held at Colorado Springs on April 2d. There were 671,000 shares represented. The following directors and officers were chosen: H. C. McCreery, president and general manager; C. S. McCreery, secretary and treasurer; W. S. Martin, vice-president; S. W. Martin, A. G. Stigh, D. W. Duncan, W. A. Kennedy, J. H. Ryan and E. B. Kennedy. The company was reported in good shape, having no debts and over $3,000 in the treasury. About 1,500 ft. of development work has been done in the last year, and there is considerable ore in sight. The company has no liabilities, and has assets, besides its mine, valued at $44,873.

Work Mining and Milling Company.—The annual meeting of the stockholders of this company was held at Colorado Springs on April 2d. There were 664,000 shares represented. The following directors were chosen: J. Arthur Connell, G. M. King, I. D. Kuntzelman, William P. Bonbright, S. Bassett, A. A. Carnouff, W. A. Otis, F. H. Pettingrell and H. A. Mills. Reports of various officers were received and read. That of the manager was encouraging, particularly with reference to the work progressing under leased claims. The new board of directors is in absolute control, having 670 shares among them.

Lake County.

(From our Special Correspondent.)

Curran.—There is talk of lessees taking hold of a portion of this mine and sinking a new shaft.

Fanny Rawlings.—This mine has become an active producer and is shipping daily 20 tons of gold ore running about two ounces gold.

Golden Eagle.—A new shaft is being sunk and good contact matter has already been encountered.

Highland Mining Company.—Articles of incorporation have been filed by this company. The capital stock is $250,000, divided into 50,000 shares of $5 each and assessable. The company will operate in Lake County. The directors and managers for the first year are A. V. Hunter, D. H. Dougan, George W. Trimble, R. H. Shipley and F. X. Hogan.

Lillian.—Considerable important exploration work is being carried on, while steady shipments of 40 tons of gold ore are made daily.

Melden.—Owing to the low price of silver, the management has found it necessary to close down. It had been shipping about 25 tons daily of iron ore.

Pocahontas.—Some new people have leased this property and placed a fine plant of machinery over the shaft. There are large bodies of iron in the Pocahontas claim and below the present working level there is reason to believe that a good lode of lead ore exists. Active work is to be commenced at once.

Walcott.—The daily production is 65 tons of ore, while in the workings some new and important development work has been begun which gives promise of good results.

Pitkin County.

Ore shipments from Aspen at present average about 200 tons a day, and the shipping mines include the following, some of which are not regular shippers: Mollie Gibson, Della S., Bushwhacker, Park-Regent, Smuggler, Mineral Farm Bonnybel, Aspen, Aspen Mining and Smelting Company, Harrisburg, Edison, Iowa Chief, Mary B., Pride of Aspen, Champion Empire, and Schiller.

Champion-Empire.—The Fitzgerald lease on the Champion-Empire is proving remunerative and a large amount of work is being done by the various lessees on the Mineral Farm, Della S. and Bushwhacker at Aspen. On the Mineral Farm the Hansbrough lease has a steam hoisting plant in operation in the incline below the tunnel level, and a No. 7 Cameron pump. Power is furnished by boiler at the surface, 1,300 ft. above.

Little Annie.—There is a cessation of work on the property by the lessees and it is probable that this company will soon take in hand the development of the mine, using the long contemplated plan of concentration at the mine to lessen the expense of marketing the ore.

Roaring Fork Mining Company.—This company recently bought up the mineral rights of a large proportion of the lot owners in the town site west of Third street, at Aspen. It also secured a lease from the city council on the streets and alleys running through the same territory, and began work by sinking a shaft near the Midland track at Third street. At a depth of 80 ft. a bed of quicksand was encountered which resisted all common methods of sinking. The company has now subleased its property to Fred M. Coombs and others. The city council has ratified the sublease, and now these gentlemen are negotiating for a lease on the Pride of Aspen shaft, through which to develop the ground under the city. The shaft is in solid formation, and it is the intention to sink it to a depth of 300 ft. before any drifting is attempted.

Smuggler Mining Company.—There was a sudden tapping of considerable water in the lower level of the Smuggler mine last week. The flow was 2,000 gal. a minute and filled the shaft to a depth of 100 ft. Manager Hallett will have a pumping plant in operation as soon as practicable. With this exception work has progressed favorably on all the mines at Aspen. The Cowenhoven tunnel has been driven over 200 ft. since the commencement of its last extension and is now nearly a mile and a half in length.

Saguache County.

Amethyst reports from Creede are to the effect that the producing mines of Bachelor Hill are having a hard fight to keep the levels from filling up with water. The Amethyst is full to the top of the sixth level and still rising. Superintendent Allenby is borrowing all the idle pumps in camp and putting them in so as to keep the water down and the mine working. If the water rises 50 ft. more the pumps in the Last Chance will force the property to shut down. In three days more, had not the water started, the big Duplex pump of the Amethyst, one of the largest in the State, would have been in place. Two pumps of 500 gals. capacity arrived on

April 3d, for the Amethyst and Last Chance shafts. The Amethyst is so situated that it drains all the mines and its pumps keep the others dry.

GEORGIA.

Chicago & Georgia.—The name of this mine at Dahlonega has been changed to the "Ledwig."

IDAHO.

Baker County.

Efforts are being made to induce capital to erect a smelter at Baker City. Mr. C. W. Nibley has offered to erect one and a sampling works with capacity of 30 tons daily, if he is given a bonus of 10 acres of land and $5,000.

Idaho County.

In the Pierce City mining district, along the western slope of Bitter Root Mountains, south of main Clearwater, several quartz mills are reported to be erected during the coming summer. It is said that some placers will be developed by bedrock flumes and hydraulic equipment.

Kootenai County.

(From an Occasional Correspondent.)

Cañon Creek.—Only the Gem mine is running. The rest, the Frisco, the Standard, the Tiger and the Poorman are shut down because of four heavy snowslides on the railroads. These slides killed five persons and injured several. The snow is over 30 ft. deep in places for some hundreds of feet at these slides. The Poorman and the Tiger mines will be compelled to transfer wood over these snowbanks with sleds to keep their mine pumps running, for the railroads will not be able to get there in some weeks.

Shoshone County.

(From an Occasional Correspondent.)

Mullan.—Nothing is doing there excepting at the You-Like, where two men are driving a tunnel. The Hunter and the Morning have been idle since last July, being too low grade to pay at present prices.

MICHIGAN.

Volunteer.—This mine near Negaunee, has been shut down, throwing 200 men out of employment. The company has now in stockpiles at the mine and on the docks at Lake Erie ports 130,000 tons of unsold ores. The product is of the hard Bessemer variety, and though of fair grade, no market could be procured for it this season at any price. This mine has been worked continuously for six years and has produced a total of 500,000 tons of ore. The pumps have been taken out and the old works inundated. General Alger owned the principal interest in the mine.

Copper.

Atlantic Mine.—During the month of March there were 266 tons 65 lbs. of mineral produced.

Calumet & Hecla.—This mine produced about 5,000 tons mineral during March.

Franklin.—This mine produced about 180 tons during March.

MINNESOTA.

Mesaba Range.

(From our Special Correspondent.)

Biwabik.—The rumor that this mine had passed into the hands of Tod, Stambaugh & Co., who have been from the first its sales agents, is denied by good authority. The mine has secured vessel tonnage for the season for 130,000 tons at 80c.

Consolidated Iron Mines.—This company has reduced wages 20 per cent. from last fall's scale, the rate now ranging from $1.00 a day up.

Rouchelean Ray.—This company has just bought for $40,000 120 acres of iron land in the northern part of 57-17. Enough work has been done to show up a very large body of high grade ore.

Redwood County.

A press dispatch from Redwood Falls states that the McKinleys, who have been prospecting for coal with a diamond drill, have concluded to abandon the work. They drilled 180 ft. and struck solid granite. The drill passed through about three feet of lignite.

St. Louis County.

(From our Special Correspondent.)

The spring break-up has stopped travel to the new gold fields on Rainy Lake. It will be a month before boat or canoe traffic will become good. The only "mining" operations yet under way is a hole 11 feet deep on the quartz vein at the Little American property. The best gold veins are said to be on the Canadian side and large tracts are being taken up. Mica exists in the region, and though surface samples are cloudy it may become better with development. I have lately seen samples of float lignite which are believed to have come from a vein outcropping in the bed of some shallow stream flowing into Rainy Lake waters.

Duluth parties have obtained control of the immense deposits of sulphate of barium on McKellar's Island, Lake Superior, and are fitting up a mill for grinding at Duluth. There is a deposit of barytes 70 ft. wide across the island and a high outcrop, with deep water at the dock. The deposit is practically pure. It will be put on the market this summer.

Bevier Milling and Mining Company.—This is the first legitimate corporation in the gold region, formed last week at Duluth to operate the Little American and the Rainy Lake City stamp mill. Its officers are: H. Bevier, president and treasurer; F. S. White, secretary; J. F. Hildreth, manager; directors, the first and last above named, A. S. Chase, H. C. Kendall and E. D. Williams. The company's mill is on the way in; it consists of a battery of five stamps, with power and pumps for 20 Frue vanners and self-feeding Blake crushers.

Rainy Lake Region.—Advices from this section indicate active prospecting for gold, and report numerous finds of greater or less value. Arrangements are under way to improve transportation facilities into the region by having a steamer leave Duluth three times a week, connecting at Port Arthur with the Canadian Pacific train to Rat Portage. In the gold region Mr. Jeff Hildreth is erecting a stamp mill. W. W. Taylor and W. D. Darey, mining experts, sent out by Duluth parties, have returned to the latter city, where they will remain until frost is out of the ground. They will then return to the region and complete the examination. B. E. Sharp, representing West Superior capitalists has gone to Rainy Lake City to report on some property near by. This place has a population of 214 persons. It has sixteen saloons, one bank, a printing office, sawmill, land office, three hotels and a market. Board is $7 per week without blankets, moose meat 25 cents per pound, hay $65 per ton, oats $3.50 per bushel, and town lots from $100 to $350. Freighters charge $40 per ton from Tower to Rainy Lake, and passengers $6 each.

Vermilion Range.

(From our Special Correspondent.)

Minnesota Iron Company.—This company has sold for 1894 delivery, all told, 1,100,000 tons of ore, nearly all first grade Bessemer. Its road will haul during the year not less than 1,400,000 tons, as against 1,167,000 in its largest season, 1891. Of the sales 300,000 tons is Mesaba, from the Auburn and Canton, 500,000 from the Chandler, and 400,000 from the Minnesota. Its stock piles now contain over 600,000 tons. Shipments to dock from the Minnesota have begun and will continue in a small way till navigation opens.

MISSOURI.

Jasper County.

(From our Special Correspondent.)

Joplin, April 9th.

The low price for zinc ore still prevails in this district, and some properties have shut down with their ore bins full. The top price paid for zinc ore was $18 per ton, while the average for the district was not above $16.50. There was a slight fluctuation in the zinc ore market from $18@$18.25 per 1,000. Some little enthusiasm has been manifested among the leading mine operators of the Joplin district to devise some plan to increase the uses of spelter, so that the overproduction of ore as it now exists can be taken care of. The operators should give this matter serious thought and attention, as by their united efforts the various uses of the metal could be increased. Following are the sales of ore from the different camps: Joplin, 1,479,190 lbs. of zinc ore and 489,270 lead, value $21,133; Webb City, 505,970 lbs. of zinc ore and 46,150 lead, value $5,108; Centerville, 1,455,580 lbs. of zinc ore and 220,390 lead, value $16,288; Zincite, 21,240 lbs. of lead ore, value $382; Orowogo, 22,450 lbs. of zinc ore and 132,590 lead, value, $2,402; Carthage, 91,000 lbs. of zinc ore, value $864; Galena Kems, 926,000 lbs. of zinc ore and 126,000 lead, value $9,150; district's total value $56,327. Newton County, 486,990 lbs. of zinc ore and 56,700 lead, value $4,565; Peoria, I. T., 35,950 lbs. of lead ore, value $647; Aurora, 882,080 lbs. of zinc ore and 165,020 lead, value $8,987; Springfield, 135,180 lbs. of zinc ore, value $1,215; lead and zinc belts, total value, $71,731.

MONTANA.

The senior and junior mining classes of the College of Montana have visited Butte on their annual tour of the mines and smelters. The party consisted of H. W. Lehson, W. Cobleigh, H. S. Reed and W. W. Kroger of the senior class and C. Adams, A. E. Robinson, M. D. Stackpole and Sam Barker of the junior class. Professors McDonald and King were in charge of the classes. The Butte & Boston concentrators, Colusa, Silver Bow No. 1, and Mountain View mines and the Butte & Boston and Heinze mines were visited.

Butte & Boston.—It is reported that the Mayflower mine will be started by this company. The consideration is that the present shaft shall be sunk 100 ft. lower and a crosscut drifted into the lead. Also, a bond of $35,000, of which $25,000 is to be paid in nine months and the remainder three months after. The lead is 12 ft. wide.

Jefferson County.

Reports from Basin state that a new mining district has been opened on Big and Beaver Gulch. Some of the veins are said to average $18 gold and about 42 oz. silver.

Lewis and Clarke County.

Gloster.—Mr. B. H. Langley is operating successfully a small cyanide plant on the tailings from the old Gloster mill.

Madison County.

Eaton Mine—The owners of this mine have about finished putting in a roaster and chlorination barrels at their mills for the purpose of treating the vanner concentrates. This will be the first chlorination plant in this country.

Mohegan Mine.—Work on this mine at Red Bluff has, at a depth of 70 ft., exposed a chute of high grade gold ore. A drift is being driven west on this chute.

Pony District.—Mr. William McKaskel, of Pony, together with a number of Butte capitalists, has organized a development company for the purpose of opening up a group of large low grade gold prospects just south of the town of Pony.

Red Bluff District.—The owners of the Red Bluff mine will add a large pump to the plant and work a force of men during the coming summer. Shipments and mill runs, 1893, amounted to about $40,000.

Revenue Mine.—This mine, at Richmond Flats, is said to be producing gold in paying quantities. The ore is treated by the cyanide process, the mill having been remodeled with this end in view, and the mode of crushing has been changed from stamps to rolls.

Valley View Mining Company.—This company owns several claims adjacent to Pony. The Valley View ledge is said to be quite wide, the ore containing about $8 free-milling gold per ton. An 800 foot tunnel is being driven.

Missoula County.

(From our Special Correspondent.)

Iron Mountain Mining Company.—This company has to-day declared a dividend of two cents per share. This is the seventeenth dividend this company has paid, and the third paid since the beginning of this year. The Iron Mountain is a lead-silver mine opened to a depth of 1,000 ft. It is the intention of the company to sink the shaft 300 ft. deeper at once.

Silver Bow County.

Henry George.—This group of mines north of Walkerville is being worked by John Cornell and West Crowell. The ledge is said to be about 20 ft. wide and averages $6 gold and $9 silver.

NEVADA.

Churchill County.

Caldwell.—According to the Carson "Tribune" the Caldwell mine near Eagleville is showing up well. The ledge is prospected 400 ft. from the surface and the ore, which is gold, returns high assays; already quite a quantity has been shipped for working.

Lincoln County.

Monitor.—Monitor tunnel has cut through the big porphyry dyke on which the management has been working for some time and opened into good looking quartz, says the Pioche "Record."

Storey County—Comstock Lode.

The following is a statement of sums disbursed to employes of Comstock mining companies for services during the month of March: Hale and Norcross, $2,194.25; Con. California & Virginia, $8,783; Ophir, $2,695.25; Mexican, $2,199.25; Kentuck, $894; Best & Belcher, $2,119.50; Gould & Curry, $1,338; G. & C. and B. & B. shaft, $124; Alta, $1,906.50; Occidental, $737; Justice, $1,199; Crown Point; $2,382; Yellow Jacket, $3,014; Belcher, $2,514; Seg. Belcher, $671; Scorpion, $300; Savage, $3,700; Challar, $3,757; Potosi, $3,465; Union shaft, $2,113.50; Alpha and Exchequer, $603; Ward shaft and Bullion, $1,448; Sierra Nevada, $1,445; Nevada mill (estimated), $2,500; Electric Light (estimated), $500; Water Company (estimated), $3,000; Quartz Mills (estimated), $7,000; total, $62,602.75. The payrolls aggregate $606.75 more in March than in February.

Following are extracts from the latest weekly letters of superintendents of Comstock Mines:

Belcher Mining Company.—On the 850 level the north drift was cleaned out and retimbered a distance of 30 ft., making its total distance from the shaft 305 ft. Twenty-five tons of fair grade ore were hoisted during the week.

Crown Point Mining Company.—The south drift from the top of the 700-ft. level raise on the 600-ft. level is now out 34 ft. The face is in clay and porphyry. We have stopped the west crosscut from the seventh floor of the 700-ft. level raise and commenced a south drift from it, which is out 17 ft. The face is in quartz, assaying from $4 to $7 per ton, principally gold. The north drift from No. 1 crosscut, on the 700-ft. level, is out 28 ft. The face is in porphyry.

Justice Mining Company.—The south drift from the winze, sunk from the Blaine tunnel, has been extended to a total length of 45 ft. The face shows a width of 4 ft. of quartz, yielding fair assays.

Kentuck Consolidated Mining Company.—On the 1,100 level the south drift from the top of upraise 1 has been extended 8 ft. and continues in fair-grade ore. On the 1,200 level the joint south drift from the Jacket incline has been extended 8 ft. through gold quartz assaying $6 per ton.

Occidental Consolidated Mining Company.—From the west ledge above the 400 level there was extracted last week about 8 tons of ore of the average assay value of $42 per ton. Will resume the milling of ore on April 2.

Ophir Mining Company.—Exploratory work has been resumed in the surface ground in the western part of the mine, through the old Central tunnel and its branches. In a few days a connection will be made between the north drift from the tunnel and the old Mexican shaft, and after that some cross-cutting in interesting places will begin. Gold

rock giving fair assays has already been found in the drift.

Potosi Mining Company.—The good ore which has been followed south for quite a distance on the 450 ft. level still holds strong in the face of the drift, while the south drift from the upraise 50 ft. above the 450 level, which drift is being run to cut the upward continuation of the ore, is passing into favorable ground. The shipment of Potosi ore to the Nevada mill has been resumed. The ore comes from the new development on the 450 level of the mine.

Savage Mining Company.—On the 1,050 level the north drift started in the east drift at a point 85 ft. south of the shaft has been advanced to a total length of 36 ft.; face in quartz giving low assays. The west cross-cut from the southeast drift started at a point 225 ft. from the shaft was advanced to a total length of 30 ft. We are stoping some ore of fair grade from this drift. The south drift was advanced to a total length of 145 ft. from the shaft; face in quartz and porphyry. On the 1,100 level the east cross-cut started in the north drift at a point 132 ft. from the shaft was advanced 57 ft., when it reached the east clay wall of the vein, and was discontinued. We have resumed work in the face of the north drift, which was previously advaneed 132 ft. from the shaft. On the 12th floor we continued to extract some pay ore. The east cross-cut on the north drift from the 16th floor started 40 ft. north of the stopes was advanced to a total length of 39 ft. This drift has reached the east clay wall. We hoisted 29 cars of ore from the 1,050 and 1,100 levels; car samples average $23.50 per ton.

Scorpion Mining Company.—The east crosscut started in the joint north drift on the 900 level from the Union shaft, started at a point 283 ft. north of the station was advanced to a total length of 58 ft.; the face is in a favorable formation of porphyry, clay and seams of quartz.

Segregated Belcher & Midas Mining Company.—The north drift from the 1,200 raise on the 1,150 level is out 49 ft. The face is in porphyry, with bunches of quartz through it, carrying spots of pay. We are saving 7 or 8 tons per week from the 1,150 level south raise of fair-grade ore.

West Consolidated Virginia & California Mining Company.—The west crosscut being extended from the 1,100 level of the Consolidated Virginia shaft is out about 660 ft. The formation continues in quartzite, with occasional streaks of sulphuret ore showing in the formation. The water encountered does not interfere with the work of advancing the cross-cut, as it is led out to the shaft through pipes.

(From our Special Correspondent.)

The following is the weekly tabulated statement of ore hoisted from Comstock mines and milled, with the average car sample and battery assays, bullion, shipments, etc.:

Mines.	Ore H'st'd	Car S'mple Assay.	Ore Mil'd	Av. Bat'ry Assay.	Bullion for Week.	Total.
Belcher...	25[1]	.....	.....	.....	.....	.....
Con. Cal. & Va.....	16	47	.....	.....	.....	.....
Occidental.	8	42	.....	.....	.....	.....
Potosi.....	17[2]	96	.....	.....	.....	.....
Savage ..	29[3]	23 50	.....	.....	.....	.....
Seg. Belcher	8	(4)	.....	.....	.....	.....

[1] Fair grade ore. [2] Taken from 450 level. [3] Cars of ore. Fair grade ore.

NEW JERSEY.

Morris County.

Wharton Mine.—The working force on this mine, at Hibernia, has been reduced one-half, 80 men having been laid off last week.

Sussex County.

Andover Iron Mine.—This mine has suspended work in order to make repairs to the shaft and hoisting engines. It will be closed about three weeks, it is expected.

NEW MEXICO.

Grant County.

All the mills at Pinos Altos are hard at work and the gold output of the camp is increasing.

A carload of concentrates was shipped from the Owens & Porter mill at Central last week, which ran 47½ oz. in silver and 1 oz. gold.

Bell & Stephens are working on their Pacific and Ohio claims and keeping up a regular output of gold bullion from the mill.

Deep Down.—The lessees of this property will soon have the mill in shape to run ore, and work will be commenced on the mine.

Golden Giant.—A few days' run of Golden Giant ore, in the Mammoth mill at Pinos Altos, returned 81½ oz. of gold. The last carload of concentrates shipped ran 5 oz. in gold and 87½ oz. in silver per ton, says the Silver City "Enterprise." Sinking will be resumed on the shaft. The north and south drifts on the 200 ft. level have reached a distance of 350 ft. either way from the shaft. Twenty-five men are employed on the mine.

Manhattan Mining Company.—This company will soon start work on the vein from the tunnel level. Drifts will be driven and an upraise made to connect with the old workings which will give air to the lower works.

Pacific Gold Company.—John A. Spiller is working 8 men on this company's claim on the Pacific vein. The mill will soon be started.

Pacific Mill.—Ore is being hauled down from Pinos Altos to the Pacific mill at Silver City, and preparations are being made to start the works up again within the next week.

Pleasant View.—Work is going on steadily on the mine at Gold Hill, says the Silver City "Sentinel." The vein, so far as developed, is from 10 in. to 3 ft. wide and the ore from it gives mill returns of $20 per ton.

Sierra County.

Output of Hillsboro Gold Mines for the week, March 29th, as reported for the "Advocate": From the Standard Gold Mining and Milling Company, Snake Mine, 45 tons; Opportunity Mine, 230 tons. From the Good-Hope Bonanza Mining and Milling Company: Bonanza Mine, 120 tons; Percha, 145 tons. From the Garfield, Morton and Bull of the Woods, 115 tons. Total, 655 tons; total output since January 1st, 7,948 tons.

Standard Gold Mining and Milling Company, Hillsborough.—It is reported that the crosscut from the opportunity shaft on the new 500 ft. level reached the vein last week but has not yet crossed its entire width. A streak of ore 14 in. wide was found on the foot wall side and other lesser streaks have been since cut. It is expected that the main ore will be found on the hanging wall. The vein was cut 20 ft. from the perpendicular in the last 100 ft. sunk.

OHIO.

Athens County.

Ohio & Western Coal and Iron Company.—The report of J. Sergeant Cram, as referee in the proceedings for the dissolution of the company, gives the known liabilities at $850,000, besides which there is an amount due, which has not been adjusted, to the Boston Safe Deposit and Trust Company as trustee for the holders of bonds for the amount of deficiency on foreclosure of the mortgage on the company's property. The assets consist of disputed claims to real estate in Athens County. On the list of creditors are Morrison & Stowe, as assignees of Glidden & Curtis, $420,000; Oliver Ames, $100,000; estate of Royal M. Pulsifer, $77,340; National Exchange Bank, $49,550; Third National Bank, $55,652; National Bank of the Republic, $18,342; First National Bank of Columbus, O., $20,000; Riter & Conly, $31,000; Kidder, Peabody & Co., $18,500; E. F. Waters, $12,500. The company had a capital stock of $5,000,000. An order has been entered dissolving the corporation, and Mr. Cram has been appointed receiver.

OREGON.

Baker County.

Virtue Mine.—Mr. John McNally, superintendent of this mine, deposited $10,000 of gold bullion at the First National Bank, Baker City, this being the result of his last clean up. He states that 10 stamps will be added to the mill.

Clackamas County.

Oregon Iron and Steel Company.—It is reported that this company's blast furnace and mines near Oswego have been leased by Pennsylvania parties with the option of purchase. The same parties, it is said, also own an iron ore deposit in Mexico, and intend to develop both properties.

PENNSYLVANIA.

Anthracite Coal.

Lentz, Lilly & Co. will build at Park Place a new breaker, modeled after the one at Jeddo. It will have a capacity of 500 cars daily.

Collieries No. 10, 14, Barnum and Central, of the Pennsylvania Coal Company at Pittston, resumes work to-day. All others will be idle until further notice.

All work has been suspended at the Palo Alto dump and the fire will be allowed to burn out.

The Grand Rapids Coal Company's breaker at Wyoming has been sold. It will be removed and re-erected near Yatesville.

Elmwood.—The new slope at Elmwood colliery, driven from the Skidmore to the bottom split of the Mammoth vein is completed. The vein was opened at a thickness of 12 ft. The work of pushing gangways and driving air holes is being done rapidly, the workmen working full time, in order to open up the new workings as early as possible. The new slope at Schuylkill colliery will be 924 ft. deep, of which 560 ft. has already been sunk. This slope will lead to the opening up of a large field of coal on the eastern boundaries of the colliery, says the Scranton "Tribune," and the slope will be used for hoisting coal from the new territory. The curve has been put in on the 5th level.

Forty Fort Coal Company.—Clarence D. Simpson and Thomas H. Watkins have transferred to this company all the coal lands, leases and mining rights owned by them in Forty Fort borough and Kingston township, says the Wilkes Barre "Record." The consideration is $300,000. Messrs. Simpson and Watkins, of Scranton, recently acquired the Forty Fort and Harry E. colleries for the Wyoming Valley Coal Company. They now desire a charter and, in order to do this, have transferred their interests to the Forty Fort Coal Company, in which they hold a controlling interest.

Laurel Run.—As soon as the Delaware & Hudson Coal Company's lease of the Laural Run colliery expires, which will not be until April 1, 1895, the colliery will be leased by the Algonquin Coal Company, which recently secured the Pine Ridge mine at Minor's Mills. The Laurel Run's output will then be transferred from the Delaware & Hudson Railroad to the Wilkes-Barre and Erie Railroad.

Moosic Mountain Coal Company.—This company is erecting a new breaker for its Marshwood mines at Jessup, which will have a capacity of 1,000 tons per day, and will prepare coal by the wet and dry process. The new breaker, says the Carbondale "Leader," is located at a point contiguous to three different railroad lines, so that shipments may easily be made to all markets as soon as the new structure is finished, which will require about five weeks' time. The company has for this breaker a tract of about 4,000 acres, which was acquired from the Pennsylvania Coal Company, and a new shaft is being sunk to the Clarke and 5-ft. veins, which present a face of good anthracite.

Philadelphia & Reading Coal and Iron Company.—According to a Pottsville dispatch this company is having trouble to supply the constantly increasing demands for buckwheat, and the other smaller sizes of coal, and is about to erect a big coal washery at the culm banks of the St. Nicholas colliery. This washery will have a capacity of 400 tons of buckwheat coal a day. Other coal dirt banks are being examined by the company's officials, with the purpose of erecting more washeries. Each washery will give employment to 150 men and boys. The mines in the Schuylkill region have been working steadily, though not on full time. There are three new individual coal operations in course of opening up on the outskirts of Pottsville. These will soon employ 1,500 men and boys.

During the week ending April 7th, 14 reporting collieries in Luzerne County shipped 12,860,019 tons of anthracite, less than one-fourth the usual output.

A syndicate of Pottsville capitalists is negotiating for the purchase of the Harrison colliery, near Girardville.

Bituminous Coal.

The miners' district convention, held at Scottdale on April 10th, decided to continue the strike until they gain their demands.

A press dispatch from Pittsburg says that President John A. Cairns, of the Pittsburg District of Miners, representing 20,000 diggers in this vicinity, has gone to Columbus, O., to attend the national convention of the United Mine Workers. While he regards a national strike of miners as certain he does not think the struggle will be severe, but that the operators will make some concessions. Mr. Cairns said that the basis of the scale to be made by the convention would probably be 70c. a ton for Hocking Valley mining, 15c. more in the Massillon district, 9c. more in the Pittsburg districts, and in the upper Baltimore & Ohio Railroad districts 14c. less. It is not known whether the anthracite miners will have representatives at the convention. Should a general strike be declared no local settlements will be made, as they would cripple the effectiveness of the general strike.

At a mass meeting of the miners at Glen Richie on April 9th, the men decided to return to work until ordered out by the National Board of the United Mine Workers. They were out mostly on account of a dispute between drivers and diggers. They are the last to resume work.

Stone.

The extensive granite quarries at French Creek Falls are in full operation. The demand for granite blocks is brisk.

Susquehanna County.

A lease of property at Brooklyn has been taken by New York parties who last week completed the erection of a rig and began to put down a well. Boring has also been begun at Hopbottom by the Standard Oil Company.

SOUTH DAKOTA.

Homestake Mining Company.—At the regular term of the United States Court, at Sioux Falls, there will be a re-trial of the $40,000 damage suit against the company. This case was tried in December, 1892, and a verdict for $20,000 was rendered in favor of the plaintiff. A motion for a new trial was argued before Judge Sanborn, of St. Paul, by the defendant company, and granted. The case should have come up last fall, but the company secured a continuance by paying all the expenses of the plaintiff. The suit is for injuries sustained while the plaintiff was engineer for the Homestake company.

Lawrence County.

Amazon.—The owners of this mine have completed their development work, consisting of a 70 foot shaft, with numerous cross-cuts, showing a large body of free-milling ore. The vein is vertical, 45 ft. wide and the ore averages $6 per ton.

Columbia.—An 80-foot tunnel has been run in on the Columbia group to tap the ore body.

Esmeralda.—Storey & Co. have started up their 15-stamp mill on ore from the Esmeralda mine, for a 300-ton run. The last clean-up from 100 tons gave a return of $9 per ton.

Georgia.—This group of mines has been bonded to Kansas City parties. It consists of six claims lying in a block, with high grade ore exposed in four different places along the strike of the vein. The ore is free-milling and soft.

Georgia City District.—This is a new camp, located about 16 miles east of Bald Mountain. The Deadwood "Pioneer" publishes the following items of mining news:

Iowa and Rose.—Work has been resumed on these mines on Poorman gulch, and the product is being milled at the Ruth & Lardner mill, in Sawpit. The former run of ore from the Iowa mine, owned by Henry Frawley, of Deadwood, gave returns of $7 per ton. The product from the Rose mine is similar in character and grade.

Rialto Mining Company.—This company has just finished timbering the shaft, and sinking will now be resumed. Assays recently gave an average value of $40 per ton, with a high per cent. of lead. The value is principally in gold. Of this character of ore there is now on the dump between 10 and 15 tons.

Wide World.—A 50-foot shaft has been sunk on the Wide World group, and crosscuts will be run. The ore is of a very soft, slaty nature, carring free gold. A mill will be erected on this properly next month.

TENNESSEE.

Hamilton County.

(From Our Special Correspondent.)

Signal Mountain Coal Company.—This company is testing the coal vein in its lands on Waldens Ridge, not far from Chattanooga. Thus far the diamond drill has shown no results of value, at least nothing has been made public. Last December this company inaugurated with elaborate ceremonies the construction of a railroad from Chattanooga to the top of Waldens Ridge, as was noted in "The Engineering and Mining Journal." Thus far nothing has been done but the excavation of a few hundred cubic yards of earth, preparing for the roadbed.

TEXAS.

A report from Black Mountain says that a party of prospectors have uncovered a paying seam of gold ore not far from the San Augustin ranch and near the Organ peaks.

UTAH.

Beaver County.

Horn Silver Mining Company.—Manager Farnworth telegraphed as follows from Frisco on April 6th, in reference to the late fire at the company's property: "The works on the west side track are not burned. Will resume work to the 300 level next week. The boilers are not injured. The big hoisting engine, compressor and other engines are not seriously damaged. Have commenced reconstruction."

Salt Lake County.

The receipts of ore and bullion in Salt Lake City for the past quarter were as follows:

	Bullion.	Ore.	Total.
January	$431,822	$220,650	$652,472
February	304,230	163,255	4 7,185
March	319,148	155.220	474,368
Totals	$1,055,200	$559,125	$1,594,325

The shipments of ore and bullion from Salt Lake for March were: Bullion, 2,999,484 lbs.; copper matte, 163,085 lbs.; silver and lead ores, 9,041,350 lbs.

For the three months this year the shipments have been: Bullion, 8,340,601 lbs.; copper matte, 338,495 lbs.; silver and lead ores, 23,541,564 lbs.

The shipments of ore and bullion from Salt Lake City for the week ending March 31st were: Bullion, 621,291 lbs.; silver and lead ores, 1,751,410 lbs. The receipts of ore and bullion in Salt Lake City for the week ending April 4th were to the aggregate value of $146,672, of which $89,124 was in bullion and $57,548 was in ore. The receipts of Pennsylvania bullion were $22,991; Hanauer bullion, $9,750; base bullion, $15,700; Ontario bullion, $14,878; Daly bullion, $16,805; cyanides, $9,000. Ore receipts were $10,348 by Wells, Fargo & Company, $26,400 by McCornick & Company, and $20,800 by T. R. Jones & Company.

Summit County.

Ore shipments from Park City last week were Anchor first-class and concentrates, amounting to about 500,600 lbs.

Tooele County.

Marion.—This property at Mercur has made a shipment of sulphur valued at $9,000. The mill closed down recently, for repairs, but has now resumed work.

Mercur Mining Company.—The negotiations for the sale of this property to a Colorado syndicate have been broken off. The Salt Lake "Tribune" quotes Mr. John Dean, president of the company, as saying: "The deal is off for good. We are going to increase the capacity of our mill from about 50 tons of ore per day to 200 tons a day. We hope to have the new mill running by September 1st. We have made some temporary arrangements by which we will be able to increase our output to about 75 tons a day until the new mill is in operation. We have been shut down for nearly three weeks owing to the state of the roads. We started up on April 6th in the mine with a good force of men, and the mill will open on April 9th. The new mill will be built at the mine, and so obviate the necessity of hauling the ore."

VIRGINIA.

Goochland County.

The Benton Mining Company, with offices at Tabscott, Va., and 35 Wall street, New York, has been incorporated according to the laws of the State of Virginia to develop, produce and deal in gold, silver and other ores, and to mine, smelt and sell the same. The capital stock of the company is to be $150,000, and the real estate to be held is 1,000 acres. The incorporators are: Gilbert H. Mining, of Norwich, Chenango Co., N. Y.; Calvin L. King, of Otselic, Chenango Co., N. Y.; Wm. Irwin Martin and Geo. G. Benton, of New York City, and Geo. A. Bishop, of Binghamton, N. Y.

WEST VIRGINIA.

Charleston Coal and Coke Company.—This company, with headquarters at Welch, is opening a new coal mine in the lower end of the Pocohontas coalfield. It will sink a shaft, the first in this field, and build a tipple and battery of coke ovens.

Oil.

In the suit of W. H. Gillespie against Joseph T. Jones, of New York City, involving title to 160 acres of oil land in the Sisterville field, valued at $400,000, the Supreme Court of West Virginia holds that Jones is owner in fee simple of three-tenths of the lands besides the life estate of Mrs. Eliza Williamson, and that he was entitled to all but one-eighth of seven-tenths of oil produced. Captain Jones thus secures a perfect title to 73-80 of the land in controversy. Jones is supposed to represent the Standard Oil Company.

WYOMING.

Albany County.

(From our Special Correspondent.)

A recent mill run from the Morgan gold mine at the head of Cooper Creek showed a value of $84 per ton. The ore is free milling.

Messrs. McCullough & Merriott have finished sinking in the Bonanza, and are now driving drifts preparatory to take down ore. The ore from this property is free milling and assays from $5 to $100 per ton.

Messrs. Wilson, Burkhartd & Downey have employed a small force of men on the Vesuvius all winter. The development has made a wonderful showing. Samples from the bottom of the shaft, some 80 ft. deep, assayed from $120 to $202 per ton.

Crook County.

(From our Special Correspondent.)

A new coal mine has been opened in Crook County on the line of the Burlington Railroad, at Felix, under the management of Charles Brooks. This is the first coal bank opened in Crook County on a line of railroad.

A large deposit of ferro-manganese has been discovered in the Bear Lodge Mountains, a few miles north of Sundance. The ore analyzed from 60 to 70% manganese, being very low in silicon and carrying 0.105 in phosphorus.

Uinta County.

From our Special Correspondent.

Messrs. Newborough Marx of Evanston are erecting a sulphur plant near the sulphur beds in the southwestern part of Unita County. The plant is near the Union Pacific Railroad and with the help of two men will produce 2,000 lbs. of crude sulphur per ten hours. Should the manufacture of the crude sulphur pay, this company intends to erect a larger plant that will be arranged to manufacture crude sulphur, with brimstone and flours of sulphur. The sulphur deposits of Uinta County are almost inexhaustible.

FOREIGN MINING NEWS.

BRITISH COLUMBIA.

(From our Special Correspondent.)

A gold quartz ledge, 24 feet wide, and assaying $10 per ton, has been found at Pitt Lake, 25 miles from Victoria. Owing to its proximity to the line of railroad, and also on account of the large quantity of quartz in sight, the find is valuable.

During the year 1893 there were shipped, according to the official returns, from West Kootney, 246,869 ozs. of silver ond 2,072,370 lbs. of lead.

Vancouver.

The Bootanie Creek Gold Mining Co., Ltd.—This company has been organized, with a capital stock of $150,000, for the purpose of securing and working bench lands in the Yale District of British Columbia, near Lytton. The company is now endeavoring to sell its stock.

CANADA.

An ammendment has been offered to the mining laws by which royalties will be suspended for five years. This, with the seven years exemption, will give 12 years freedom after locations are taken up. No locations less than 40 acres will be allowed, but prospectors and others will be allowed to take out mining licenses on payment of $10.

Ontario.

An American coal syndicate proposes to do a large coal trade at Port Dover, Lake Ontario, if the Grand Trunk Railroad will guarantee them 14 ft. of water in the harbor. Soundings have been made to the solid rock, which is at its shallowest point 11 ft. 2 in. The syndicate, it is said, will land 100 cars per day all the year round if the required depth is got in the harbor.

Lake of the Woods District.—This has long been known as a mineral district, but a dispute as to boundary lines between the Federal and Ontario governments impeded development. Those disputes have now been settled, and it is hoped the field will soon be opened out. Recently rich discoveries of mineral have been made at Rainy Lake, and investigation shows that most of the mineral wealth lies on the Canadian side, and that portion which is on the Federal side is more easily reached by way of Winnipeg and Rat Portage. Reduction works have been established at the latter place and it is expected whatever ore is produced on the American side will be taken to Rat Portage for treatment. While prospects are favorable, there is, says the "Semi-Weekly Record," nothing to encourage a promiscuous rush. It will require considerable labor and capital to develop the mines, and there are probably enough men on the ground to meet requirements for a considerable time.

Rainy Lake Region.—A report from this region states that H. De Quincy Sewell, A. Longheed and James McCallum, Ontario and Dominion land surveyors, were engaged until March in locating gold claims along the La Seine River, which flows into Rainy Lake. Many locations for gold and magnetic iron ores are now taken up there, and one gold vein is being developed by Fort William capitalists. The ores from these veins are said to average from $33 to $43. This tract is fairly well timbered, and when navigation opens lively times are anticipated in this section generally. Some 22,000 acres in this section of Algoma will probably be blocked out by Americans, but the most elegible mining lots are owned by Canadians.

COLOMBIA.

Frontino & Bolivia Gold Mining Company, Limited.—The statement for this mine for the month of January is 2,082 tons produced; bullion, 2,196 oz.; tributers' gold produced, bullion, 149 oz.; total, 2,345 oz.; also 44,252 lbs. of sulphurets, valued at £936. Estimated value of the gold and sulphurets, £5,693. Cost at the mines, Medellin, and in London, £4,366. Estimated excess of returns, £1,326.

GERMANY.

Pig iron production for February is reported at 403,374 tons, making a total of 829,792 tons this year to February 28th, an increase of 78,242 tons, or 10.4% over the corresponding months in 1893.

MEXICO.

Tepic.

Amatlan de Cañas Mining Company.—This company, operating in the district of the same name, has cut the vein in the lower portion of the Purisima mine by means of a cross-cut, says the "Mexican Financier." The ore is high grade.

SOUTH AFRICA.

Transvaal.

Block B., Langlaagte Estate.—This company's dividend for 1893 was 8%, which was paid in London, January 31st.

City & Suburban Gold Mining Company.—This company has declared a dividend of 25% for 1893, payable in London and Johannesberg.

Durbair-Roodepoort Gold Mining Company.—The report for the year ending December 31st, 1893, states that the sale of gold produce realized £215,577. After allowing for £27,526 charged to depreciation account, the net profit of £73,760, plus the balance forward from 1892 of £15,926, gives a total of £89,686, out of which £68,750 has been paid in dividends, leaving a credit balance of £20,936 to be carried forward.

Paarl Central Mining Company.—The accounts for the half-year to December 31st show a loss of £15,474, increasing the debit balance to £20,370. The balance shows £28,493 of loans to the company, a cash overdraft of £19,337, bills payable, £3,787, and other creditors £9,609, while there are debtors for £1,056, and cash and stores in hand total £861.

VENEZUELA.

El Callao Mines.—The superintendent's report, dated February 24th, says that the result of the second month's run this year was as follows: Callao mine, 2,017 tons crushed, 1,504·50 oz. produced, or 0·75 oz. per ton; Columbia mine, high grade, 1,957 tons, 3 001 37 oz., or 1·53 oz. per ton; low grade, 126 tons, 76·50 oz., or 0·60 oz. per ton; total result from 4,100 tons, 4,582·37 oz., or 1·12 oz. per ton.

In the Callao mine, at shaft No. 5, work continues in sections 87, 88 and 68. No. 8, the inclined shafs is now down to section 305; a compressed air drill is being used in section 304; work is also being continued in sections 224, 264, 285 and 325. The January expenses were: Mining 2,176 tons, 121,830 frs. or 56 frs. per ton; milling 2,176 tons, 16,716 frs., or 7·68 frs. per ton; general expenses, 23,639 frs., or 10·86 frs. per ton; explorations, shaft 7, 1,468 frs.; construction of tramways, 20,530 frs. Total expenses, 184,185 frs.

At the Colombia mine no material change in the stoping ground is noted. The inclined shaft below level two is within 70 ft. of shaft 4 and continues to show visible gold. The vein continues wide, and dips 60° to the south. Winze one is now 25 ft. below level two; it shows a fine quartz vein dipping 25° to the south. The January expenses were: Mining 2,297 tons, 75,610 frs., or 32·92 frs. per ton; milling and transportation of 2,297 tons, 25,832 frs. or 11·68 frs. per ton; total expenses, 102,443 frs. or 44 60 frs. per ton.

A telegram dated March 20th, states: Callao, 675 oz.; Colombia, 1,176 oz. for the fortnight.

WEST AUSTRALIA.

The official returns gave the exports of gold for the fourth quarter of 1893 at 46,330 oz., against 25,260 oz. in the last quarter of 1892.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, April 13.

Statement of shipments of anthracite coal (approximated) for week ending April 7th, 1894, compared with the corresponding period last year:

	1894. Tons.	1893. Tons.	Difference.
Wyoming region	271,441	407,517	Dec. 136,076
Lehigh region	95,157	140,699	" 51,542
Schuylkill region	174,916	250,073	" 75,157
Totals	541,514	804,289	Dec. 262,775
Total for year to date	7,924,761	10,802,115	Dec. 2,877,354

PRODUCTION OF BITUMINOUS COAL, in tons of 2,240 lbs., for week ending April 7th and year from January 1st:

Shipped East and North:	1894. Week.	1894. Year.	1893. Year.
Phila. & Erie R. R.	957	17,528	36,138
Cumberland, Md.	72,721	805,908	992,799
Barclay, Pa.	510	6,720	20,096
Broad Top, Pa.	9,291	91,615	226,699
Clearfield, Pa.	46,240	907,643	1,136,520
Allegheny, Pa.	30,240	381,042	351,333
Beech Creek, Pa.	39,721	646,042	533,459
Pocahontas Flat Top	†51,728	689,442	741,575
Kanawha, W. Va.	*75,055	639,420	882,641
Totals	326,463	4,188,330	4,920,660

* Week ending March 31.
† Estimated.

Shipped West:	1894. Week.	1894. Year.	1893 Year.
Pittsburg, Pa.	24,584	351,109	357,082
Westmoreland, Pa.	26,229	390,452	583,700
Monongahela, Pa.	3,609	128,212	193,081
Totals	54,422	869,773	1,123,863
Grand totals	380,885	5,058,103	6,044,523

PRODUCTION OF COKE on line of Pennsylvania R. R. for the week ending April 7th, 1894, and year from January 1st, in tons of 2,000 lbs.: Week, 55,111 tons; year, 891,102 tons; to corresponding date in 1892, 1,555,039 tons.

Anthracite.

The anthracite coal market during the past week has remained quiet and without new features. It is not to be expected that any developments of importance will take place for some months. Everything will continue to move on the lines which we have indicated from time to time in this column.

During the past week coal has moved perhaps a little more freely than a fortnight ago. Dealers have become accustomed to the new prices and values are perhaps a little stiffer. The blizzardy weather of the past week has stimulated the retail trade somewhat, and as dealers' stocks are not heavy it will probably help to accelerate the date of buying for the fall and winter trade. The storm was very severe throughout the coal regions. For a week to come the companies will probably hoist two tons of water out of the mines to one ton of coal. The storm will materially assist in restricting the output, which is the only means of preventing the demoralization of the market. A period of dullness is still ahead for the producers.

Just now the chief topic of interest in coal circles here is the retailers' fight in Brooklyn and to a lesser extent in this city. Coal is being sold by some dealers at $4 per short ton delivered. Relatively speaking, the anthracite trade, so far as the producers are concerned, is not in such bad condition. It is true that the production for the year up to date is 3,000,000 tons behind that of the corresponding period of 1893, but the coal has remained in the ground and it does not represent a loss. The weather this year has not been such as to require much coal consumption, and moreover, operators mined an excessive output in the fall of last year.

The annual meeting of the Anthracite Coal Operators' Association was held at the Hotel Waldorf, this city, on Wednesday last. The report of the secretary showing the work done by the association during the year was read, and the old board of managers and the officers were unanimously re-elected. The officers are: William Connell, president; E. B. Leisenring, vice-president; C. D. Simpson, secretary and treasurer; and Thomas L. Greene, assistant secretary. The Board of managers consists of William Connell, E. B. Ely, H. M. Howe, John Jermyn, O. S. Johnson, E. B. Leisenring, W. G. Payne, F. T. Patterson, Chas. Parrish, L. A. Riley, C. D. Simpson, and J. S. Wentz. Mr. J. M. Buckley, of the General Electric Company, read a paper on the application of electricity to anthracite coal mining.

The Reading Railroad reports that its coal shipment (estimated) for last week, ending April 7th, was 200,000 tons, of which 15,000 tons were sent to Port Richmond and 22,000 tons were sent to New York waters.

NOTES OF THE WEEK.

The Delaware, Susquehanna & Schuylkill Railroad, owned by Coxe Bros. & Co., expects to run its first train over its new connecting line to tidewater, via the Lehigh Valley early in July.

It is announced that the Lehigh Valley Coal Company will store in the vicinity of Boston, Mass., 500,000 tons of anthracite coal, to be shipped from Perth Amboy as speedily as possible. One of the docks which has been idle for several months has resumed work. The coal will be shipped in Bee Line barges. A fleet of 30 of the barges has been tied up in Perth Amboy, out of commission for four months.

It transpires that the Coal company bonds recently sold by the Lehigh Valley to Charles Smith & Sons amounted to nearly $2,000,000 instead of $1,500,000. The price is not stated, but in the last few days the bankers have sold privately several large blocks at 101½ and interest, which is equivalent to about 103¾. The Lehigh Valley floating debt has been very greatly reduced, and holders of its unmatured paper are now refusing to rebate it.

Bituminous.

There is very little change in the soft coal trade, the prices for the season and transient trade have apparently reached a point as low as they can go, and the market accordingly is steadier than it has been for some weeks. The better grades of coal have maintained, as usual, more strength in the market than the poorer classes; but the latter are becoming stronger by degrees. Transient orders are not as plentiful with the producers as might be wished. There seems to be, however, a sufficient number to keep most of the companies going at a rate of little short of full time.

There was a meeting of the Seaboard Steam Coal Association at Philadelphia, Pa., on April 10th, at which a general discussion of the trade in all its bearings took place.

Contracts for the season are still being entered into and, as heretofore, to a less extent than in former years. Although prices are now as low as they are likely to go, consumers continue to hold off in the expectation of a still further reduction. In this it is probable that they will be disappointed. The National Miners' Convention at Columbus, O., has decreed a general strike on April 21st. This step, if carried out, is certainly not calculated to bring about lower values.

The local trade to the shipping ports is quiet, as is also all-rail trade. Transportation is very good from mines to shipping ports and shippers are receiving all the cars they ask for, especially those who can ship the most promptly.

There is a fair amount of coal on the way from mines to tidewater, and a fair stock on hand generally at shipping ports. Very good dispatch in loading is reported.

In the coastwise vessel market there are different reports about the current rates. It is stated by some that the market is strong, while others report that they have heard of lower rates than the current having been offered. The vessel-owners state that there is no profit in present rates. Ocean vessels are scarce and rates firm, caused by the demand from anthracite shippers.

We quote current rates as follows from Philadelphia: To Boston, Salem, Portland, 65c.; Providence, New Bedford, New Haven and Bridgeport, 60c.; Portsmouth and Bath, 65@70c.; Wareham and Newburyport, 80c.; Lynn, 75@80c.; Gardiner, 70c. and towages; Bangor, 70@75c. From Norfolk, Newport News, Baltimore and Georgetown, 5@10c. above these rates. So far very little coal has gone forward to Georgetown, the most of the coal shipped over the Chesapeake & Ohio Canal going to local points.

NOTES OF THE WEEK.

The Ashland Coal Company, of Virginia, has commenced the construction of 100 coke ovens near its mines.

The Lynchburg Coal Company of Virginia has 69 of its 134 ovens in operation. During the spring it will erect a new storehouse at Kyle.

The Algoma Coal Company, of Roanoke, has 100 of its 175 coke ovens in active operation and expects to start the others within a week or so.

The Indian Ridge Coal and Coke Company of Virginia had completed the tracks to its mines and finished work on its tipple. Shipments of coal have been commenced.

The Flat Top Coal Operators' Association has taken a tour of the coal district on the Norfolk & Western Railroad, and at its conclusion met in Roanoke to confer upon its future plans.

The coal rate to the head of Lake Superior has opened for Cleveland at 40c. per ton. Among the boats chartered at that figure are the steamers Pontiac, Samuel Mitchell, Cadillac, J. H. Wade, Gladstone and Iroquois, Cleveland to Duluth, 40c; the Vega and Castalia were chartered, Cleveland to Milwaukee, 40c.

The receipts of coal at San Francisco, Cal., by water, exclusive of the product of Mt. Diablo mines, for March, were, as follows: From Puget Sound, 40,119 tons; Oregon, 2,700 tons; Eastern, 400 tons: Australia, 2,665 tons; British Columbia, 32,659 tons; English, 64,430 tons; China, 2,500 tons: total, 95,473 tons, against a total of 97,229 tons in March of 1893. The cargo from Hong Kong at the close of March was something of a novelty from that source.

The Miners' National Convention, at Columbus, Ohio, on April 12th, decided that the wage scale adopted last year shall be demanded as the object of the strike to be inaugurated on April 21st. This is is the 70-cent per ton basis. It means an increase of from 20 to 25 cents per ton on wages now paid in Pennsylvania, Ohio, Indiana and Illinois. The convention also decided "to act in politics as a unit, and independent of political parties."

A press dispatch from Baltimore says: The West Virginia Central & Pittsburg Railroad Company will soon begin the construction of a line from Cumberland, Md., to connect with the Cumberland Valley Railroad near Hagerstown, Md. With the completion of this road the West Virginia Central & Pittsburg will abandon its coal shipments by way of the Huntington & Broad Top line, and will use the Cumberland Valley road to Harrisburg, effecting a saving of 50 miles of haul. Arrangements have been made for tidewater terminals at Philadelphia for the coal trade in connection with the new line. Failing to secure the Western Maryland, the company decided to construct the new line and send its coal to Philadelphia. This is a loss to Baltimore. The Pennsylvania Railroad, which operates the Cumberland Valley line, has agreed to set aside 5% of the gross freight earnings of that road as a guarantee of the interest on the bonds of the new road.

Buffalo.

April 12.

(From our Special Correspondent.)

Anthracite coal dull; few incidents occurring and those not worth noting. The weather for several days bright, with very cold wind, changing on Tuesday to sleet and snow, and afterward with heavy snowfall, ending Wednesday at 10 a. m.

Bituminous coal quiet; little demand, and that from manufacturers, as the movements of vessels outward bound has been very light. Quotations nominally unchanged.

Only 5,850 net tons of anthracite coal have been shipped from Buffalo from opening of navigation to April 7th, viz., 2,850 tons to Toledo and 3,000 tons to Milwaukee. The quoted rates of freight 25c. per net ton hence to Toledo, Milwaukee, Chicago and Duluth free on and off.

The dock at Conneaut, O., belonging to the Pittsburg, Shenango & Lake Erie Railroad Company, is being enlarged to 1,700 ft. in depth and 330 ft. in depth. The company propose to build at an early day several boats for the transportation of coal across Lake Erie to Dover, carrying from 22 to 26 cars on each boat.

Sidings on all coal carrying railroads leading from the anthracite coalfields of Pennsylvania to tidewater are overcrowded with loaded cars of coal, which are waiting for a revival of the retail demand.

From present indications navigation at Duluth and Lake Superior ports will not open much before the 25th of this month; there is too much thick ice in that region. Coal is quite plenty at the upper Lake ports, so that an early opening is a matter of little consequence, and there is practically no demand for flour and wheat.

Chicago.

April 12.

(From our Special Correspondent.)

Anthracite.—The Chicago coal market continues to be one of great expectation, but mighty little business. Everybody is looking ahead, and trusting that there will soon come a time when Chicago can once again claim an active coal market. The tonnage for the week has been very limited, despite the fact that coal is now selling cheaper than it has for years past. Lake shipments will reopen soon now, and it is expected that rates will be lower than ever before. Prices are: Grate, $500; egg, stove and chestnut, $5.25.

Bituminous.—Bituminous coal has shown a slightly increased tonnage for the week. This may be accounted for from the fact that the numerous factories that have been closed are again starting up, or those that have been running on reduced time, have started to work full time; again, river traffic has begun and the numerous tugs are again puffing soft coal smoke from their stacks, to the annoyance of thousands who daily have to cross the Chicago River. An effort is soon to be made to compel all the tugs doing business on the river to burn petroleum, and thus do away with the smoke nuisance.

An effort is being made to have the headquarters of the United Mine Workers' body changed from Columbus to Chicago, and it is probable that this will be accomplished. In the Secretary of State's office this week articles of incorporation of the Galesburg, Etherly & Eastern Railroad Company were filed. The Company will construct a railroad from Wataga, Knox County, extending in an easterly direction to the bituminous coalfields of the Galesburg Coal Company in Knox County. Quotations are per ton of 2,000 lbs. f.o.b. Chicago: Youghiogheny, $3.00; Pittsburg, $3.25; Hocking Valley, $2.80; Brazil block, $2.70; Raymond, $3.65; Shawnee, $2.80; Cumberland smithing, $3.50; Mt. Olivet, $1.75 Cannel coal quotations are: Pinkney, $4; Birdeye, $5; Kentucky, $5.

Coke has met with a good call, and chances are that it will continue to do so. Prices are: Connellsville crushed, $4; furnace, $3.90; Ellsworth, $3.75; West Virginia, $3.75.

Pittsburg.

April 12.

(From our Special Correspondent.)

Coal.—The Ohio river is again in good boating order; as usual coalmen have a few tons to send down the river. Since our last 24 towboats left this port for the lower markets, towing 222 barges, 41 coalboats, 3 fuels, with 1,525,000 bushels for Cincinnati, and 3,000,000 bushels for Louisville. The present rates will enable the coal men to forward all the coal that is loaded. The miners are talking strike in all directions; many persons are of the opinion that within a short time the largest strike that was ever on will be inaugurated. The outlook for the future is not very promising; how it will

terminate the future only will decide. Since Jan uary 1st Pittsburg has shipped to the lower markets 37,149,000 bushels. The coal supply in the lower markets is unusually large; it will be a long time before a strike would affect the markets of the South.

Connellsville Coke.—A prominent Uniontown labor leader says: "The action of the convention in indorsing the sacle presented by the committee was a surprise here and many who are in sympathy with the strikers think it was ill advised. The demands of the convention are too far above the present rate of wages, and it is too big a step, although the men deserve it. I would have advised indorsing the Frick scale. The minor operators would have been forced to grant the demand in order to save contracts. Considering the condition of the times I believe the Frick scale is as much as the operators can pay. Prepared for a strike—plenty of coke at the Edgar Thompson Steel Works. The strike now in progress prevents the shipment of a sufficient amount of coke to keep the mill proper and blast furnace in operation. The works during the last big strike was kept in steady operation upward of three months with the supply of coke on hand, but the stock was nothing at that time compared with the great mass on hand now, which is estimated to be over 200,000 tons, representing nearly a quarter of a million dollars in value."

The Braddock works could be kept in operation all summer in the event of the strike being continued. It seems impossible to furnish anything like a correct report. The supply is short at many places. The Monongahela furnaces at McKeesport have been blown out for the want of coke; they require 35 cars coke daily. There is no telling what a day may bring forth. It looks like a big riot; both sides are armed. If the deputies fail to put it down, the militia will be called; riots must be put down at any cost.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, April 13, 1894.

Pig Iron Production and Furnaces in Blast.

Fuel used.	Week ending April 14, 1893.		Week ending April 13, 1894.		From Jan., '93	From Jan.,'94.
	F'ces.	Tons.	F'ces.	Tons.	Tons.	Tons.
Anthracite.	74	34,010	32	16,902	491,577	227,938
Coke.....	145	131,329	84	91,507	1,906,242	1,305,745
Charcoal...	35	8,155	18	4,098	138,955	59,374
Totals....	254	176,485	134	112,507	2,529,774	1,593,057

Pig Iron.—While in its essential features the pig iron market continues in the condition which we have reported in this column for some weeks past, some encouraging signs are to be noted this week. The consumptive demand from New York and vicinity show an unmistakable increase, which, while not great enough to infuse much firmness in prices, is yet an earnest of a general business improvement.

The heaviest consumers here report a better business in their specialties and are melting more iron than a fortnight ago. Some foundrymen who had ceased buying some time ago are again coming into the market for supplies, and just as March was a better month than February, April, according to present indications, will be an improvement over last month as regards the volume of business. The pig iron market has been in such an exceedingly dull condition that even slight symptoms of an improvement in the demand must be regarded as encouraging, and reports from the various iron centres certainly indicate an increasing production. Orders continue individually small, but they are given with rather more frequency.

Prices continue low and more or less unsettled, although we do not hear of any decline from those which we have quoted during the past fortnight. Quotations at tidewater are as follows: Northern brands, No 1, $12.75@$13.50; No. 2, $12@$12.75; gray forge, $11.25@$12. Southern irons, No. 1, $12.25@$13; No. 2, $11@$11.50; No. 1 soft F., $11.25@$11.50; No. 2 soft F., $11@$11.25. Scotch irons are quoted: Coltness, $21.50@$22; Eglinton, $19.50@$20; Summerlee, $20.50@$21.50.

Billets and Rods.—There is very little business doing in either billets or rods. Prices are reported as being somewhat firmer, We quote: Domestic billets, $17.25@$18; wire rods, domestic, $27@$27 50; foreign rods, $39@$40.

Manufactured Iron and Steel.—The improvement which we noted in last week's report continues, and orders for structural material are coming from various sections of the country: In this market some fair contracts have been awarded and others will soon be given. Prices continue as last reported: Quotations are: Angles, 1·25@1·40c.; axles, scrap, 1·40@1 60c. delivered; steel, 1·40@1·55c.; bars, common, 1·15@1·30c.; refined, 1·25@1·40c. on dock; beams, up to 15 in., 1·35@1·50c; channels, 1·35@ 1·50c. on dock; steelhoops, 1·50@1·75c., delivered; links and pins, 1·40@1·65c.; plates, flange, 1 60c.@ 1·80c.; fire-box, 1·80@2 10c; flange, 1·60@2c; marine, 2·45@2·70c.; sheared, 1·80c.; shell, 1·40@1·60c.; tank, 1·25@1·35c.; universal mill, 1·20@1·50c.; tees, 1·50@ 1 65c., all on dock.

Merchant Steel.—There is nothing new to report of this market. Some business is doing at unchanged prices. We quote: Tool steel, 5·75@6 25c.; tire steel, 1·75@1·80c.; toe calk, 1·80@2c; Bessemer machinery, 1·25@1·50c.; open hearth machinery, 1·90 @2c.; open hearth carriage spring, 1·90@2c.; crucible spring, 3·50@3·75c.

Old Material.—The slightly improved demand for old material noted in our last issue has continued. Prices remain stationary, however. We quote nominally as follows: Old steel rails, $9@$9.75; old iron tees, $11.50@$12 per ton New York; railroad scrap, $12 per ton delivered at mill and yard scrap at $10 vessel New York; old iron T rails, standard sections, $11.75@$12.00, New York delivery; wrought turnings, delivered at mill, $9; railroad scrap, also delivered at mill, $12: No. 1 wrought scrap at $9.50@$10.50 and No. 1 machinery cast scrap, $9.50@$10.50, old wrought tubes and pipe, $6.50@$7; wrought turnings at $8 50@ $9.50 delivered at mill; old car wheel, $10@$11 New York; cast borings, $5.50@$6 delivered at mill.

Rail Fastenings.—We do not hear of any business in this market. Quotations are as follows: Fish and angle plates, 1 25@1·35c. at mill; spikes, 1·60@1·90c.; bolts and square nuts, 2@2·25c.; hexagonal nuts, 2·20@2·40c., delivered.

Spiegeleisen and Ferromanganese.—Nothing of interest is reported in ferro or spiegel. The market continues very quiet. Quotations remain nominally: Spiegeleisen, 10@12%. $21@$22; 20%, $25@ $26. Ferromanganese, $51.50@$53.

Steel Rails.—Standard sections continue dull. Of girder rails some sales are reported at $22@$24 at mill. Quotations for standard sections remain $24 at mill or $24.80 tidewater.

NOTES OF THE WEEK.

Owing to the trouble with the iron ore handlers at the docks at Ashland, Wisconsin, the Chicago & Northwestern Railroad has issued orders shipping iron ore from Escanaba, Michigan, instead of from Ashland.

The committees representing the creditors and the shareholders of the Pennsylvania Steel Company and the Maryland Steel Company have adopted a plan of reorganization, which will be submitted for their approval. It provides for the debts, amounting to about $6,200,000, by the following arrangement: 1. 40% to be paid in cash. 2. 60% to be paid in consolidated mortgage bonds, bearing interest at 6%. The consolidated mortgage will be made for about $6,500,000, of which $3,000,000 will be reserved to take up the first mortgage, and the balance used to settle the 60% due the creditors. 3. The creditors to receive 15% upon their claims in common stock, which is to be supplied from stock to be relinquished by the present stockholders. 4. $1,500,000 of 7% preferred stock, non-accumulative, to be subscribed for and taken at par by the present stockholders, to provide new cash capital in the business. 5. All debts under $1,000 to be paid in full. 6. The interest on the consolidated mortgage bonds for the first three years, if not earned, is to be paid in script. This provision is to protect the companies against any lengthened continuance of the present depression in business.

Reports from Pottstown, Pa., are to the effect that there is considerable improvement in the industrial situation there. The Potts Bros.' Iron Company was to start this week all its puddling furnaces, but the plate mill will remain idle for a short time. Eight of the 22 puddling furnaces of the Ellis & Lessig Steel and Iron Company were also to resume, the other portion of the plant being in operation. The Pottstown Iron Company will have more of its extensive works in operation than heretofore. An increased output of iron was turned out last week. The bridge works of Cofrode & Saylor are running, with prospects brightening. The Valley mill of the Glasgow Iron Company will be running, and more of the plant at Glasgow in operation than during the winter. The furnace of the Warwick Iron Company is in operation, and has been without cessation. The boiler works of Sotter Bros. are reported very busy.

Buffalo. April 12.

(Special report of Rogers, Brown & Co.)

The improvement in demand which has lately been noted is still the only encouraging feature of the market. Prices are as thoroughly demoralized as ever and each transaction of importance is hotly contested by sellers from every producing section. The reduced freight rates from the South have stimulated the sale of Southern iron in this direction to a considerable extent. We quote on the cash basis f. o. b. cars Buffalo: No. 1 Foundry strong coke iron, Lake Superior ore, $11.75; No. 2 Foundry strong coke iron, Lake Superior ore, $11.25; Ohio strong softener, No. 1, $11.75; Ohio strong softener, No. 2, $11.25; Jackson County silvery, No. 1, $15.50@$17.00; Lake Superior charcoal, $14.75; Tennessee charcoal, $15.50; Southern soft, No. 1, $11.20; Southern soft, No. 2, $10.70; Alabama car wheel, $16.00@$17.50; Hanging Rock charcoal, $18.50.

Chicago. April 12.

(From our Special Correspondent.)

The week has shown no improvement in iron. The weather and the general strike of building and other trades have somewhat disturbed the market. Should these strikes be long protracted it is safe to say that conditions now prevailing will be extended until some settlement is reached. The reduction in freight rates from the Southern furnaces, which went into effect on the 2d inst., has materially helped the furnaces in the South. The reduction makes it possible for them to compete with the Northern furnaces in pig iron. Among the mining machinery manufacturers business has wonderfully improved. A number of the large houses here are again running full force. The demand for the latest patterns of mining machinery has created the boom, for mine owners in the West have come to the conclusion that in order to produce silver at present prices machinery that does the work cheapest and best is what they want. The fall in silver has likewise turned many to gold mining, and the opening up of new properties necessitates machinery to work it.

Pig Iron.—The tonnage in pig iron has undoubtedly gained some for the week. Sales are quite numerous, but chiefly for quantities from carload lots to 200 tons. The largest sale for the week is one of 1,500 tons local iron. Some dissatisfaction is observed over the reduction in Southern freight rates. Consumers who made contracts before the reduction in rates occurred have asked for a corresponding decrease in price. This has been refused by the dealers and consequently the dissatisfaction. The reduction, which amounted to 65 cents per ton, is a big one, and naturally the consumer had the right to demand a proportunate reduction on his contract. Now that Southern coke irons have the advantage of reduced railroad rates, they will undoubtedly maintain a prominent place in all Northern markets, as it is said that the character of Southern irons is such, that far better and more satisfactory results are obtained from mixtures where Northern and Southern irons are used together, than where an attempt is made to run with Northern alone. Prices are, per gross ton f. o. b. Chicago: Southern coke, foundry No. 1, $11@$11.50; No. 2, $10.25@$10.50; No. 3, $10@$10 25; Southern coke foundry soft, No. 1, $10 50@$10.75; No. 2, $10. @$10.25; Southern car-wheel, $18@$18.25; Tennessee charcoal No. 1, $15@$15.50; Southern silveries No. 1, $11.75@$12; No. 2, $13@$13.50; Bessemer, $13; Ohio Scotch softeners No. 1, $13 50@$14; Lake Superior charcoal, $15@$15.50; Lake Superior coke No. 1, $11.75@$12; No. 2, $11.00@$11@11.25; No. 3, $10.50@$10 75; Jackson County silveries, $14.50@$15.

Structural Iron and Steel.—Demand for structural iron is poor. There is nothing of importance in sight whatever. Business now is being confined mainly to buildings of minor importance. Quotations are as follows, Chicago delivery: Angles, 1·30@1·40c.; tees, 1·50@ 1·60c.; universal plates, 1·35 @1·45c.; beams and channels, 1·40@1·50c.

Plates.—Business has not increased. Inquiries art few and the market is dull, with prices lower, which are, Chicago delivery: Flange steel, 1·65@ 1·75c.; best firebox steel, 3·75@4·00c.; tank steel, 1·35@1·45c.; iron and steel sheets No. 10 to 14, 2·00@ 2·15c.

Merchant Steel.—The tonnage for the week shows a slight gain. Orders are almost wholly for small quantities. Inquiry remains quite good. Quotations are, carload lots: Smooth finished machinery, 1·80@1 90c.: tire steel, 1·60@1·70c.; ordinary Bessemer bars, 1·40@1.50c.; toe calks, 2·05@2·15c.; special brand tool steel, 12@20c., crucible spring, 3·40@3·65c.; tool steel, 6½c. and upward.

Galvanized Sheet Iron.—The building strikes here have diminished sales some. The total sales so far this month are not nearly up to that of the same period in March. Prices are 75, 10 and 5% off on mill shipments. Jobbing quantities are selling at 75% discount.

Black Sheet Iron.—The sales of the week have not been numerous, despite the exceedingly low prices, Several mills continue to refuse business at prevailing prices. Prices are f. o. b. Chicago, carload lots: No. 24, 2·15c.; No. 25 and 26, 2·25c.; No. 27, 2·35c.; with an advance of 5 to 10c. for steel over corresponding gauges in iron.

Bar Iron.—Demand for bar iron has increased somewhat, wagon manufacturers buying largely. The Valley Mills at Youngstown, Ohio, are running in all departments at the present time. Prices are f. o. b. Chicago, 1·10@1·15c., according to specification.

Billets.—Sales of billets continue numerous though the orders are chiefly for small lots. The price has advanced to $17.50.

Steel Rails.—Market remains dull, with but few sales of small quantities. Quotations are $25@$27.

Nails.—Both wire and steel cut nails have had a drop in prices. The market for both continues quite active, with steel cut slightly ahead. Prices are, per keg, $1.12½@$1.20 for wire, and $1.10@$1.20 for steel cut nails.

Old Rails and Wheels.—Neither old rails or wheels have met with much call, a few small orders in each having made the weeks' business. Old iron rails are selling at $10.50@$11, while car wheels are $10.50.

Scrap.—A number of small orders have been booked during the week, but their total is far below a good week's business. Prices are: No. 1 Forge, $8.50@$9. Cast borings, $4@$4.50; wrought turnings, $6.00; axle turnings, $6@$6.50; mixed steel, $6@$6.50; tires, $13@$13.50; iron axles, $12@$12.50.

Philadelphia. April 13.

(From our Special Correspondent.)

Pig Iron.—The quotations made yesterday and to-day for small lots betoken weakness, though brokers assert the market is not so flat. Good No. 1 Foundry irons are offered at $13 delivered and No. 2 at $12. The only actual sales of mill irons this week were made at $11 for Schuylkill Valley mills. The market is more settled and there is less offering from distant points, for the reason that buyers cannot be induced to make provision beyond present necessities.

Steel Billets.—The only purchases this week are to keep consumers moderately supplied. The talked-of advance in prices has not been realized. Western parties are canvassing this section without much success. Prices are given at $17.25@$17.75.

Muck Bars.—More business is coming in at $20.50@$21.

Merchant Iron.—The country trade continues good, and Eastern shipments are growing in number and size; but selling prices are at the lowest point. Some manufacturers talk of shutting down and would do so but for the loss of what little trade they have. Prices, 1·20@1·40.

Nails.—Stores everywhere have been filled with nails in expectation of a revived building demand. Production at factories is larger than present distribution in retail quarters warrants. Price, $1.

Skelp.—The orders booked are not large, but encouraging. Quoted prices 1·35; how much less is paid only buyers know.

Pipes and Tubes.—New work is coming in and manufacturers are doing even more shading to induce the placing of large orders.

Sheets.—As heretofore stated, galvanized has been dealt in more largely than light or heavy sheets. In order to hold business here rates have been again shaded on large orders.

Plates.—There is an increase of business at plate mills, but no information is to be had at city offices. The only information obtainable is that business comes in slowly, and for as little as buyers can get along with for the present. Tank is quoted at 1·20.

Structural Material.—New orders are coming in for building work for city use, but the total from this source is not promising. Prices are very low even on small work, and in competition with Western parties for Eastern jobs there is very little left to manufacturers. Angles, 1·20. Beams, tees and channels, 1·50.

Steel Rails.—Orders for girder rails are dropping in every day, and the anticipation is that the next few weeks' business will put all the mills in fair shape, taking into account the repairing demands for standard sections. Brokers who have an opportunity of knowing are expecting an improvement very soon in the demand for rails for sidetracks, small extensions and the like. Quotations, $24.

Scrap.—Less scrap has been sold this Spring than in same season for years. More is offered than finds buyers, and prices are very low.

Pittsburg. April 12.

(From our Special Correspondent.)

Raw Iron and Steel.—The volume of business for some weeks past has shown up exceedingly well, particularly as regards certain leading products. The sales of soft steel billets are the largest on record; this product is rapidly taking the place of iron for several reasons. Look back a few years and note the price of steel billets and slabs, viz., $38 to $40; to-day sales are making at $15.75 to $16.

Taking these facts into consideration, it is no wonder that steel is so rapidly taking the place of iron; of course there will always be a demand for a certain amount of iron required for various purposes. Again Bessemer pig is steady, taking the place of grey forge iron; the time was when there was more of this description sold than any other; all is now changed, the demand is principally for Bessemer. The time was when Bessemer sold from $2.50 to $3 higher than grey forge; to-day the difference is about $1 per ton.

A few years ago the sales of anthracite iron in this market reached thousands of tons weekly; for a long time we have not heard it mentioned. There is no inquiry—it is not wanted. At the present time the principal demand is for Bessemer and steel billets. The demand for skelp steel continues large; during the past three weeks we have reported sales of 15,400 tons; iron skelp, same time, 4,200 tons. These are facts that show the situation in a manner that can't be misunderstood.

The furnaces in this city and vicinity are all in blast, running to their full capacity. The general readjustment of freight rates on iron all over the country has unsettled the trade just when indications pointed to a gradual and steady recovery, but Southern iron makers have been enabled to push into Western territory, displacing, to some extent, trade at certain points.

The latest: Market is firm with a good demand. Holders are asking a slight advance for Bessemer and steel billets. Grey forge was more inquired for.

Grey Forge.

The following are the quarterly prices for Grey Forge iron in the past three years made up from actual transactions:

	1892.	1893.	1894.
Jan. 7	$13 50@$13.75	$12.00@$12.25	$9.90@$10.25
" 14	13.35 " 13.50	12.25	9.75 " 10.00
" 21	13.45 " 13 50	12.25	9.75 " 9.85
" 28	13.40 " 13.50	12.20 " 12 25	9.75 " 9.80
Feb. 7	13 30 " 13 40	12.25 " 12.35	9.75 " 9.80
" 14	13 25 " 13.35	12.25	9.65 " 9.85
" 21	13.25 " 13.50	12.25	9.65 " 9.75
" 28	13.00 " 13.25	12.25 " 12 30	9 75
Mar. 7	13.00 " 13.25	12.25 " 12.50	9 60 " 9.75
" 14	13.00	12 25 " 12.50	9.60 " 9.65
" 21	12.75 " 12 85	12.25 " 12.30	9 50 " 9 65
" 28	12.80 " 13 00	12.10 " 12.25	9.50 " 9 60
" 31	12.75 " 13.00	12.25	9.40 " 9.60

The following are the weekly prices of muck bar for January, February and March from actual transactions:

	1892.	1893	1894.
Jan. 7	$25.75@$26 00	$24.25@$24.50	$20.50
" 14	26.00	24.25 " 24.50	20.00@$20.80
" 21	26.00	24.25 " 24 40	20.25 " 25.00
" 28	25.75 " 26.00	23.25 " 24.35	20.00 " 20.25
Feb 7	25.50 " 25.65	24.25	19.25 " 20.50
" 14	25.50 " 25.60	24.25 " 24.50	20.00 " 20.25
" 21	25.50	24.25 " 24.35	20.00
" 28	25 50	24 25	20.00
Mar. 7	25.25 " 25.50	24.25 " 24.50	19.25 " 20.00
" 14	25.00 " 25.50	24.25	19 50 " 20.00
" 21	25.40 " 25 50	24.25 " 24.50	19.25 " 19 80
" 28	25.25 " 25.50	24.25	19.50 " 19.60
" 31	25.15 " 25.25	24 25 " 24.50	19.25 " 19.50

Coke Smelted Lake and Native Ore.

Tons. Cash.
10,000 Bessemer, April, May, June $10.45
10,000 Bessemer, at Valley from April, May, June 9.80
4,000 Bessemer, April, May, June 10.45
3,500 Bessemer, April, May, June 10.50
3,000 Bessemer, April, May 10.45
2,500 Bessemer, April, May 10.60
2,000 Bessemer, April, May 10.45
1,000 Bessemer City Furnace 10.50
1,000 Mill City Furnace 9.50
500 Mill City Furnace 9.60
500 Bessemer City Furnace 10.50
300 Gray Forge 9.50
250 Gray Forge 9 60
200 No. 1 Foundry 11.75
200 No. 2 Foundry 10.75
50 No. 1 Silvery 14 50
50 No. 2 Silvery 13 50

Charcoal.

100 Cold Blast 24.00
50 Warm Blast 18.00
50 No. 2 Warm Blast. 17.00
50 Extra Foundry 28.00
50 Cold Blast 25.60
25 No. 2 Foundry 17.00

Blooms, Billets and Slabs.

3,500 Billets, and slabs, April, May, June at mill 15.90
3,000 Billets, April, May, June at mill 16.00
3,000 Billets, and slabs, April, May, June at mill 15.85
2,000 Billets, April, May, at mill 15.75
1,500 Billets, April, May, at mill 15.75
1,000 Billets and slabs, April, at mill 16.00

Skelp Iron.

500 Sheared ..... 1.35 4 m.
400 Nar. gr'ved ..... 1.20 4 m.
300 Wide gr'ved ..... 1.20 4 m.

Skelp Steel.

1,500 Sheared ..... 1.10 4 m.
1,000 Wide grooved ..... 1.00 4 m.
750 Narrow gr'ved 1.00 4 m.

Muck Bar.

200 Neutral, delivered 19 70
200 Neutral 19.50
75 Neutral 19.00

Blooms, Billets, Bar Ends.

500 Blooms and Billet ends 10.40

Ferro-Manganese.

150 80% delivered 52.00

Steel Wire Rods.

650 At mill 23.75

Sheet Bars.

360 At mill 21.60

Spelter.

100 Spelter 3.60

Scrap Iron.

500 No. 1 R. R. W. S., gross 10.00
200 No. 1 R. R. W. S., net 10.25
200 Cast Scrap, gross .. 9.00
150 No. 1 wrought, net. 10.00

Old Rails.

500 Iron rails 12.00
300 Mixed Lengths Steel 9.25
200 Iron Rails 12.00
150 Iron Rails 12.75

Cartagena.

(Special Correspondence of Barrington & Holt.)

Current quotations for iron ore may be reported as follows: Ordinary 50% Portman, 5s. 2d.@5s. 8d. per ton; low phosphorus 50% ore, 5s. 8d.@6s. 2d; South Spanish Campanil, 6s. 9d.; No. 1 manganiferous (20% manganese), 12s. 3d.; No. 2 manganiferous (15% manganese), 8s. 3d.; low grade manganiferous, 5s. 9d.@7s. 3d. Manganese ore, guaranteed 35%, is quoted at 10d per unit. Iron pyrites, 40% iron and 45% sulphur, 11s. per ton. All these quotations are f. o. b. at shipping port.

Some improvement is to be noted in the demand for export ores, especially for prompt shipment cargos, though prices are still low. There is some inquiry for the United States, two cargos having been shipped in March.

Ore freights are slightly easier. Some rates paid recently have been Portman to Hiddlesbrough 8s. 9d. per ton; Cartagena to Stockton, 9s.; Cartagena to Rotterdam, 8s. 7½d.; Cartagena to Philadelphia, 8s. 3d. It is to be noted that freights to Philadelphia were slightly below those to European ports.

METAL MARKET.

NEW YORK, Friday Evening, April 13, 1894.

Prices of Silver per Ounce Troy.

April.	St. Ex.	London Pence.	N. Y. Cts.	Value of sil. in $1.	April.	St. Ex.	London Pence.	N. Y. Cts.	Value of sil. in $1
6	4.88⅛	28 3-16	61⅜	.475	10	4 88¼	28⅞	62¾	.485
7	4.88⅛	28¼	61¾	.478	11	4.88⅜	28¾	62⅝	.484
9	4.88⅛	28¼	62¼	.485	12	4.88⅛	28¾	63	.487

The market for silver has been firm on moderate supplies. The outputs of the smelting companies having been placed ahead to a considerable extent the volume of free silver coming forward is limited Some special orders in the market have also contributed to give a firmer tone to the situation.

The United States Assay Office at New York reports the total receipts of silver for the week to be 152 000 ounces.

Gold and Silver Exports and Imports at New York, Week Ending April 7th, 1894, and for Years from January 1st, 1894, 1893, 1892

	Gold.		Silver.		Excess of Ex. or Imp.
	Exports.	Imports.	Exports.	Imports.	
Week	$503,877	$138,852	$629,381	$15,742	E $948,664
1894...	6,695,669	3,372,238	11,321,815	449,638	E 14,197,438
1893...	36,976,175	5,661,419	8,046,786	867,703	E 38,493,839
1892...	12,825,230	5,825,869	7,283,056	356,419	E 13,952,998

The gold exported for the week went to the West Indies; the silver to London. The gold imports included $300,030 from France and England, the balance coming from Havana, with a small amount from other points in the West Indies; the silver was from South America.

During the five days ending April 13th the exports and imports of gold and silver were as follows: Exports, gold, $586,000; silver, $513,793 Imports, gold, $488,591; silver, $14,329. Of the gold exported $132,000 was Spanish coin and went to the West Indies, $134,000 English coin went to London, and $320,000 was American coin and bullion, $50.000 of which went to France, $250,000 to Holland, $15,000 to the West Indies and $5,000 to South America. Of the silver exported $8,860 was Mexican and went to South America, $2,595 was in Brazilian sales and went to South America, and $502,237 was in American bullion. $101,364 of which went to South America and $400,973 to London.

Exports of gold and silver from San Francisco in March were as follows: Gold, $119,491; silver, $714,-632; total, $834,123. Of the gold, $6,682 went to China, 51,500 to Honolula and $61,309 to Central America. Of the silver, $344,072 went to China, $367,600 to Japan, $1,000 to Honolulu and $1,960 to Central America. The gold exports were all in coin; the silver chiefly in bars and Mexican dollars.

NOTES OF THE WEEK.

The general business statement can hardly vary much this week from our last report. The tendency to increase in trade and in manufacturing still continues; in pig iron, as shown elsewhere, a considerable advance is recorded during the past month, and other branches of business are following this, which is at the foundation of constructive work. Prices in nearly all branches still rule low, and no increase can be expected as long as any considerable part of our producing plants are idle or only partially employed.

The continued tariff discussion and the prospect of a long delay in the Senate are serious drawbacks to improvement, and the business community generally resents the maneuvers of the politicians, and is unanimously in favor of prompt action.

Senator Wolcott, of Colorado, has introduced an apparently ill considered resolution instructing the Government to obtain, if possible, the consent of Mexico to the coinage in the United States mints of Mexican dollars for circulation in the East. The resolution is now under discussion. It is not probable, however, that the Mexican Government will consent to the proposed arrangement.

At present rates of exchange there is a small profit in shipping gold and on Thursday, 12th, $1,250,000 were taken for export to Europe, on Friday, 15th, the amount taken for Saturday's steamers was increased to $3,200,000. Of this $1,400,000 came from the Subtreasury in exchange for legal tenders; the balance was taken from the banks. On the same day also $750,000 were taken in Boston for export, making the total gold to be shipped Saturday nearly $4,000,000.

The statement of the United States Treasury on Thursday, April 12th, shows balances in excess of outstanding certificates amounting to $135,411,419, made up as follows: Gold, $105,964,539; silver, $9,397,516; legal tenders, $5,061,230; treasury notes, etc., $15,228,134. The changes during the week were an increase of $405,962 in the total balance, and a decrease of $342,295 in the gold balance.

The advance in silver prices in London last week was followed, as might have been expected, by a reaction, but the advance has still partly been held, and on Thursday the quotations were 29⅛d. per ounce, or 2⅝d. higher than the lowest point reached about the end of March. The causes of the rise and of the continued steadiness are somewhat complex; the anticipation of a continued demand for the East, especially China; the decreasing production, and the anticipation of some action in favor of silver in Germany have all had a place, and the general tendency toward better times and better prices which is beginning to be felt may also have had an influence. There is a growing conviction in financial circles that international action in favor of bimetallism may be taken at an earlier day than was anticipated at the opening of the year. The London "Statist" for the current week—a careful observer and

not over friendly to the white metal—predicts a price ranging from 30 to 33d. for the summer, which may go above 35d. should the Indian Government yield to pressure and reopen the mints to coinage. According to the budget statement the India Council will raise some $40,000,000 by temporary loans in London, partly to repay outstanding loans which will soon fall due and partly to meet anticipated deficiencies, and also expects to draw during the fiscal year Council bills on the Indian treasury for no less than £17,000,000, or about $85,000,000. The present outlook is that no such amount can be taken up in the London market, and the effect of announcement has been already to force down the price of the rupee a fraction, with the prospect of a further fall. Unless there is an increase in Indian exports there can be no rise in exchange price of the rupee, and this will certainly help to prevent further advance in silver prices. Nor can any great increase in exports be looked for under present conditions; the only contingency which is likely to produce such a result is a coincidence of short crops in this country and Europe, which will create a demand for Indian wheat which is not now anticipated.

A London cablegram of 12th inst. says: "A large number of gentlemen, prominent in politics and finance, have promised to take part in the international bimetallic conference to be held in the Mansion House on May 2d. Among those who have signified their intention to attend are the Right Hon. Arthur J. Balfour, the Right Hon. William Lidderdale, formerly Governor of the Bank of England, and Sir David M. Bartour, at one time Secretary to the Indian Government."

Shipments of silver from London to the East up to March 29th are reported by Messrs. Pixley & Abell's circular as follows:

	1893.	1894.		Changes.
India	£2,022,880	£1,908,440	D.	£114,470
China	62,440	661,002	I.	598,562
The Straits	676,940	187,300	D.	489,640
Total	£2,762,260	£2,756,712	D.	£5,548

Shipments for the week this year were considerable, including £109.700 to India, and £10,000 to the Straits; a total of £119,700, against £45,000 for the corresponding week in 1893. The receipts reported for the week were £170,000 from New York, £65,000 from Chili, and £11,000 from the West Indies, a total of £246,000.

The Bank of England on Thursday, April 12th, reported its total gold holdings at £31,218,075, an increase of £5,581,118 as compared with the corresponding date last year. The increase for the week was £320,878.

The Bank of France on Thursday, 12th, reported its special holdings, in sterling, at £68,842,724 gold and £50,789,521 silver; an increase of £2,276,664 gold and a decrease of £239,631 silver, as compared with the corresponding date in 1893. Changes for the week were decreases of £234,000 gold and £113,000 silver.

Domestic and Foreign Coins.

The following are the latest market quotations for the leading foreign coins:

	Bid.	Asked.
Mexican dollars	$.50½	$.52
Peruvian soles and Chilean pesos	.49	.51
Victoria sovereigns	4.87	4.89
Twenty francs	3.90	3.93
Twenty marks	4.75	4.78
Spanish 25 pesetas	4.85	4.90

Other Metals.

All the markets have been very quiet and very little is to be reported this week.

Copper.—Lake is obtainable from first and second hands at 9¼c and electrolytic copper at 9⅛ to 9¼; casting copper can be had at 9c. Consumers are certainly buying in larger quantities, and there are a great many evidences that business is picking up somewhat. The demand for export continues pretty heavy, but sales of copper have been rather difficult of late, as the London market has again given way, and G. M. B. are quoted at £40 7s. 6d. for spot and £40 17s. 6d. for three months.

For refined and manufactured, we quote as follows: English Tough, £42@£43 15s.; best selected, £43@£43 15s.; strong sheets, £49 15s.@£50.; India sheets, £48@£48 5s.; yellow metal, £4¾d.

Messrs. James & Shakspeare's circular gives the imports of copper into Great Britain for March and the three months to March 31st as follows, in tons of 2,240 lbs.:

	March.		Three months.	
	1893.	1894.	1893.	1894.
American	1,312	2,536	6,390	10,665
Chilean	387	1,254	4,250	5,050
Other	4,887	3,396	13,524	8,310
Total	6,586	7,186	24,173	23,935

The total imports for March thus increased 600 tons, or 9·1%, while there was a decrease of 208 tons, or 0·9%, for the three months.

The exports of copper from the port of New York during the week ending April 13th, as reported by the New York Metal Exchange, were as follows:

Bremen—Roland	Bars	20 tons.
Liverpool—Runic	Pigs	200 "
" St. Ronans	Pigs	102 "
Glasgow—Furnessia	Ingots	25 "
Rotterdam—Rotterdam	Plates	50 "
Antwerp—Noordland	Ingots	75 "
Swansea—Boston City	Plates	61 "
" "	Pigs	6 "
" Massasoit	Pigs	105 "
Rotterdam—Amsterdam	Ingots	37 "
"	Plates	250 "
Matte:		
Liverpool—Runic		91 "

Exports of copper from Baltimore for the week ending April 12th are reported by our special correspondents as follows:

April 5.	London—Massapequa	8 casks	4,000 lbs.
" 6.	Roterdam—Urbino	148 cakes	22,771 "
" 7.	Hamburg—Italia	613 "	89.712 "
" "	" "	2,450 ingots	112,086 "

Other metal exports reported are as follows: Rotterdam per "Urbino," 143 bundles tin scrap, 38,610 lbs.; London per "Michigan, 4,722 pigs lead, 438,051 lbs.; London per "Massapequa," 6,102 pigs lead, 560,442 lbs. The lead shipments were from Mexico in transit to London, England.

Tin is very firm, as spot tin is very scarce. We have to quote Straits or Malacca, common brands, at 19¾c., and prime brands of Penang tin at 20@20¼c. Shipments from the East have been rather light lately.

Lead.—Producers are offering hardly anything, and whenever the consumers have to enter the market they are obliged to pay very full prices. We have to quote 3·47½@3 50, with a firm tendency. Spanish lead is quoted in London at £9 5s.@£9 6s.3d., and England 2s. 6d. higher.

Our Cartagena correspondent reports under date of April 1st: Liquidations in this Sierra have been made at 44 5 reals per quintal of lead, and the silver has been paid at 13.75 reals per oz. Latest quotations for Cartagena lead, London deliveries, are: Soft lead, £9 3s. 9d.; argentiferous, £9 8s. 9d.

St. Louis Lead Market.—The John Wahl Commission Company telegraph us as follows: Lead strong, and the tendency is once more in the ascendant. Latest sales were made at 3·22½c. @ 3·25c., while offerings are exceedingly light.

Spelter.—Rather lower quotations have been established, as there has been a great desire from the West to sell, and the markets have been rather irregular. We have to quote 3·55@3·60.

The foreign market has shown a declining tendency and good ordinaries are quoted at £15 7s. 6d., and specials at £15 10s.

Antimony.—The market is dull and the quotations last reported still rule—10@10¼c. for Cookson's, 9¼@9½c. for L. X., 8¾@8¾c. for Hallett's, and 10c. for U. S. French Star.

Quicksilver.—Quotations are: New York, $33; London, £5 7s. 6d.

Aluminum.—The makers quote No. 1, over 98% pure, 65c. per lb. for large lots, 75c. for small quantities: No. 2, from 94% to 96% pure, 60c. for large quantities, 73 for small lots. Wire from $1.25 to $2.58 per lb. according to size. Plates and sheets, 90c.@$1.50, according to width and thickness. The Neuhausen Company quotes $1 per kilo. (45c. per lb.) at the works at Neuhausen, in Switzerland.

Magnesium.—The Aluminum und Magnesium Fabrik, Hemelingen, Germany, quotes prices as follows: Ingots and cubes, $6.48 per kilogram; bars, $6.24; powder, $8.64, ribbon and wire, $9.12 per kilo. These prices are at the works and for orders of over 10 kilos.; for less than 10 kilos. 24c. per kilo. must be added for ingots and bars, and 48c. for powder or wire.

Nickel.—Quotations are 45@55c. per lb., according to grade.

Platinum.—Messrs. Eimer & Amend, New York, quote platinum crucibles and dishes, hammered ware, French make, at 45c. per gram for smaller quantities, 43c. per gram for lots of not less than 100 grams, and 41c. for lots of not less than 250 grams. Wire and foil at 42c., 41c. and 40c. respectively for the qualities named. Current retail price for crucibles is 50c. per gram.

Sodium.—Prices as quoted by the manufacturers in Germany and England are 90c.@$1 per lb. at works.

CHEMICALS AND MINERALS.

NEW YORK, Friday Evening, April 13.

Heavy Chemicals.—In every particular the heavy chemical market remains without change from last week. Caustic soda continues in fair demand for spot and nearby delivery. There is a slightly better feeling in carbonated soda ash, but this chemical as well as alkali are still quiet and in light demand. For bleaching powder a fairly good demand is reported due to an increased consumption. Spot prices for the various articles on the last are practically unchanged from last week. We quote: Caustic soda, 60%, 2·82½@2·97½c.; 70%, 2·60@2·70c.; 74%, 2·62½@2·72½c.; 76%, 2·70@2·80c. Carbonated soda ash, 48%, 1·05@1·25c.; 58%, 1 05@1·15c. Alkali, 48%, 1·05@1·15c.; 58%, 1@1·10c.; according to package. Sal soda, English, ·95@1c.; American, ·80@·90c. Bleaching powder, 2·05@2·50c.

Acids.—The acid market does not show any new features. It continues, with only the usual jobbing demand reported. Prices remain unchanged and we quote: Acids, per 100 lbs. in New York and vicinity, in lots of 50 carboys or more: Acetic, in barrels, $1.62½@$1 75; muriatic, 18°, 80c.@$1; 20°, 90c.@$1.10; 22°, $1@$1.25; nitric, 40°, $4; 42°, $4.50@$4.75; sulphuric, 75c.@$1. Mixed acids according to mixture, oxalic, $6.75@$7.25. Blue vitriol is quoted all the way from $3.37½ to $3 75; glycerine for nitro-glycerine, 11½@12½c., according to quality and quantity.

Brimstone.—There is nothing of interest to report of the brimstone market. It continues very dull. Quotations are as follows: Best unmixed seconds, on the spot, $17.50; shipments, $16.75. Best thirds are $1 less.

Fertilizing Chemicals.—The fertilizing is practically in the same condition as it was reported in our last week's review of the trade. There is a fair demand for raw materials from manufacturers, and while the orders individually are small they aggregate a good volume of business. Prices show no change of consequence since last report. We quote this week sulphate of ammonia $3.65@$3.67½ for gas liquor and $3.55@ $3.60 for bone. Dried blood, $2.40@$2.45 per unit for high grade and $2.25@$2.30 for low grade. Azotine, $2.35@$2.40. Concentrated phosphate (30% available phosphoric acid), 75c. per unit. Acid phosphate, 13% to 15%, av. P_2O_5, 60c. per unit at seller's works in bulk. Dissolved boneblack, 17% to 18% P_2O_5, 95c. per unit. Acidulated fish scrap, $15@$16, and dried scrap nominally $25 f. o. b. fish factory; wet scrap $15 f. o. b. fish factory. Tankage, high grade, $22 50 @$23; low grade, $21@$21.50. Bone tankage, $23@ $24; bone meal, $24@$25 50.

In lots of 50 tons on contracts we quote: Double manure salts, 48 53% (basis of 48%): New York and Boston, $1.12; Philadelphia, $1.14½; Charleston, Savannah, Wilmington, N. C., and New Orleans, $1.17. High grade manure salts, 90·95% and 96·99% (basis 90%), respectively: New York and Boston, $2.07@$2.11; Philadelphia, $2.09½@$2.13½. Charleston, Savannah, Wilmington, N. C., and New Orleans, $2.12@$2.16.

Phosphates.—Charleston, S. C., quotations are: Acid phosphate 13% available, $6.50@$7 cash in bulk. High grade phosphate rock is $4.75@$5 f. o. b. vessel and cars at mines. Land phosphate rock $4.75 f. o. b. cars or vessels at mines. Shipments faom Charleston so 8ar this month are in excess of last month.

Muriate of Potash.—Arrivals this week aggregate only 50 tons, all of which went into immediate consumption. Stocks are light here. In lots of 50 tons, quotations are as follows: 80·85% and minimum 95% basis 80%), respectively: New York and Boston, $1.78 @$1.91; Philadelphia, $1.80½@$1.83½; Charleston, Savannah, Wilmington, N. C., and New Orleans, $1.83½@$1.86.

Kainit.—Prices for kainit (minimum 23%) in cargo lots for 1894 delivery are as follows for invoice and actual weights respectively: New York, Boston and Philadelphia, $9@$9.25; Charleston, Savannah, Wilmington, N. C., and New Orleans, $9.75@$10. For sylvinit, 27 35%, prices are as follows per cent. per gross ton, invoice weights: New York, Boston and Philadelphia, 37½c.; Charleston, Savannah, Wilmington, N. C., and New Orleans, 41c. Actual weights, 1c more per cent.

Nitrate of Soda.—This market continues strong and high. There is quite a demand for nitrate and stocks are light. We quote this week: Spot or nearby arrivals, $2.20@$2.25; summer arrivals, $2.15; summer shipments, $1.90.

The well-known nitrate brokers of this city, Messrs. Mortimer & Wisner, send us the following interesting statistics, issued on April 2d:

	1894.	1893.	1892.
	Bags.	Bags.	Bags.
Imported into A. ports from West Coast S. A., Jan. 1, 1894, to date	120,001	128,434	161,465
Imported into Atlantic ports from Europe		5,225	
	120,001	133,659	161,465
Stock in store and afloat April 2, 1894, New York	25,805	16,040	67,333
Boston	900		
Philadelphia			
Baltimore	2,000	1,000	5,600
To arrive, actually sailed	183,500	250,000	254,000
Vis. supply to July 15, 1894	212,205	267,040	326,333
Stock on hand, Jan. 1, 1894	44,938	15,454	53,585
Deliveries past month	34,199	57,335	72,333
Deliveries since Jan. 1st to date	136,234	133 073	142,717
Total yearly deliveries		754,560	685,158
Prices current, Mar. 1, '94	2.12½@2.15	2¼	1⅞c.

Included in the deliveries of 1893 are 9,500 bags shipped to European ports.

Liverpool. April 4.

(Special Correspondence of Joseph P. Brunner & Co.)

Although the Board of Trade returns show that the trade of the country has improved, the improvement has not yet extended to heavy chemicals, market for which remains dull and somewhat stagnant.

Soda ash is quiet and for Leblanc makes quotations are quite nominal, varying according to make and market, the nearest spot range being about as follows: Caustic ash, 48%, £3 15s.@£4 per ton; 57 to 58%, £4 10s.@£4 15s. per ton; carb. ash, 48%, £3 5s.@£3 15s. per ton; 58%, £3 15s.@£4 per ton, net cash.

Ammonia Ash, 58%.—The Alkali Company has advanced the price to £3 15s. per ton net cash for

tierces, but there are still sellers at 5s. under this figure, and there is a fair business doing at the lower price. Soda crystals are rather lifeless at £2 15s.@£2 17s. 6d. per ton, less 5%.

Caustic Soda is weak, makers finding it difficult to make headway with sales. Quotations vary considerably according to export market and nominal spot range is about as follows: 60%, £7 15s. @ £8 10s. per ton; 70%, £8 15s. @ £9 10s. per ton; 74%, £9 15s. @ £10, 10s. per ton; 76%, £10 15s. @ £11 0s. per ton, net cash. For parcels under 10 tons, 5s. per ton extra is charged. Bleaching powder is in request and "Union" quotations vary according to export market from £7, 10s. to £8 5s. per ton, net cash, for hardwood packages. There are no outside makes offering at the moment available for the American market and orders have had to be returned unfilled. Chlorate of potash receives no attention and some holders, of resale parcels being anxious to realize, are offering as low as 7⅛ @ 7¼d., for prompt delivery, although 7⅛d. is supposed to be the nominal spot price.

Bicarb. soda is without change and selling at £6 15s. per ton, less 2½%, per cwt. kegs, with usual allowances for larger packages. Sulphate of ammonia has declined, and is dull at £13 7s. 6d@£14 2s. 6d. per ton, less 2½% for good gray, 24@25% in double bags, f. o. b. here. Nitrate of soda is in a strong position, and in good demand on a reported corner in Hamburg, £10 10s. per ton, less 2½%, being lowest price to-day for double bags, f. o. b. here. Carb. ammonia.—Lump, 3¾d. per lb.; powdered, 4d. per lb., less 2½%.

MINING STOCKS.

[For complete quotations of shares listed in New York, Boston, San Francisco, Aspen, Colo.; Baltimore, Pittsburg, St. Louis, London and Paris, see pages 358 and 359.]

NEW YORK, Friday Evening, April 13.

It is the old story of dullness in the mining stock market. There has been, perhaps, a slightly better demand for a few mining stocks during the week under review than we have been able to report for a month or two, but trading in these securities just now, as it has been for a year or two back, is a pursuit which is "stale, flat and unprofitable."

While it is admitted that the market will never witness the great activity of its palmy period it would seem not altogether unreasonable that a better business will be done some day or other. It is this hope which has preserved from total extinction, that once popular and abundant species—the mining broker.

Of late we have heard numerous complaints from the stalwart group known as "the mining crowd" at the Consolidated Stock and Petroleum Exchange. All the mining brokers—they are but few, nowadays—grumble at the dull times and lament the lack of interest shown by the public in what once was a favorite pursuit. They ascribe to various causes the present dullness, but we have yet to learn that any one has suggested a remedy for it or a means of bringing about a reasonable improvement in their business. The Exchange boasts of a Committee on Mining Securities, but it might as well not have any, for all the work it does. It appears, therefore, that although three or four of the "old-timers" still meet every day and buy or sell a few hundred shares, the mining stock market has been given up as a hopeless case by the majority.

It is safe to say that not more than 15% of the mining securities listed on the Consolidated Exchange are traded in, and yet the entire lot is still kept on the list and their names are called three times per day and two or three—and sometimes as many as four—brokers stand about the rostrum listening conscientiously to the sonorous and commanding voice of the chairman, who automatically reads the long list to the bitter end. Everybody knows that two-thirds of the stocks listed are worthless and that the remaining third will bear some pruning down, and yet we are some times accused of "bearing" the market because we contend that the New York mining stock market is practically dead and that the future has but little promise of a revival. If the brokers themselves sit idly bewailing the fact that times are not what they used to be, and carefully abstain from doing anything to bring the old business back to the Exchange, it is not to be expected that the public of its own free will and accord will rush to the rescue. We do not believe that the public, whose fleeces were often shorn in the old idyllic times, will turn out in overpowering numbers simply to reward the patience of a few men, who for some years past have been expecting a "boom" in mining securities which has failed to come. And, after all, perhaps it is just as well that it has not come, if legitimate mining would suffer as it always has to a greater or lesser extent after a period of speculation in mining stocks.

The following mining companies report having had money on hand March 31st: Alpha Con., $11,163.81; Alta, $5,859.77; Belcher, $446.38; Best & Belcher, $7,453 16; Caledonia, $6,922.31; Challenge Con., $480.49; Chollar $3,972.90; Con, Imperial, $443.23; Confidence, $5,780.86; Crown Point, $7,139.91; Con. California and Virginia, $8,511.85; Con. New York, $2 276.26; Exchequer, $2,276.26: East Sierra Nevada, $412.82; Gould & Curry, $9,000; Hale & Norcross, $9,000.91: Julia Con., $1,306 50; Justice, $865.40; Kentuck Con., $2,691.71; Lady Washington, $383.14; Mexican, $14,600.99; Ophir, $10,328 85; Occidental Con., $756; Overman, $62.55; Potosi, $1,541.06; Savage, $127.33; Seg. Belcher, $3,878.02; Sierra Nevada, $21,068.23; Utah, $1,548.23, Union, $10,333.68. The Andes reports an indebtednes of $227.19.

Eureka Consolidated, which had not been traded in for a long time past, this week shows sales of 380 shares at 20@40c.

No Tuscarora stock was sold this week. The financial statements of Tuscarora mining companies filed on the 2d inst. are as follows: Cash on hand, Navajo, $1,511; Nevada Queen, $1,771. Indebtedness: Belle Isle, $163; Commonwealth, $21,729; North Commonwealth, $1,239.

Of the Bodie stocks, Standard Consolidated was the most active; there was quite a demand for it and 1,400 shares were sold at $1.50@$1.60. The financial statements of Bodie companies on March 31st show: Cash on hand, Bodie Consolidated, $2,972; Bulwer Consolidated, $2,881; Mono, $2,910; Standard Consolidated, $35,981; Syndicate, $1,026.

Colorado stocks were quiet this week. Lacrosse was stationary at 5c.; total sales, 1,000 shares. Of Leadville Consolidated only 200 shares were sold at 11c.

Phœnix of Arizona was in demand this week; the official lists of the Consolidated Stock and Petroleum Exchange report total sales of 3,000 shares at 12@16c. There seems to have been some quiet buying of this stock of late. Some interesting developments may soon follow this movement.

In our mining news columns will be found the latest news from the Horn Silver Mining Company of Utah. Mr. A. C. Washington, president of this company, left this morning for Chicago, Ill., where he will meet Mr. P. T. Farnsworth, the general manager. The concentrating plant which was burned down last week will be rebuilt at once. It is possible that the new plant will be of a greater capacity than the one recently destroyed. The stock was not publicly traded in during the week.

Boston. April 12.

(From our Special Correspondent.)

The week opened with a lively market for copper stocks and it looked as if a veritable boom was right at hand, the speculation running mostly in the Montana stocks, which were in good demand and prices were run up quite sharply, Boston & Montana touching $29 on sales of about 4,000 shares, while Butte & Boston spurted up to $11½, both followed by reaction to $28¼ and $11 respectively. The movement seems to have spent its force in later dealings, the volume of transactions falling off quite materially the past two days.

The balance of the market was without any special feature, although considerable strength was developed in the leading lake stocks, while Quincy rights were extensively dealt in, with less selling than last week. Calumet & Hecla advanced to $302, a gain of $2 for the week, while Tamarack has been quiet at $170, same as last week.

Quincy advanced from $82 to $88 on small sales. The rights declined to $20¾, closing at $22. Osceola advanced from $25¾ to $26¾, losing the advance in later dealings. There was a little disposition to buy Kearsarge, which carried the price up to $8 on moderate sales. Centennial was quiet at $3⅛, $3¼ lower than last week. Small sales of Franklin were quoted at $9¾.

Atlantic declined from $10½ to $10, and Wolverine advanced from $2⅛ to $2⅛.

A sale of Bonanza Development is noted at 25c., the first quotation for many months.

3 p. m.—The market closed dull without material change in prices.

San Francisco. April 6.

(From our Special Correspondent.)

The mining stock market at the close of the month made a better showing, so far as the total value of business is concerned, than might have been anticipated. During the last week of March the total sales amounted to 65,105 shares, an increase of about 80% above the total sales during the first week of the month. The following statement shows the total sales made so far during the current year as compared with the same period of time in the previous year:

	1894.	1893.
January	240,410	265,760
February	224,750	203,245
March	264,890	240,730
Total	730,050	709,735

The reduction by the directors of the St. Francisco Stock Exchange Board in the limit for buying from 5c. to 1c. had the effect of stimulating trade very materially. The opposition of a bear clique who were opposed to the new rule also had a tendency to make the market active, but nothing has resulted from opposition except the temporary spurt of the market, which has since settled back into a somewhat monotonous alternation of up and down.

During the current week values have been better sustained, and without the market giving evidences of any particular strength. A fairly strong tone has dominated it. No news of importance has been received from the mines, but all the same it is known that the situation on the Comstock is such that an active market could be made at any time. Consolidated California & Virginia that ruled last week at $2.50 has been fairly active at $2.65. Ophir, that also sold for $2.20, advanced, until to-day the ruling rate was $2.95. The rise in this and other stocks gave a margin of profit for those small dealers who are content with small returns, and they rushed to sell. Mexican, that sold a week ago for $1.20, went this morning at $1.65, and Sierra Nevada at $1.20.

The middle groups of Comstocks have shared in the advancement of prices. Best & Belcher rose from $1.15. until to-day it sold for $1.60; Chollar from 20 to 38c.; Gould & Curry from 50 to 80c.; Hale & Norcross from 45 to 65c.; Potosi from 65 to 89c., and Savage from 26 to 70c.

The Gold Hill stocks were lower to-day than they have been during the week, but still showed a marked advanced on the ruling rates of last week. Belcher has continued to be in demand at 80c., an advance of 21c. Bullion sold for 39c.; Alta for 23c.; Challenge for 48c.; Confidence for $1.50; Crown Point for 63c.; Exchanges for 5c; Occidental for 14c.; Justice for 15c.; Overman for 15c., and Yellow Jacket for 70c.

Before the close, in informal session, prices shaded off from one to three points in the leading stocks, but the market showed no signs of weakness.

SAN FRANCISCO, April 13 (*By Telegraph*).—The opening quotations to-day are as follows: Best & Belcher, $1.55; Bodie, 48c.; Bulwer, 11c.; Chollar 35c.; Consolidated California & Virginia, $3.15 Eureka Consolidated, 20c.; Gould & Curry, 75c. Hale & Norcross, 62c.; Mexican, $1.55; Mono, 10c. Navajo, 10c.; Ophir, $3 30; Savage, 66c.; Sierra Nevada, $1.10; Union Consolidated, 85c.; Yellow Jacket, 63c.

London. April 4, 1894.

(From our London Representative.)

The mining stock market has been quite lively during the past week, and everybody feels confident that the bad times are at an end. The publication of the government revenue returns have made everybody light hearted, and the increase on the revenue of the country and the corresponding increase in the pending power of the people has given a great fillip to business and speculation generally. The partial recovery of silver from its recent paralytic stroke has also tended to strengthen the weaker part of the market. There has been a revival in speculation in low priced shares, such as Holcomb Valley, Idaho, which have changed hands at 1s. and 1s. 1½d. respectively. De Lamars have suffered a good deal by the presence of a large seller, and the price is somewhat unsteady, being quite 3s. lower than a month ago. Harqua Halas have suffered a relapse of 3s.; rumors have been sent round that there is something wrong with the prospects of this mine, and the price on the exchange has been hammered down, but this is entirely due to a party who have sold and who desire to buy back at a cheaper price. Poorman Consolidated have further strengthened, and now stand at 7s., as the new mill is to start workduring the first half of April. (The reader is refered to editorial note on another page.) Among those stocks which have improved with the strengthening of silver are Elkhorns, which now stand at 11s. 6d., but Montanas, Gustons and Jay Hawks do not show any very great strength.

DIVIDENDS.

Bald Butte Mining Company paid dividend. No. 24 of 5% ($12,500) April 2d, at the office of the company, in Helena, Mont.

Central Railroad of New Jersey, dividend of 1¾% payable May 1st. The transfer books close April 16th and reopen May 12th.

Elkton Mining Company, dividend No. 4 of 1 cent per share ($6,000), payable April 15th, at the office of the company in Colorado Springs, Colo.

F. E. Belden Mica Mining Company, dividend of 5 cents per share, $5,000, payable April 16th, at the office of the company in Boston; Mass., to stockholders of record April 14th.

MEETINGS.

Colorado Mining Stock Exchange, at the Exchange Rooms in the Mining Exchange Building, Denver, Colo., April 28th, at 11 a. m.

Deer Creek Mining Company, at the office of the company, No. 26 Montgomery street, San Francisco, Cal., April 19th, at 2 p. m.

Extension Gold Mining and Milling Company, at the office of the company, room 605 Ernest & Cranmer Building, Denver, Colo, April 30th, at 3 p. m.

Mammoth Mining Company, an adjourned meeting at the offices of the company, 163 South East Temple street, Salt Lake City, Utah, April 24, at 2 p. m.

Norfolk & Western Railroad Company, at the office of the company, at Roanoke, Va., May 2d, at 10 a. m.

Polaris Mining and Milling Company, at the office of the company in New York City, April 18th, at 3 p. m.

Queen of the Hills Mining Company, at its offices Room 14 Commerce Building, Salt Lake City, Utah, April 17, at 2 p. m.

Red Bird Gold Mining Company, at the office of the company, No. 625 Mining Exchange Building, Denver, Colo., April 16th, at 2 p. m.

Russell Reduction and Mining Company, at the office of the company, No. 33 Geary street, San Francisco, Cal., April 23, at 10 a. m.

Santa Juliana Mining Company, at the office of the company, No. 58 William street, New York City, April 25th, at 12 o'clock noon.

Virginia Consolidated Mining Company, at the office of the company, room 3, No. 26 O'Farrel street, San Francisco, Cal., April 16th, at 3 p. m.

NEW YORK MINING STOCK QUOTATIONS.

DIVIDEND-PAYING MINES.

NAME AND LOCATION OF COMPANY.	April 7.		April 9.		April 10.		April 11.		April 12.		April 13.		SALES.
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Belcher, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Belle Isle, Nev	....	....	....	....	....	....	....	....	....	....	....	....	....
Bodie Cons., Cal.	....	....	....	....	....	....	....	....	....	....	.50	....	200
Bulwer, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Chrysolite, Colo.	....	....	....	....	....	....	....	....	....	....	....	....	....
Comstock T. bonds, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
" scrip., Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Cons. Cal. & Va Nev.	2.90	....	2.85	....	3.00	....	3.30	....	3.25	....	3.50	....	550
Crown Point, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Deadwood, Dak.	....	....	....	....	....	....	....	....	....	....	....	....	....
Eureka Cons., Nev.	....	....	....	....	....	.40	....	.20	....	....	....	....	380
Father de Smet, Dak.	....	....	....	....	....	....	....	....	....	....	....	....	....
Gould & Curry, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Hale & Norcross, Nev.	....	....	....	....	.70	....	....	....	....	....	....	....	100
Homestake, Dak.	....	....	....	....	....	....	....	....	....	....	....	....	....
Horn Silver, Utah.	....	....	....	....	....	....	....	....	....	....	....	....	....
Kentuck, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Leadville Cons., Colo.	....	....	.11	....	....	....	....	....	....	....	....	....	200
Little Chief, Colo.	....	....	....	....	....	....	....	....	....	....	....	....	....
Moulton, Mont	....	....	....	....	....	....	....	....	....	....	....	....	....
Mt. Diablo, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Navajo, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
N. Belle Isle, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Ontario, Utah.	....	....	....	....	....	....	....	....	....	....	....	....	....
Ophir, Nev.	2.85	....	....	....	....	....	....	....	3.50	....	....	....	300
Plymouth, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Quicksilver, Pref., Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
" Com., Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Savage, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Sierra Nevada, Nev.	....	....	....	....	1.10	....	....	....	....	....	....	....	100
Silver King, Ariz.	....	....	....	....	....	....	....	....	....	....	....	....	....
Standard Cons., Cal.	1.55	....	1.60	1.50	1.60	1.55	....	....	....	....	....	....	1,400
Yellow Jacket, Nev.	....	....	....	....	.70	....	....	....	....	....	....	....	100

NON-DIVIDEND-PAYING MINES.

NAME AND LOCATION OF COMPANY.	Apr 7.		April 9.		April 10.		April 11.		April 12.		April 13.		SALES.
	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Am. Flag	....	....	....	....	....	....	....	....	....	....	....	....	....
Alpha.	....	....	....	....	....	....	....	....	....	....	....	....	....
Andes.	....	....	....	....	....	....	....	....	....	....	....	....	....
Barcelona, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Belmont, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Best & Belcher, Nev.	....	....	1.55	....	....	....	....	....	....	....	1.80	....	200
Brunswick, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Castle Creek	....	....	....	....	....	....	....	....	....	....	....	....	....
Chollar, Nev.	....	....	....	....	....	....	....	....	....	....	....	.40	100
Comstock T., Nev.	.07	....	....	....	....	....	....	....	.07	....	....	.07	2,600
Con. Imperial, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
El Cristo, Rep. of Col.	....	....	....	....	....	....	....	....	....	....	....	....	....
Exchequer, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Independence, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Julia, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Justice, Nev	....	....	....	....	....	....	....	....	....	....	....	....	....
King & Pembroke	....	....	....	....	....	....	....	....	....	....	....	....	....
Lacrosse, Colo.	.05	....	.05	....	....	....	....	....	....	....	....	....	1,000
Mexican, Nev.	1.65	....	1.45	....	....	....	....	....	1.70	....	....	1.65	400
Middle Bar, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Minnesota Iron.	....	....	....	....	....	....	....	....	....	....	....	....	....
Nevada Queen, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
N. Standard, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
N. Commonwealth, Nev	....	....	....	....	....	....	....	....	....	....	....	....	....
Overman, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Oriental & Miller, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Phœnix of Ariz.	....	....	....	....	.12	....	....	....	....	....	....	.16	.15	3,000
Potosi, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Scorpion, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Seg. Belcher, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Union Cons., Nev.	....	....	....	....	....	....	....	....	....	....	1 00	....	....	100
Utah, Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....

*Ex-dividend. †Dealt in at New York Stock Ex. Unlisted securities. ‡Assessment paid. §Assessment unpaid. Dividend shares sold 3,333. Non-dividend shares sold, 7,400.
Total shares sold, 10,730.

BOSTON MINING STOCK QUOTATIONS.

NAME OF COMPANY.	April 6.		April 7.		April 9.		April 10.		April 11.		April 12.		SALES.
Atlantic, Mich.	10.50	10 25	....	....	10 25	10.00	10.00	....	10.00	....	....	....	370
Breece, Colo	....	....	....	....	....	....	....	....	....	....	....	....	....
Bost. & Mont., Mont.	29.00	28.25	29 00	28.75	29.00	28.50	29 00	28.00	28.50	28 38	28.63	28 25	4,535
Bonanza Development	....	....	....	....	....	....	.25	....	....	....	....	....	100
Calumet & Hecla, Mich.	....	....	300	....	300	....	300	....	302	300	302	....	61
Central, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Cœur d'Alene, Id.	....	....	....	....	....	....	....	....	....	....	....	....	....
Franklin, Mich.	9.75	....	....	....	9.75	....	....	....	....	....	....	....	25
Honorine, Utah.	....	....	....	....	....	....	....	....	....	....	....	....	....
Horn Silver, Utah.	....	....	....	....	....	....	....	....	....	....	....	....	....
Kearsarge, Mich.	7.00	....	....	....	8 50	7 50	....	....	7.94	....	....	....	225
Lake Superior, Iron.	....	....	....	....	....	....	....	....	....	....	....	....	....
Minnesota Iron, Minn.	....	....	....	....	....	....	....	....	....	....	....	....	....
Napa, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Ontario, Utah.	....	....	....	....	....	....	....	....	....	....	....	....	....
Osceola, Mich.	26 75	26.25	....	....	25.75	....	....	....	....	....	....	....	174
Quincy, Mich.	82.00	....	....	....	....	....	88.00	85.00	88.00	....	83 00	....	64
Quincy Mining Rights.	23.00	21.00	23 00	22 00	23.0	22 00	23.00	21.00	21 00	20 75	22 00	21.50	3,087
Silver King, Ariz.	....	....	....	....	....	....	....	....	....	....	....	....	....
Tamarack, Mich.	....	....	....	....	170	168	....	....	....	....	170	....	71
Tecumseh, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....

NAME OF COMPANY.	April 6.		April 7.		April 9.		April 10.		April 11.		April 12.		SALES.
Allouez, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Arnold, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Aztec, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Brunswick, Cal.	....	....	....	....	....	....	....	....	....	....	....	....	....
Butte & Boston, Mont.	11.25	10 88	11.13	10 88	11.50	11.00	11.50	11.13	11 13	11.00	11.00	....	8,964
Centennial, Mich.	....	....	3.50	....	3 50	....	3.75	....	3.50	....	....	....	160
Colchis, N. Mex.	....	....	....	....	....	....	....	....	....	....	....	....	....
Copper Falls, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Hanover, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Humboldt, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Huron, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Mesnard, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
National, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Native, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Oriental & M., Nev.	....	....	....	....	....	....	....	....	....	....	....	....	....
Phœnix, Ariz	....	....	....	....	....	....	....	....	....	....	....	....	....
Pontiac, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Tamarack, Jr., Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Washington, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....
Wolverine, Mich.	....	....	....	....	....	....	....	....	....	....	2.50	....	....	50

Dividend shares sold, 8,742 Non-dividend shares sold, 9,174. Total shares sold, 17,916.

CURRENT PRICES.

These quotations are for wholesale lots in New York unless otherwise specified.

Acid—Acetic, chem. pure .17@.19
Commercial, in bbls. and cbys. .01¾@.02
Carbonic, liquefied, ℔ lb. .18@.25
Chromic, chem. pure, ℔ lb 1.00
for batteries .40
Hydrobromic, dilute, U. S. P. .25@.30
Hydrocyanic, U. S. P. .45@.50
Hydrofluoric .20@.30
Alcohol—95%, ℔ gall $2.30@$2.40
Absolute $3.80
Ammoniated $2.80
Alum—Lump, ℔ cwt. $1.75@$1.85
Ground, ℔ cwt. $1.85@$1.90
Powdered, ℔ lb. .04½@.05
Lump ℔ ton, Liverpool £5
Aluminum Chloride—Pure, ℔ lb. $1.25
Amalgamating solution, ℔ lb. .60
Sulphate, ℔ cwt. $1.90@$2.50
Ammonia—Sal., in bbl. lots, ℔ lb. .07½@.08
Carbonate, ℔ lb., English and German, .07½@.08
Muriate, white, in bbls., ℔ lb. .08¼
Aqua Ammonia—(in cbys) 18° ℔ lb. .03@.04
20°, ℔ lb. .04@.05
26°, ℔ lb. .04¾@.05
Antimony—Oxymur, ℔ lb. .04@.06
Regulus, ℔ lb. .10@.11¼
Argols—Red, powdered, ℔ lb. .15
Arsenic—White, powdered ℔ lb. .03@.03¼
Red ℔ lb. .065@.07
Yellow .08@.09
White at Plymouth, ℔ ton £12 2 6
Asbestos—Canadian, ℔ ton $50@$300
Italian, ℔ ton, c. i. f. L'pool £18@£60
Ashes—Pot, 1st sorts, ℔ lb. 4.75@5
Pearl .05¾@.06¼
Asphaltum—
Prime Cuban, ℔ lb. .04@.05
Hard Cuban, ℔ ton $28.00@$30.00
Trinidad, refined, ℔ ton $30.00@$35.00
Egyptian and Syrian, ℔ lb. .05@.07¼
Californian, at mine, ℔ ton $12.00@$26.00
at San Francisco, ℔ ton $15.00@$20.00
Barium—Carbonate, pure, ℔ lb. .45
Carbonate, commercial, ℔ lb. .05@.10
Chlorate, crystal, ℔ lb. .75
Chloride, commercial, ℔ lb. .05@.10
pure, ℔ lb. .16
Iodide, ℔ oz. .40
Nitrate, ℔ lb. .06½@.07
Sulph., Am. prime white, ℔ ton $17.50@$19
Sulph., foreign, floated, ℔ ton $21@$24
Sulph., off color, ℔ ton $11.50@$15.00
Carb., lump, f. o. b. L'pool, ℔ ton £6
No. 1, Casks, Runcorn, " " £4 10 0
No. 2, bags, Runcorn, " " £3 15 0
Bauxite—℔ ton $10.00
Bichromate of Potash—Scotch, ℔ lb. .11@.12
American, ℔ lb. .11@.12
Bichromate of Soda—℔ lb. .09¼@.10
Borax—Refined, ℔ lb., in car lots .08@.09
San Francisco .08@.05¼
Concentrated, in car lots .07½@.08
Refined, Liverpool ℔ ton £2
Bromine—℔ lb. .25@.35
Cadmium Minion—℔ lb. $2.00
Cadmium Iodide—℔ lb. $5.50
Chalk—℔ ton $1.50@$2.25
Precipitated, ℔ lb. .04@.06
China Clay—English, ℔ ton $13@$18.00
Domestic, ℔ ton $9@$11
Chlorine Water—℔ lb. .10
Chrome Yellow—℔ lb. .10@.25
Chrome Iron Ore—℔ ton, San Francisco $10.00
Chromalum—Pure, ℔ lb. .35@.40
Commercial, ℔ lb. .02½
Cobalt—Oxide, ℔ lb. $1.60@$1.70
Copper—Sulph. English Wks. ton £20@£21
Vitriol (blue), ordinary, ℔ lb. .03¼@.03¾
" extra .04½
Nitrate, ℔ lb. .40
Copperas—Common, ℔ 100 lbs. .85@.95
Best, ℔ 100 lbs. $1.35@$1.50
Liverpool, ℔ ton, in casks £2@£2 10s.
Corundum—Powdered, ℔ lb. .04½@.09
Flour, ℔ lb. .03
Cryolite—Pow., ℔ lb., bbl. lots .07@.08
Emery—Grain, ℔ lb. (℔ kg.) .04½@.05
Flour, ℔ lb. .02¾@.04
Epsom Salt—℔ lb. .01@.01½
Feldspar—Ground, ℔ ton $6.00@$10.00
Crude $2.00@$3 00
Fluorspar—Powdrd, No. 1, ℔ ton $20@$30
Lump, at mine $6@$8
French Chalk—
Fuller's Earth—Lump, ℔ ton $16@$20
Glauber's Salt—in bbls., ℔ lb. .01@.01½
Glass—Ground, ℔ lb .09@.10
Gold—Chloride, pure, crystals, ℔ oz. $12.00
pure, 15 gr., c. v., ℔ doz. $5.40
liquid, 15 gr., g. a. v., ℔ doz. $5.50
Chloride and sodium, ℔ oz $6.00
15 gr., c. v., ℔ doz. $2.75
Oxide, ℔ oz. $27.25
Gypsum—Calcined, ℔ bbl. $1.25@$1.50
Land Plaster
Iodine—Resublimed, ℔ oz. .30@.33
Iridium—Oxide ℔ lb. $90
Iron—Nitrate, 40°, ℔ lb .01@.01½
47°, ℔ lb. .02@.02½
Kaolin—*See China Clay.*
Kieserite—℔ ton $9@$10
Lead—Red, American, ℔ lb. .06¾@.07¼
White, American, in oil, ℔ lb. .06½@.07¼
White, English, ℔ lb., in oil .08½@.08¾
Acetate, or sugar of, white .06@.06½
Granulated
Nitrate .09@.12
Lime Acetate—Am. Brown .90@.95
" Gray, $1.75@$1.87½
Litharge—Powdered, ℔ lb. .05½@.07½
English flake, ℔ lb. .06@.09½
Magnesite—Crude, ℔ ton of 1,015 kilos $14.75
Calcined, ℔ ton of 2,240 lbs. $22.00
Brick, ℔ ton of 2,240 lbs. $47.50
Manganese—Ore, per unit .23@.28
Oxide, ground, ℔ lb .02½@.06½
Mercuric Chloride—(*Corrosive Sublimate*) ℔ lb. .63@.64
Powdered ℔ q. 6
Marble Dust—℔ bbl. $1.25@$1.50
Metallic Paint—Brown ℔ ton $20@$25
Red $20@$25
Mica—In sheets according to size, 1st quality, ℔ lb. .25@$6.00
Mineral Wool—Ordinary slag .01½
Ordinary rock .02½
Ground, ℔ ton
Naphtha—Black
Nitre Cake—℔ ton $10.00
Ochre—Rochelle, ℔ lb. .01¼@$01¾
Washed Nat Oxf'rd, Lump, ℔ lb. .06½@.06¾
Washed Nat Oxf'rd, Powder, ℔ lb. .07@.07¾
Golden, ℔ lb. .03@.05
Domestic, ℔ ton $12@$20
Oils, Mineral—
Cylinder, light filtered, ℔ gal. .14@.16
Dark filtered, ℔ gal. .10@.13
Extra cold test, ℔ gal. .20@.24
Dark steam refined, ℔ gal.
Phosphorus—℔ lb. .50@.55
Precip., red, ℔ lb. .80@.85
white, ℔ lb. .85@.90
Platinic Chloride—Dry, ℔ oz $7
Plumbago—Ceylon, ℔ lb. .04@.06
American, ℔ lb. .05@ 07
Potassium—Cyanide, ℔ lb., C. P. 67%, ℔ lb. .52 .40
mining .28@.30
Bromide, domestic, ℔ lb. .28@.32
Chlorate, English, ℔ lb. .18@.18¾
Chlorate, powdered, English, ℔ lb. .18¼@.19
Carbonate, ℔ lb., by casks, 82% .04½@.05
Caustic, ℔ lb., pure slick .05½@.06
Iodide, ℔ lb. $2.50@$2.80
Nitrate, refined, ℔ lb. .06@.08
Bichromate, ℔ lb. .10@.11¼
Yellow Prussiate, ℔ lb. .21½@.22½
Red Prussiate, ℔ lb. .39@.40
Pumice Stone—Select lumps, ℔ lb. .03¼@.15
Original cks., ℔ lb. .01@.02
Powdered, pure, ℔ lb. .01¼@.01¾
Pyrites—Non-cupreous, p. units. 10@.11
Quartz—Ground, ℔ ton $6.00@$10.00
Rotten Stone, Powdered, ℔ lb. .03¼@.03¾
Lump, ℔ lb. .06@.07
Original cks, ℔ lb. .04½@.05½
Rubbing stone, ℔ lb. .03¼@.04
Sal Ammoniac—lump, in bbls., ℔ lb. .80¼
Salt—Liverpool, ground, ℔ sack .700
Domestic, fine, ℔ ton $7@$7.50
Common, fine, ℔ ton $4.50@$5
Turk's Island, ℔ bush .26@.28
Salt Cake—℔ ton $10.00@$15.00
Saltpeter—Crude, ℔ lb. .03¼@.04
Soapstone—Ground, ℔ ton $6@$
Block and slab according to size.
Sodium—Prussiate, ℔ lb. .22@.24
Phosphate, ℔ lb. .04@.05
Stannate, ℔ lb. .06@.12
Tungstate, ℔ lb. .30@.35
Hyposulphite, ℔ cwt., in casks $1.70@$1.80
Strontium—Nitrate, ℔ lb. .03¼@.06
Sulphur—Roll, ℔ lb. .01½@.02¼
Flour, ℔ lb. .01¾@.02
Sylvinit, 27@35%, S.O.P., per unit, 3.75
Talc—Ground French, ℔ lb. .01¼@.01¾
American No. 1, ℔ lb. .01¼@.01¾
American No. 2 006
Terra Alba—French, ℔ lb. .65@.80
English, ℔ lb. .65@.80
American, No. 1, ℔ lb. .60@.80
American, No. 2, ℔ lb. .40@.50
Tin—Crystals, in kegs or bbls. .14@.15
feathered or flossed. .20
Muriate, single .07@.12
Double or strong, 54° B. .10@.15
Oxymur, or nitro .19
Vermillion—Imp. English, ℔ lb. .80
Am. quicksilver, bulk .57 @.59
Am. quicksilver, bags .58 @ .60
Chinese .85 @$1.00
Trieste .90 @ .95
American .11½@ .12
Zinc White—Am., Dry, ℔ lb. .04½@ .06
Antwerp, Red Seal, ℔ lb. .06½@.07
Paris, Red Seal, ℔ lb. .07½@.08
Muriate solution .06
Sulphate crystals, in bbls., ℔ lb. .03@.03¼

THE RARER METALS.

The prices given below are the prices in Germany, and are per gramme except where otherwise stated:

Arsenic (metallic), per kilo $0.25
Barium (ex amalgam) 2.12
" (per electrol.) 7.75
Bismuth (metallic), per kilo 6.25
Cadmium (metallic), " 2.75
Calcium (per electrol.) 5.25
Cerium (pulv.) 2.25
" (fusum in globulis) 5.50
Chromium (fus.) .40
" (cryst.) .75
Cobalt (metallic), per kilo 10.00
" (pure), per kilo 40.00
Didymium (pulv.) 5.50
Erbium-Yttrium (oxydat.) 10.00
Gallium (cryst.) 100.00
Germanium (fus.) 37.50
" (pulv.) 35.00
Glucinum (pulv.) 7.00
" (cryst) 10.75
Indium 5.00
Iridium (fusum) 1.25
Lanthanum (pulv.) 6.00
" (per electrol.) 11.00
Lithium (in glob.) 5.00
" (wire) 6.25
Manganese (fusum) .25
Molybdenum (pulv.) 12½
Niobium (pulv.) 4.25
Osmium 1.00
Palladium (wire) .66
" (pulv.) 1.00
Potassium (metal), per kilo 27.50
Rhodium 1.63
Ruthenium 2.50
Rubidium 6.25
Selenium (cryst.) .50
" (precipitates) .62½
Strontium (per electrol.) 7.25
" (ex amalgam) 3.25
Tantalum 4.75
Tellurium (fusum) .50
" (precipitates) .22½
Thallium .03¾
Titanium 1.13
Tungsten (pure) .05
Uranium 1.00
Vanadium 4.00

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Par	Assessments. Total Levied	Date and amount of last.			Dividends. Total paid.	Date & amount of last.		
1	Adams, s. l. c.	Colo..	$1,500,000	150,000	$10					$637,500	Jan..	1892	.05
2	Alaska-Treadwell, g.	Al'ska	5,000,000	200,000	25					1,900,000	Oct..	1893	.37½
3	Alice, s.	Mont.	10,000,000	400,000	25	*				975,000	Nov..	1891	.06¼
4	Amador, g.	Cal.	1,250,000	250,000	5	*				31,250	Aug..	1890	.12½
5	American, g.	Colo..	3,000,000	300,000	10	*				225,000	Mar..	1892	.05
6	American Belle, s.g.c	Colo.	2,000,000	400,000	5	*				50,000	April	1891	.12½
7	Americ'n&Nettie, g.s	Colo..		300,000						175,000	Mar..	1892	.05
8	Atlantic, c.	Mich.	1,000,000	40,000	25	280,000	April	1875	$1.00	700,000	Feb..	1891	.00
9	Argyle, g.	Colo..	1,000,000	1,000,000	1	*				20,000	Mar.	1892	.01
10	Aspen Mg. & S., s. l.	Colo..	2,000,000	200,000	10	*				860,000	Dec..	1893	.10
11	Aurora, i.	Mich..	2,500,000	100,000	25					650,000	Feb..	1893	2.00
12	Badger, s	Ont...	250,000	50,000	5					37,500	Mar.	1890	.25
13	Bald Butte	Mont.	250,000	250,000	1	*				170,000	Apr..	1894	.05
14	Bates Hunter, s. g.	Colo..	1,000,000	1,000,000	1					67,500	Dec..	1891	.00¾
15	Belle Isle, s.	Nev..	10,000,000	100,000	100	230,271	Sept	1893	.10	300,000	Dec..	1879	.25
16	Belcher, s. g.	Nev..	10,400,000	104,000	100	3,262,930	Nov.	1893	.20	15,397,000	April	1876	1.00
17	Bellevue, Idaho, s. l.	Idaho	1,250,000	125,000	10	120,000	Dec..	1889	.25	200,000	Jan..	1890	.10
18	Best Friend	Colo.	1,000,000	1,000,000	1	*				90,000	Feb..	1892	.01
19	Bi-Metallic, s. g.	Mont.	5,000,000	200,000	25					1,630,000	June	1893	.10
20	Bodie Con., g. i.	Cal...	10,000,000	100,000	100	714,990	July	1893	.15	1,602,572	April	1885	.50
21	Boston & Mont., g.	Mont.	2,500,000	250,000	10	*				520,000	June	1886	.15
22	Boston & Mont., c. s.	Mont.	3,125,000	125,000	25	*				2,075,000	Nov..	1891	1.00
23	Brotherton, i.	Mich.	2,000,000	80,000	25	*				120,000	Mar..	1893	.50
24	Bulwer, g.	Cal...	10,000,000	100,000	10	155,000	July	1893	.15	190,000	Oct..	1892	.05½
25	Bunker Hill & S. s. l.	Idaho	3,000,000	300,000	10	*				150,000	Oct..	1888	.06
26	Caledonia, g.	Dak..	5,000,000	100,000	100	505,000	May	1885	.15	192,000	Oct..	1890	.08½
27	Calliope, s.	Colo..	1,000,000	1,000,000	..					140,000	Jan..	1891	.00
28	Calumet & Hecla c	Mich..	2,500,000	100,000	25	1,200,000				39,850,000	Sept.	1893	5.00
29	Centen'l-Eureka, s.l.	Utah.	1,500,000	30,000	50	30,000	Mar..	1888	1.00	765,000	Dec..	1893	1.00
30	Central, c.	Mich..	500,000	20,000	25	100,000	Oct..	1861	.65	1,970,000	Feb..	1891	1.00
31	Champion, g	Cali..	340,000	34,000	10	150,000				139,700	July	1893	.10
32	Chrysolite, s. l.	Colo..	10,000,000	200,000	50	*				1,650,000	Dec..	1884	.25
33	Clay County, g.	Colo..	200,000	200,000	1	*				56,000	Nov..	1891	.02
34	Clinton Con, g	Cal...	5,000,000	100,000	5					80,000	Nov..	1891	.10
35	Coeur D'Alene, s. l.	Idaho	5,000,000	500,000	10					310,000	June	1893	.03
36	Colorado Central, s.l.	Colo..	2,750,000	275,000	10	*				502,661	April	1893	.05
37	Commonwealth, s.	Nev..	10,000,000	100,000	100	200,000	Nov.	1893	.10	20,000	Nov..	1890	.20
38	Confidence, s. l.	Nev...	2,496,000	24,960	100	1,589,500	Aug..	1892	.50	199,680	April	1889	1.00
39	‡Cons. Cal. & Va., s.g	Nev...	21,600,000	216,000	100	216,000	Dec..	1892	.10	8,682,800	Aug.	1891	.50
40	Contention, s.	Ariz..	12,500,000	250,000	50					2,637,500	Aug.	1892	.20
41	Cook's Peak, s.	N. M..	2,000,000	200,000	10					119,532	Nov.	1892	.05
42	‖Cop. Queen Con., c.	Ariz..	2,000,000	200,000	10					1,610,000	Feb.	1894	.25
43	Coptis	Nev.	10,000,000	100,000	100					67,000	July..	1892	.12
44	Cortez, s.	Nev.	1,500,000	300,000	05	*				687,000	Mar..	1892	.50
45	Crescent, s. l. g.	Utah.	15,000,000	600,000	25	60,000	Oct	1892	.10	238,000	Oct..	1888	.03
46	Crown Point, g. s.	Nev..	10,000,000	100,000	100	2,750,000	June	1893	.25	1,898,000	Jan..	1875	.00
47	Daly, s. l.	Utah.	3,000,000	150,000	20					2,850,000	May..	1893	.25
48	†Deadwood-Terra, g.	Dak..	5,000,000	200,000	25	*				1,140,000	Sept.	1892	.05
49	DeLamar, g. s	Idaho	2,000,000	400,000	25					1,150,000	Jan	1894	.25
50	Derbee B. Grav., g.	Cal...	10,000,000	100,000	100	100,000	Sept.	1892	.10	265,000	Mar	1894	.05
51	Dexter, g. s	Nev..	1,000,000	100,000	10					105,000	July	1893	.25
52	Elkhorn, s.	Mont.	1,000,000	200,000	5	*				1,261,000	Mar.	1894	.18
53	Enterprise, s.	Colo..	2,500,000	500,000	5	*				850,000	June	1893	.25
54	Eureka Con., s. l. g.	Nev..	1,000,000	50,000	100	550,000	June	1889	.50	5,112,500	Jan	1892	.25
55	Evening Star, s. l.	Colo..	500,000	50,000	10	*				1,437,500	Dec.	1889	.25
56	Father de Smet, g.	Dak..	10,000,000	100,000	100	200,000	Nov..	1878	1.00	1,125,000	Dec..	1885	.20
57	Franklin, c.	Mich..	1,000,000	40,000	25	220,000	June	1871		1,245,000	Dec..	1893	2.00
58	Glengarry	Mont.	1,000,000	100,000	10					10,000	June	1891	.10
59	Golden Reward	S.Dak	1,250,000	250,000	5					85,000	April	1893	.02
60	Gould & Curry, s. g.	Nev...	10,800,000	108,000	100	4,688,400	Oct..	1893	.10	3,826,800	Oct.	1870	10.00
61	Grand Prize, s.	Nev...	10,000,000	100,000	100	785,000	Jan..	1890	.50	495,000	Mar.	1884	.25
62	Granite Mountain, s.	Mont.	10,000,000	400,000	25					12,120,000	July.	1892	.20
63	Great Western, l. q.	Cal.	5,000,000	50,000	100					388,366	Nov.	1893	.25
64	Hale & Norcross, g. s.	Nev...	11,200,000	112,000	100	5,646,800	June	1893	.50	1,822,000	Aug	1888	.50
65	Hecla Con., s. g. l. c.	Mont.	1,500,000	30,000	50					2,055,000	Sept.	1893	.50
66	Hel'a Mg.& Red, s.l.g.	Mont.	3,315,000	663,000	5	*				197,970	July.	1886	.06
67	Helena & Frisco, s.l.	Idaho	2,500,000	500,000	5					170,000	July.	1891	.02
68	Helena & Victor	Mont.	1,000,000	200,000	5					80,000	May.	1892	.05
69	¶Holmes, s.	Nev..	10,000,000	100,000	100	345,000	Mar.	1890	.25	75,000	Apr.	1892	.25
70	Homestake, g.	Dak.	12,500,000	125,000	100	200,000	July.	1878	1.00	5,187,700	Mar..	1894	.15
71	Hope, s.	Mont.	1,000,000	100,000	10	*				533,250	Mar..	1894	.25
72	Horn-Silver, s. l.	Utah.	10,000,000	400,000	25	*				4,930,000	Mar	1894	.12½
73	Idaho, g.	Cal..	310,000	3,100	100					5,489,000	Sept.	1893	2.50
74	Illinois, s.	N. M..	100,000	100,000	1	*				45,000	April	1889	.20
75	Iron Mountain, s.	Mont.	5,000,000	500,000	10	*				245,000	July.	1893	.03
76	Iron-Silver, s. l.	Colo..	10,000,000	500,000	20	*				2,500,000	April	1889	.20
77	Jackson, g. s.	Nev.	5,000,000	50,000	100	247,500	Mar..	1893	.20	60,000	Jan.	1891	.10
78	Kearsarge, c.	Mich..	1,000,000	40,000	25	190,000	Oct..	1887	1.00	80,000	Jan.	1890	2.00
79	Kennedy	Cal...	10,000,000	100,000	100					1,072,000	Dec..	1893	.45
80	Kentuck, s. g.	Nev..	3,000,000	30,000	100	454,180	Oct.	1891	.15	1,350,000	Dec.	1886	.10
81	Leadville Con., s. l.	Colo..	4,000,000	400,000	10	*				316,000	Feb..	1892	.03
82	Lexington, g. s.	Mont.	4,000,000	40,000	100	*				652,200	July.	1893	.90
83	Little Chief, s. l.	Colo..	10,000,000	200,000	50	*				820,000	Dec..	1890	.05
84	Maid of Erin	Colo..	3,000,000	600,000	5					708,900	April	1893	.25
85	Mammoth, s. l. c.	Utah	10,000,000	400,000	.50	110,000		1882	.25	1,040,000	Dec...	1891	.10
86	Maxfield	Utah	3,000,000	300,000	10					117,000	April	1892	.03
87	Mayflower, d. gravel	Cal...	1,200,000	60,000	20					123,000	Nov	1893	.10
88	May Mazeppa, s. l.	Colo..	1,000,000	100,000	1					205,000	Oct..	1891	.03¼
89	Minas Prietas, g. s.	Mex..	1,000,000	100,000	10	*				350,000	Dec...	1890	.50
90	Minnesota, c.	Mich..	1,000,000	40,000	25	420,000	April	1886	1.00	1,820,000	Mar..	1876	....
91	Minnesota Iron, i.	Minn.	16,500,000	165,000	100					2,745,000	April	1893	1.50
92	Mollie Gibson, s.	Colo..	5,000,000	1,000,000	5	*				3,930,000	Dec..	1893	.05
93	Monitor, g.	S.Dak	2,500,000	250,000	10					45,000	Oct..	1890	.03
94	Mono, g.	Cal...	5,000,000	50,000	100	797,500	Feb..	1893	.25	12,500	Mar	1886	.25
95	Montana, Lt., g. s.	Mont.	3,300,000	660,000	5	*				2,619,075	June.	1891	12½
96	Morning Star, s. l.	Colo..	1,000,000	100,000	10					1,025,000	Dec...	1891	.25
97	Morning Star Drift, g	Cal...	240,000	2,400	100					140,600	April	1893	3.00
98	Moulton, s. g.	Mont.	2,000,000	400,000	5	*				410,000	Nov.	1892	.07½
99	Mt. Diablo, s.	Nev..	5,000,000	50,000	100	137,500	June	1880	2.00	225,000	Nov	1893	.30
100	Napa, q.	Cal.	700,000	100,000	7					620,000	April	1894	.10
101	Navajo, g. s.	Nev..	10,000,000	100,000	100	538,714	Sept.	1893	.10	226,111	April	1889	.10
102	New Guston, s.	Colo..	550,000	110,000	5					1,877,500	April	1892	.75
103	North Banner Con.	Cal...	1,000,000	100,000	10					20,000	July..	1891	.05
104	North Commonw'th	Nev..	10,000,000	100,000	10	90,000	Jan..	1893	.10	25,000	June.	1891	.25
105	N. Hoover Hill, g. s.	N. C.	300,000	120,000	2½	*				30,000	Dec..	1885	.06¼
106	North Belle Isle, s.	Nev..	10,000,000	100,000	100	518,075	April	1893	.10	230,000	May.	1888	.50
107	North Star, g.	Cal..	1,000,000	100,000	10	20,000	....	1885	.02	450,000	June	1893	.50
108	Omaha Cons., g.	Cal...	2,400,000	24,000	100					30,000	May..	1892	.15
109	Ontario, s. l.	Utah	15,000,000	150,000	100					13,175,000	Oct..	1892	.50
110	Ophir, g. s.	Nev..	10,000,000	100,000	100	4,391,040	July.	1893	.25	1,595,800	Jan..	1880	1.00
111	Original, s. c.	Mont.	1,500,000	60,000	25	*				138,000	Jan..	1889	.05
112	Oro, s. l. g.	Colo..	500,000	100,000	5					95,000	July.	1890	.20
113	Osceola, c.	Mich..	1,250,000	50,000	25	480,000	April	1876	1.60	1,847,500	Dec..	1892	1.00
114	Pacific Coast, b.	Cal...	1,500,000	15,000	100					422,500	July.	1893	1.00
115	Parrot, c.	Mont.	1,800,000	180,000	10					1,569,000	June	1893	.10
116	Petro	Utah.	10,000,000	10,025	100					17,500	July..	1891	.75
117	Plumas Eureka, g.	Cal...	1,406,250	140,600	10					2,696,295	Oct...	1893	.18
118	Plymouth Con., g.	Cal...	5,000,000	100,000	50	*				2,280,000	Feb.	1888	.40
119	Poorman; g. s	Idaho	375,000	300,000	.25	*				68,260	Sept.	1892	....
120	Quicksilver, pref., q.	Cal...	4,300,000	43,000	100					1,823,911	June	1891	1.25
121	" com., q.	Cal...	5,700,000	57,000	100					643,867	July.	1887	.40
122	Quincy, c.	Mich..	1,250,000	50,000	25	200,000	Dec..	1862		6,670,000	Aug..	1892	3.00
123	Red Cloud	Idaho	1,000,000	200,000	5					153,000	Dec.	1892	.10
124	Reed National, s. g.	Colo..	500,000	500,000	1	*				50,000	Dec..	1890	.01
125	Retriever, l.	S.Dak	1,250,000	250,000	5					20,000	Aug..	1891	.03
126	Rialto, g.	Colo..	300,000	300,000	1	*				50,250	April	1892	.01½
127	Richmond, s. l.	Nev..	1,350,000	54,000	25	*				4,359,887	Oct...	1893	.25
128	Rico-Aspen	Colo..	5,000,000	1,000,000	5					150,000	April	1894	.02½
129	Ridge, c.	Mich..	1,250,000	50,000	25	219,939	Mar.	1886	50	99,785	Feb..	1880	.50
130	Robinson Con., s. l.	Colo..	10,000,000	200,000	50	*				585,000	Mar	1886	.05
131	Savage, s.	Nev..	11,200,000	112,000	100	6,966,000	June	1893	.25	4,460,000	June	1869	3.00
132	Sierra Buttes, g.	Cal...	2,225,000	122,500	10					1,559,933	Oct...	1893	.12½
133	Sierra Nevada, s. g.	Nev..	10,000,000	100,000	100	6,521,910	Aug	1893	.20	102,000	Jan..	1871	1.00
134	Silver Cord, s. l. g.	Colo..	4,500,000	450,000	10					265,000	April	1889	.10
135	Silver King, s.	Ariz..	10,000,000	100,000	100	97,479	Aug..	1892	.25	1,950,000	July	1887	.25
136	Silver Mg. of L.V., s.l.	N. M..	500,009	500,000	1					300,000	Dec..	1891	4.05
137	Small Hopes Con., s.	Colo..	5,000,000	250,000	20	*				3,225,000	Oct...	1893	.10
138	Standard, g. s.	Cal...	10,000,000	100,000	100	100,000	June	1890	.50	3,721,159	Mar..	1894	.10
139	Swansea, g. s.	Colo..	600,000	60,000	10					39,060	Sept.	1893	.10
140	Tamarack, c.	Mich..	1,250,000	50,000	25	520,000	April	1885	3.00	3,670,000	Dec..	1894	4.00
141	Tombstone, g. s. l.	Ariz..	12,500,000	500,000	25	*				1,250,000	April	1882	.10
142	Trinity Riv'r Hydr., g	Colo..	500,000	500,000	1	*				15,000	July.	1893	.00½
143	United Verde, c.	Ariz..	3,000,000	300,000	10	*				207,500	Jan..	1892	.10
144	Victor, g.	Colo.	1,000,000	200,000	5					120,000	Dec..	1893	.07½
145	Ward Con., s.	Colo.	2,000,000	200,000	10					20,000	Dec..	1889	.05
146	W. Y. O. D.	Cal..	60,000	30,000	2	22,500	May.	1891	.10	48,000	Nov..	1891	.10
147	Yankee Girl, s.	Colo.	1,300,000	260,000	5					1,405,000	Sept.	1893	1.50
148	Yellow Jacket, g. s.	Nev.	12,000,000	120,000	100	5,556,000	July.	1893	.25	2,184,000	Aug..	1871	1.50

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Par	Assessments. Total levied.	Date and am't of last.		
1	Alliance, s. g.	Utah.	$100,000	100,000	$1	$120,000	Feb..	1891	.20
2	Allouez, c.	Mich.	2,000,000	80,000	25	1,424,937	Oct.	1891	.50
3	Alpha Con., g. s.	Nev..	3,000,000	30,000	100	209,000	Sept.	1892	[illegible]
4	Alta, s.	Nev..	10,080,000	100,800	100	3,369,880	Jan.	1892	.10
5	American Flag, s.	Colo..	1,250,000	125,000	1	300,000	June	1887	....
6	Anchor, s. l. g.	Utah.	3,000,000	150,000	5	560,000	July.	1893	[illegible]
7	Barcelona, g.	Nev..	5,000,000	200,000	5	*			
8	Belmont, g.	Cal...	500,000	500,000	100	*			
9	Belmont, s.	Nev..	5,000,000	50,000	100	735,000	April	1886	.10
10	Best & Belcher, s. g.	Nev..	10,080,000	100,800	10	2,405,275	Aug..	1892	.25
11	Black Oak, g.	Cal...	3,000,000	300,000	100	*			
12	Brownlow, g.	Colo..	250,000	250,000	5				
13	Brunswick, g.	Cal...	2,000,000	400,000	2				
14	Bullion, s. g.	Nev.	10,000,000	100,000	100	2,890,000	Aug.	1892	.25
15	Butte & Boston, c. s.	Mont.	5,000,000	200,000	10				
16	Butte Queen, g.	Cal...	1,000,000	100,000	1	6,000	Jan..	1892	.04
17	Calaveras, g.	Cal...	500,000	500,000	5				
18	Calaveras Con., g.	Cal...	800,000	160,000	10				
19	California, g.	Cal...	1,000,000	100,000	5	9,000	Mar..	1892	.03
20	California Con. i. q.	Cal...	2,250,000	450,000	10				
21	Challenge Con., g. s.	Nev..	5,000,000	50,000	10				
22	Chollar, s. g.	Nev..	11,200,000	112,000	[illegible]	1,820,000	May.	1892	.50
23	Colchis, s. g.	N. M.	500,000	150,000	[illegible]				
24	Colorado, s.	Colo..	1,625,000	325,000	1				
25	Comstock, s.	Utah.	1,250,000	250,000	100				
26	Comstock Tun.	Nev..	10,000,000	100,000	100	35,000	Mar.	1887	.10
27	Con. Imperial, g. s	Nev..	5,000,000	50,000	50	2,062,500	Jan..	1892	.25
28	Con. New York, s. g.	Nev..	5,000,000	100,000	100	110,000	Mar..	1892	.10
29	Con. Pacific, g.	Cal.	6,000,000	60,000	10	198,000	June	1890	.10
30	Crescent, s. l.	Colo.	3,000,000	300,000	100	*			
31	Crocker, s.	Ariz.	10,000,000	100,000	1	165,000	Aug	1892	.05
32	Crowell, g.	N. C..	500,000	500,000					
33	Dahlonega, g	Ga.	250,000	250,000	10	*			
34	Decatur, s	Colo..	1,500,000	300,000					
35	Denver City s.	Colo..	5,000,000	500,000	11	*			
36	Denver Gold, g.	Colo.	300,000	60,000	5				
37	Dickens-Custer, s.	Idaho	2,100,000	420,000	5				
38	Durango, g.	Colo..	500,000	500,000	1	*			
39	El Dorado, g.	Cal...	1,000,000	250,000	4	*			
40	Emma, s	Utah.	625,000	500,000	125				
41	Emmons, s. l.	Colo..	2,000,000	2,000,000	1				
42	Empire, s.	Utah.	10,000,000	100,000	100				
43	Eureka Tunnel, s. l.	Nev...	10,000,000	100,000	100	*			
44	Exchequer, s. g.	Nev...	10,000,000	100,000	100	940,000	Jan..	1892	.25
45	Found Treasure, g. s.	Nev...	10,000,000	100,000	100	130,500	Jan..	1892	.50
46	Gogebic I. Syn., i.	Wis..	5,600,000	200,000	25				
47	Gold Cup, s.	Colo..	500,000	500,000	1	*			
48	Golden Era, s.	Mont.	1,000,000	200,000	10	*			
49	Gold Flat, g.	Cal...	1,000,000	100,000	10	5,000	Mar..	1892	.05
50	Gold Rock, g.	Cal...	1,000,000	500,000	2				
51	Golden Feather Ch., g	Cal...	900,000	180,000	5				
52	Goodyear g. s. l.	Mont.	1,000,000	200,000	5	13,000	Feb..	1892	.01
53	Grand Duke, s.	Colo..	800,000	80,000	10				
54	Gregory Con., g.	Mont.	3,000,000	300,000	10				
55	Harlem M. & M. Co., g.	Cal...	1,000,000	200,000	5				
56	Hartery Con., g.	Cal...	1,000,000	100,000	10	22,000	Oct..	1890	.05
57	Hartshorn, g s. l.	S.Dak	1,250,000	250,000	5	8,750	Sept.	1891	.00½
58	Head Cent. & Tr., s. g	Ariz..	10,000,000	100,000	100	16,981	Mar..	1892	.03
59	Hector, g.	Cal...	1,500,000	300,000	5	45,000	Jan..	1889	[illegible]
60	Himalaya, g. s l.	Utah.	1,800,000	80,000	10	12,800	Oct..	1892	.00½
61	Holywood	Cal...	200,000	100,000	2				
62	Huron, c.	Mich..	1,000,000	40,000	25	280,000	May.	1887	3.00
63	Idaho, g. s	Idaho	1,250,000	250,000	5				
64	Ingalls, g	Colo..	100,000	20,000	5				
65	Ironton, i.	Wis..	1,000,000	40,000	25				
66	Iroquois, c.	Mich..	1,250,000	50,000	25				
67	Kentuck Con	Nev..	10,500,000	105,000	00	57,750	July	1892	.10
68	Julia Con., g. s.	Nev..	11,000,000	110,000	100	1,463,000	Jan..	1889	.10
69	Justice, g. s. c.	Colo.	500,000	500,000	1	*			
70	Lacrosse, g.	Colo.	1,000,000	100,000	10	*			
71	Little Josephine, s.	Colo..	250,000	50,000	5				
72	Lone Star Cons., g.	Cal...	500,000	500,000	1	10,000	April	1892	.00½
73	Madeleine, g. s. l.	Colo..	750,000	50,000	1	4,500	Feb.	1892	.00½
74	Mammoth Gold, g.	Ariz..	2,500,000	500,000	5	*			
75	Mayflower Gravel, g.	Cal...	1,000,000	100,000	10	*			
76	Mexican, g. s.	Nev...	10,000,000	100,000	100	2,917,560	Oct.	1892	.50
77	Michigan, g s	Mich..	2,500,000	100,000	25	40,000	Mar..	1892	
78	Mike & Starr, s. c.	Colo..	1,000,000	200,000	5	*			
79	Milwaukee, s.	Mont.	500,000	500,000	1	*			
80	Modoc Chief, l. s. g.	Idaho	1,000,000	200,000	5	5,000	Jan..	1892	.00½
81	Monitor, g.	Colo..	100,000	100,000	1	12,500	May.	1891	.05
82	Montreal, g. s. l.	Utah.	750,000	150,000	5	4,500	Feb..	1892	.00½
83	Mutual Mg. & Sm.	W'sh	100,000	100,000	1	*			
84	Neath, g.	Colo.	1,000,000	100,000	10				
85	Nelson	Cal...	50,000	10,000	5				
86	Nevada Queen, s.	Nev...	10,000,000	100,000	100	200,000	Oct..	1889	25
87	New Gold Hill	N. C..	1,750,000	350,000	5				
88	New Pittsburg, s. l.	Colo.	2,000,000	200,000	10	*			
89	North Standard, g.	Cal...	10,000,000	100,000	100	20,000	Nov.		
90	Occidental Con., g.s		10,000,000	100,000	100	245,000	April	1892	.25
91	Oneida Chief, g.	Cal...	500,000	125,000	100	*			
92	Oriental & Miller, s.	Nev...	10,000,000	400,000	100				
93	Original Keystone, s.	Nev..	10,000,000	100,000	100	250,000	Mar..	1892	.10
94	Osceola, g.	Nev...	5,000,000	500,000	10	*			
95	Overman, g. s.	Nev...	11,520,000	115,200	100	4,001,840	May.	1892	.10
96	Pay Rock, s.	Colo..	1,000,000	200,000	5				
97	Peer, s.	Ariz..	10,000,000	100,000	100	190,000	Feb..	1892	.10
98	Peerless, s.	Ariz..	10,000,000	100,000	100	405,000	Oct...	1890	.15
99	Pennsylva'a Cons., g	Cal...	5,150,000	515,000	10	36,050	Feb..	1892	.10
100	Phœnix, g.	Ariz..	500,000	500,000	1	*			
101	Phœnix Lead, s. l.	Colo..	100,000	100,000	1	*			
102	Pilgrim, g.	Cal...	600,000	300,000	2	*			
103	Pioche M.&R., s.g.l.	Utah.	20,000,000	000,000	10				
104	Poorman, Ltd., s. l.	Idaho	250,000	50,000	5				
105	Potosi, s.	Nev...	11,200,000	112,000	100	1,573,000	Mar..	1890	50
106	Proustite, s.	Idaho	250,000	250,000	1	*			
107	Puritan, s. g.	Colo..	1,500,000	150,000	10	*			
108	Quincy, c	Colo..	3,000,000	300,000	10				
109	Rainbow, g.	S.Dak	1,250,000	250,000	5	4,250	July.	1892	.00½
110	Rappahannock, g. s.	Va.	250,000	250,000	1	*			
111	Red Mountain, s.	Colo..	300,000	60,000	5				
112	Ropes, g. s.	Mich..	2,000,000	80,000	25	167,200	Feb.		.50
113	Ruby & Dun., s. l. g.	Nev..	25,300	506	50				
114	Russell, g.	N. C..	1,500,000	300,000	5				
115	Sampson, g. s. l.	Utah.	10,000,000	100,000	100	288,154	July	1888	1.00
116	Silver Age, s. l. g.	Colo..	2,000,000	200,000	10	*			
117	Silver Bell, s.	Ariz..	850,000	170,000	5				
118	Silver King, s.	Cal	2,000,000	400,000	5				
119	Silver Queen, c.	Ariz	5,000,000	200,000	25	*			
120	Silverton, s	Colo..	300,000	60,000	5				
121	Siskiyou Con., l.	Cal...	2,000,000	200,000	10	13,000	May..	1892	.01½
122	South Bulwer, g	Cal..	10,000,000	100,000	100	100,000	May.	1881	[illegible]
123	South Hite, g.	Cal...	10,000,000	100,000	100	195,000	Jan..	1883	.08
124	Stanislaus, g.	Cal...	2,000,000	200,000	10				
125	St. Kevin, s. g.	Colo..	100,000	100,000	1	*			
126	St. Louis & Mex., s.	Mex..	000,000	500,000	10	*			
127	St. Louis & St. Elmo.	Colo..	.000,000	200,000	10				
128	St. L. & Sonora, g. s.	Ariz..	3,000,000	300,000	10	*			
129	Stemwinder, l. s.	Idaho	,500,000	500,000	1				
130	Sunday Lake, i.	Mich..	250,000	50,000	25				
131	Sullivan Con., g.	Dak..	600,000	200,000	3	*			
132	Sylvanite, s.	Colo..	5,000,000	500,000	10	*			
133	Taylor-Plumas, g.	Cal...	425,000	65,000	5	3,575	Mar..	1892	.01½
134	Telegraph, g. s.	Cal...	325,000	65,000	5	3,575	Mar.	1892	.01½
135	Telegraph, g. s.	Mex..	100,000	100,000	1	70,000	Feb..	1892	.10
136	Teresa, g. s.	Cal.	1,000,000	200,000	5	10,000	Feb..	1888	.10
137	Tioga Con., g.	Nev...	10,000,000	100,000	10	295,000	May.	1888	25
138	Tornado Con., g. s.	Nev...	100,000	100,000	1	*			
139	Tuscarora, s.	Nev...	10,000,000	500,000	20	385,000	Jan	1892	25
140	Union Con., g. s.	Nev...	10,000,000	100,000	100	370,000	June	1892	25
141	Utah, s.	Nev...	10,000,000	100,000	100	245,000	Aug..	1890	.25
142	Ute & Ulay, s. l.	Colo..	1,000,000	500,000	2	1,500	Mar..	1892	001
143	Valley, g	Cal...	575,000	460,000	125				
144	Washington, c.	Mich.	1,000,000	40,000	5				
145	West Argentine, s.	Colo..	750,000	150,000	5				
146	West Granite Mt., s.	Mont.	500,000	100,000	5				
147	Whale, s.	Mont.	5,000,000	500,000	10	*			
148	Wood River, g.	Idaho	2,000,000	200,000	10	3,000	Aug..	1891	.00½
149	Yuma, c. s. g.	Ariz..	10,000,000	400,000	2				

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. † The Deadwood previously paid $275,000 in eleven dividends and the Terra $75,000. ‡ Previous to the consolidation in August, 1884, the California had paid $31,320,000 in dividends, and the Cons. Virginia $12,390,000. ‖ Previous to the consolidation of the CopperQueen with the Atlanta, August, 1885, the Copper Queen had paid $1,350,000 in dividends. ¶ Previous to this company's acquiring Northern Belle, that mine paid $2,400,000 in dividends against $425,000 in assessments.

COAL AND COAL RAILROAD STOCKS.

NAMES OF STOCKS.	April 7. H.	April 7. L.	April 9. H.	April 9. L.	April 10. H.	April 10. L.	April 11. H.	April 11. L.	April 12. H.	April 12. L.	April 13. H.	April 13. L.	Sales.
Am. Coal													
Balt. & Ohio	81	80⅝	81	80⅝	81⅛				81⅛		80¾	80⅛	1,335
do. pref													
Buff., R. & P.													
do. pref													
Cambria Iron													
Ches. & Ohio													
do. 1st pref													
Col. C. & I.			13										100
Col. Coal													
Colorado Fuel			27		26¼	26	26⅜		26⅛				600
do. pref			70										5
Col., H. V. & Tol.	20⅛	20	19¾	19¼	20⅜	20							1,730
do. pfd													
Col. & H. Coal	9⅜	9			8⅛		9	8⅛			8		1,100
do. pfd													
Cons. Coal													
Del. & Hud. C.	144⅛	143	143¼	142	141⅛	138¼	140¾	140	141¾	139¾	141¾	140	11,900
Del., L. & West.	164		165¼	164¾			165	164⅞	164				1,633
Hunt. & B. Top.													
do. pref													
Lake Erie & Wes			16¾	16⅝	16⅞	16½	16⅞		16⅛		16¼		1,320
do. pref			70	69	68¾		70		69¾	69⅛			649
Lehigh C. & N.	54¼		54¾	54¼	54¼		54¼		54¼	54			137
Lehigh Valley	40⅛	40⅜	40½	40¼	40½	40⅜	40¼	40	40				738
Maryland Coal													
do. pref													
Morris & Essex	152												7
New Cent. Coal									8⅛	8			200
N. J. Central	114		115	114⅜	115		114¾	114			114⅛	114	1,548
N. Y., L. & W.													
N. Y., L. E. & W			17¼		17¼		17⅛	17	16¾	16⅝	16¼	16⅛	4,306
do. pref													
N.Y., Susq. & W	16¼	16	16⅛		16⅛		16⅛		16	16¼			1,270
do. pref	44⅞	44	44	43⅞	44	43⅛							2,073
N. & West.			7⅜										100
do. pref			26		25⅜				25	24⅞			900
Penn. Coal													
Penn. R. R.	52⅛	51⅝	52	51⅞	52	51⅞	52	51⅞	52⅛	51¾			2,954
Phil. & Reading	22¼	21¾	22	21⅝	21⅝	21⅛	21¾	21⅛	21⅝	21⅛	21⅛	20⅝	27,520
Tenn. C. & I.	19⅛	19¼	19¼	19			19¼		19	18⅝	18⅛	18⅛	2,340
do. pref													
Wheel. & L. E.	13⅝	13⅛	13⅝	13⅛	13⅞	13⅛	13⅛		13¾	12⅝	13¼	13	2,620
do. pref	51⅝	50⅛	51⅛	51	51⅝	51	51⅝		51¼	50	51	50	2,418

Total shares sold, 69,513.

INDUSTRIAL AND TRUST STOCKS.

NAME OF STOCKS.	April 7. H.	April 7. L.	Apr. 9. H.	Apr. 9. L.	Apr. 10. H.	Apr. 10. L.	Apr. 11. H.	Apr. 11. L.	Apr. 12. H.	Apr. 12. L.	Apr. 13. H.	Apr. 13. L.	SALES.
Adams Express													
Am. Cotton Oil	32⅛	32	32½	31¼			31⅛		31¼	31⅛	31	30⅛	3,180
do. pref			73		73¾	73⅛	73		73				414
Am. Dist. Tel.													
Am. Express			115						115				125
Am. Sugar Ref.	92⅞	91¾	93⅝	93⅛	93¾	92¼	93⅝	92¼	94	92¾	95⅛	92⅞	99,078
do. pref	89¼		89¾	89¼	89¼		89¼	89	89¾	89⅛	90⅛	89⅜	8,498
Edison E. Ill. Co.	104	103½							104				555
Edison Gen. El.	42⅜	40⅞	42	41⅜	41⅝	40¼	41	40⅛	40⅞	40¼	40¾		14,569
Nat. Cord. Co.	22¾	22	23¼	22⅛	22¾	22⅛	22¾	22⅛	22⅝	22¼	22¼	21¾	5,000
do. pref			46½	41									300
Nat. Lead Co.	40¾	39⅞	40¼	39¼	39¾	38¾	40⅝	39⅝	40⅝	39¾	40¼	39¾	19,803
do. pref	86	85	86½	85½	85½	85	86½	85½	86½		86⅛	85⅝	5,534
Nat. Linseed Oil	22	21	22						21		20		975
U. S. Express	55				55		55		55				85
U. S. Rubber	42		42⅛	42¼	43		43½		42⅛	42	42¾		990
do. pref	90⅛		9 ½										122
Wells, Fargo Ex	126¼		127		127		127		127	125			121
Western Union	85¾	85¼	85½	85	85¼	84⅞	85	84⅝	85	84⅛	84⅞	84¼	19,787

Total shares sold, 174,136.

CALIFORNIA.
San Francisco.

NAMES OF STOCKS.	CLOSING QUOTATIONS. Apr. 6	Apr. 7.	Apr. 9.	Apr. 10.	Apr. 11.	Apr. 12.
Alpha						
Alta		.16	.16	.20	.19	.18
Belcher						
Belle Isle						
B. & Belch		1.45	1.50	1.55	1.55	1.60
Bodie		.10	.15	.35	.44	.54
Bulwer		.03	.05	.05	.05	.12
Chollar		.25	.29	.30	.30	.36
Com'w'lth						
Con.C.&V.		2.70	2.85	3.10	3.05	3.20
Con. Pac.						
Crown Pt.		.53	.53	.55	.51	.55
Del Monte						
E'rekaCon						
G'ld & C'y		.67	.74	.68	.72	.76
Hale & N.		.52	.60	.60	.60	.65
M. White						
Mexican		1.40	1.50	1.60	1.55	1.60
Mono		.05	.05	.05	.05	.18
Mt. Diablo						
Navajo						
Nev. Qu'n						
N.B'lleIsle						
N. Co'w'th						
Ophir		2.60	2.55	3.15	3.30	3.35
Potosi		.90	1.00	.98	1.00	1.10
Savage		.55	.61	.68	.58	.66
Sierra Nev		.97	1.00	1.15	1.10	1.15
Uni'n Con		.72	.74	.87	.80	.87
Utah		.04	.05	.06	.07	.07
Yel. Jack.		.59	.60	.63	.60	.63

COLORADO.
Aspen. April 5.

	Price.
Argentum-Juniata	$0.52
Aspen Contact	.45
Aspen Deep Mining	....
Best Friend	....
Bi-Metallic	.03
Bushwacker	.09⅛
Delia S.	....
Gold Valley Placer	....
Little Annie	.04
Mollie Gibson	1 17½
Pontiac	.03
Smuggler	.65
St. Joe & Mineral Farm	.05⅛
U. S. Paymaster	....

Colorado Springs. April 7.

Prices and sales for the week ending April 7th, 1894:

Cripple Creek (gold):	High.	Low.	Sales.
Aola	.02	.01⅞	39,000
Alamo	.01½	.01⅜	5,000
Anaconda Gold	.30⅛	.29	250
Anchoria Leland	.08¾	.06	18,500
Antlers-Park-R'g'nt	.05¼	.04½	2,540
Bankers'	.04¾	.04½	4,000
Blue Bell	.01¾	.01¾	3,625
Calumet	.02⅛	.02	30,500
Columbine	.01⅞	.01¾	11,300
Cripple Creek Con.	.03⅛	.02⅞	129,400
Creede & Cripple C.	.01½	.01½	121,500
Golden Dale	5.50	5 00	89,500
Gold King	.10	.08⅛	31,475
Goldstone	8.00	7.00	8,000
Gould	.05	.04⅞	5,000
Golden Eagle	18.00	16.00	163,000
Granite Hill	9.00	8.50	7,000
Isabella	.19½	.19⅛	26,300
Jack Pot	.02	.01⅞	30,500
Mollie Gibson	1.25	1.20	1,750
Mt. Rosa	.04¾	.04¼	78,900
Mutual	.02	.01⅞	9,000
Ophir	.04¼	.04⅛	4,000
Pharmacist	.11	.10½	16,000
Specimen	.04	.03½	25,000
Star of the West	4.50	4.00	47,000
Summit	.15½	.14	13,500
Union	.10½	.08½	74,500
Virginia M	.02½	.02½	2,100
Work	.03⅞	.03¾	5,000

Total shares sold 1,005,140

Denver.

Prices and sales for six days ending April 9, 1894:

	High.	Low.	Sales.
Alamo	.01¼	.....	14,000
Anaconda	.30¼	.27⅛	6,300
Amity	.01¼	.01	30,000
Antlers P. R.	.05	.....	1,000
Adele	.07⅛	.....	10,000
Bankers	.04¾	.....	26,500
Bangkok	.04¾	.04½	5,000
Calumet	.02⅛	.02	34,500
Cr. & C. C.	.01½	.01¼	45,000
C. C. Cons	.03	.02⅞	4,000
Golden E.	.01⅛	.....	2,000
Golden D	.00½	.00⅜	68,000
Gold Standard	.04½	.03⅝	14,000
Golden T.	.06	.05	3,800
Isabella	.20¾	.19	22,100
Jack Pot	.01¾	.....	25,000
Lottie Gibson	.01⅛	.....	3,000
Mollie Gibson	1.22½	.....	300
Mt. Rosa	.04¼	.....	1,000
Pharmacist	.11	.10⅝	10,500
Princess	.12	.....	100
Summit	.16¾	.16	6,800
Union P.	.07¾	.07½	8,000
Work	.04	.03¾	28,000
World	.01½	.01⅜	21,000

MARYLAND.
Baltimore. April 12.

COMPANY.	Bid.	Asked.
Atlantic Coal	....	$75.00
Balt. & N. C.	....	0.10
Conrad Hill	....	.10
Cons. Coal	$0 30¾	.32
Diamond Tunnel	....	14.00
George's Creek Coal	1.04	1 06
Howard C. & C	....	1.25
Lake Chrome	.01@.02	....
Silver Valley	.13	....
Vernon Mining Co.	....	.35

MINNESOTA.
Duluth. April 10.

LISTED STOCKS.

	Par.	Bid.	Asked.
Biwabik M. Iron Co.	100	$20.00	$21.00
Cincinnatt Iron Co.	25	.25	.30
Clark Iron Co	100	....	.60
Great Northern Min. Co.	100	2.75	3.50
Kanawha Iron Co	100	.10	.20
Keystone Iron Co.		....	.40
Lake Superior Iron Co.	25	....	2.50
Lincoln Iron Co		....	.50
Mesaba Moun. Iron Co.	100	14.00	17 00
Minneapolis Iron Co	100	.02	.15
Mountain Iron Co	100	50.00	65.00
Shaw Iron Co.	100	2.50	3.00
Security Land & Exp. Co.	10	10.00	15.00

UNLISTED STOCKS.

	Par.	Bid.	Asked.
Adams Iron Co.	10	$7.00	$9.00
Ashland Iron Co.	25	....	40.00
Buckeye Iron Co.	100	....	2.50
Buffalo Land & Exp. Co.	1	...	.50
Chandler Iron Co.	25	20.00	26.00
Charleston Iron Co.	100	.15	.30
Cleveland Cliffs Iron Co.	100	20.00	40.00
Chicago Iron Co	100	.20	.30
Detroit Iron Co	25	.01	.02
Elmira Land & Iron Co.	100	.05	.25
Great Western Mining Co.	100	1.90	2.25
Homestead Iron Co.	25	.00½	.02
Internat'l Development	10	....	22.50
Jackson Iron Co.	25	....	60.00
Lake Supr. (Marquette)	25	20.00	27.00
McCaskill Mining Co.	10	.01	.03
Mesaba C., L. & Ex. Co.	10	....	6.00
Mesaba Chief Iron Co.	100	1.75	2.00
Mesaba Iron Co.	30	....	.20
Metropolitan L. & L. Co.	25	50.00	70.00
Northern Light Iron Co.	100	....	.25
Ohio Mining Co.	100	5.00	8.00
Ophir, gold	10	..	1.00
Penn. Iron & Steel Co.	100	.04	.10
Pioneer Iron Co.	25	....	1.00
Pittsburg & Lake A. Co.	100	110.00	125.00
Putnam Iron Co.	100	....	.80

MISSOURI.
St. Louis. April 12.

Closing quotations:	Bid.	Asked.
Adams	$0.40	....
American & Nettie, Colo.	.25	$0.30
Bi-Metallic, Mont.	2.00	3.00
Elizabeth, Mont.	.15	.20
Granite Mountain, Mont.	1.25	1.75
Hope	....	2.50
Leo	.01½	.02
Small Hopes	....	.50

PENNSYLVANIA.
Philadelphia. April 12.

	Bid.	Asked.
Cambria	....	$46.50
Edison E. Light Co.	$125.00	128.50
Penn. Salt	93.00	95.00
Penn. Steel	25.00	....
Washington, D. C., Gas	45.00	....
Westmoreland C.	52.25	....

Pittsburg. April 12.

	Bid.	Asked.
Bridgewater Gas	$48	$55
Chartiers Valley Gas	14	14½
Manufacturers' Gas	30	....
Nat. Gas Co. of W. Va.	25	...
Olive Valley Gas	23	....
People's Nat. Gas	22	....
People's Pipeage Co.	14⅞	....
Penn. Gas	....	10¼
Philadelphia Co	22	22¼
Wheeling Gas	....	19
Fisher Oil	....	53
Tuna Oil	....	15
Chartiers Block Coal	35	....
N. Y. & Cleve. Gas Coal	....	48½
Monongahela Water	29½	....
Luster Mining Co.	12½	14½
Westinghouse Air Brake	125	126½
Westingh'se Elect., 1st prf	51	....
" " 2d "	36¼	....
" " com	22	....

UTAH.
Salt Lake City.

(Special Report by James A. Pollock.)

Stock quotations week ending April 7th, 1894:

	Bid.	Asked.
Alliance	....	$0.75
Anchor	$1.35	2.25
Centennial Eureka	....	25.00
Cleveland Con	....	0.50
Daly	5.25	6 75
Dalton	0.01½	0.02
Horn Silver	2.25	2.80
Mammoth	1.20	1.40
Mecars	....	0.75
Ontario	8.25	9 50
Silver Spar	....	1.00
Tetro	....	0.25
Utah	....	0.75

London Quotations.

April 4, 1894.

	Buyer. £ s. d.	Seller. £ s. d.
Alaska Treadwell, Alaska Ter	2 12 6	2 17 6
Almada & Tirito, Mex.	3	9
American Belle, Colo.	1 3	1 9
De Lamar, Idaho	1 0 0	1 1 0
Elkhorn, Mont	10 9	11 9
Emma, Utah	3	6
Golden Feather, Cal.	6 6	7 6
Golden Gate, Cal.	5 6	6 6
Golden Leaf, Mont. & N. M	9	1 3
Harqua Hala, Ariz.	16 6	17 6
Holcomb Valley, Cal.	10½	1 1½
Idaho Exploring	1 1½	1 3
Jay Hawk & Lone Pine, Mont.	6 0	7 0
Mesquital del Oro, Mex., P.	10 0	1 0 0
Mesquital del Oro, Mex., D.	2 6	7 6
New Guston, Colo.	5 0	7 0
New Montana, Mont.	6 0	6 6
Palmarejo, Mex.	1 6	2 0
Pinos Altos, Mex.	2 0	2 6
Plumas Eureka, Cal.	12 6	15 0
Poorman Con. Idaho.	6 0	6 6
Rajah Gold, Can.	1 0	2 0
Richmond Con., Nev.	7 0	9 0
Sierra Buttes, Cal.	8 9	11 3
Springdale Gold, Colo.	2 9	3 3
United Mexican, Mex.	1 0	1 6

Paris. March 30.

	Francs.
Belmez, Spain	665.00
Golden River, Cal.	130.00
" " parts	30.00
Laurium, Greece	550.00
Lexington, Mont	42.50
" parts	1.00
Nickel, New Caledonia	550.00
Rio Tinto, Spain	366.25
" " oblig	507.50
" " "	501.20
Tharsis, Spain	125.00
Vieille-Montagna, Belgium	447.50

Shanghai, China.

March 9, 1894.

(Special Report by Messrs. J. H. Bisset & Co.)

	Taels.
Sheridan Con., Colo	2.00
Punyom Mining, Ltd	5.11
" Pref	1 64
Jelebu Mg. & Trading, Ltd	4.93
Raub A'lian G. Mg., Ltd	3.65

New York Mining Stocks.

(Latest quotations.) April 13.

	Bid.	Asked.
Alice	$0.27	$0.33
Alta	.10	...
Best & Belcher	1.50	1.90
Bodie	0.10	
Breece	0.11	.14
Brunswick	0.03	.06
Bulwer	0.05	....
Caledonia, B. H.	....	0.60
Castle Creek	....	0.03
Chollar	0.35	....
Chrysolite	0.14	.18
Colo. Cent. Consol.	....	.25
Comstock Tunnel	0.06	.08
Con. C. & Va	2.50	3.00
Crown Point	0.50	.75
Deadwood	0.40	....
El Cristo	....	.15
Enterprise	0.50	.75
Father De Smet	0.12	.15
Gould & Curry	0.70	1.10
Hale & Nor	0.60	.90
Holyoke	....	.03
Horn Silver	2.25	2.90
Iron Silver	....	.25
Kingston & Pem	0.20	....
La Crosse	0.04	.06
Leadville	0.07	.10
Little Chief	0.08	.11
Mexican	1.50	....
Mono	0.05	....
Ophir	2.00	....
Phœnix Trust Co.	0.14	0.15
Phœnix Con Gold	....	....
Plymouth Con	....	.70
Potosi	0.80	....
Savage	0.65	0.95
Sierra Nevada	1.10	....
Silver King	0.75	....
Union Cons	0.80	....
Utah	0.05	....
Yellow Jacket	0.60	0.90

ASSESSMENTS.

COMPANY.	No.	Dlnqt. in office.	Day of sale.	Amt. per sh're
Andes, Nev.	40	Apr. 10	Apr. 28	.25
Belcher, Nev.	48	Apr. 17	May 8	.25
Bodie, Cal.	17	Apr. 16	May 14	.15
Caledonia, S. Dak	18	Apr. 10	May 10	.50
Challenge, Nev	16	May 8	May 29	.05
Chollar, Nev.	38	Apr. 24	May 16	.20
Con.Cal.& Va., Nev.	4	Apr. 10	Apr. 28	.50
Ea. Sierre, Nev	3	Apr. 20	May 11	.05
Even'gStar, Cal	13	May 3	May 24	.01½
Ev'gStar(2), Cal	1	Apr. 16	May 4	.01
J'ck R'bbit, Cal	6	Apr. 24	May 11	.02
Osborn Hill, Cal	2	May 7	May 28	.25
Overman, Nev.	70	Apr. 10	Apr. 30	.10
Potosi, Nev.	41	Apr. 16	May 2	.25
Savage, Nev.	83	Apr. 9	Apr. 30	.25
Siskiyou Con. G., Cal.	8	Apr. 5	Apr. 27	.07

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POSITION WANTED OF ANY KIND CONnected with mining. Am a recent graduate in mining of a technical school; good assayer, surveyor and draughtsman. Will start on a low salary. Address J. TURNBULL, ENGINEERING AND MINING JOURNAL. No. 16,350, April 28.

A RENSSELAER GRADUATE, THREE years' experience, desires a position. Has had experience in preliminary, location, construction and maintenance of way; also on masonry dams. Address T. X., ENGINEERING AND MINING JOURNAL. No. 16,190, May 5.

LOCATING ENGINEER WANTS SITUAtion on Railroad, Waterworks, Townsite or in office: is good draftsman, has instruments and first-class references. "H.," ENGINEERING AND MINING JOURNAL. No. 16,354, May 12.

SITUATION WANTED BY PRACTICAL Diamond Drill foreman, twelve years' experience drilling all kinds of formations and deep standpipe stand sinking. Can give best references. Address GILL, ENGINEERING AND MINING JOURNAL. No. 16,369, May 12.

MINING ENGINEER, GRADUATE, OPEN for engagement May 15. Twelve years' practical experience in the development and management of metalliferous mines. Can give present employers' and other references. Address COLORADO, ENGINEERING AND MINING JOURNAL. No. 16,350, May 12.

A GRADUATE (M. I. T.) COPPER CHEMIST and metallurgist of experience desires engagement; references. Address WEST, ENGINEERING AND MINING JOURNAL. No. 16,206, May 12.

WANTED—SITUATION AS CHEMIST AND metallurgist; have had several years' experience with all classes of furnace supplies and products; technical education. Good reasons given for leaving present situation. Address A. M. H., ENGINEERING AND MINING JOURNAL. No. 16,164, May 19.

WANTED—SITUATION IN SMELTING OR concentrating works; technical education; several years' experience in treating low grade ores. References given. Address SMELTING AND CONCENTRATING, ENGINEERING AND MINING JOURNAL. No. 16,165, June 9.

Contracts Open.

PIPING, CASTINGS, VALVES, ETC.—Proposals are wanted until June 21 for furnishing a quantity of water pipe, special castings, gate valves, fire hydrants, etc. Address E. M. BIGELOW, Director of Department of Public Works, Pittsburg, Pa.

BRIDGE.—CINCINNATI, O. Sealed proposals will be received at the office of the Board of Hamilton County Commissioners until April 21, for the iron superstructure of bridge over West Fork Creek, on Llewellyn street, Cincinnati and Millcreek townships, according to the plans and specifications now on file in the office of the Board of Hamilton County Commissioners. FRED. BADER.

BRIDGE.—HOUSTON, TEX.—Sealed proposals addressed to the city secretary will be received until April 30, for the proposed bridge across Buffalo Bayou, at the foot of Factory street; said bridge to be built in accordance with the plans and specifications now on file with the city engineer of the city of Houston; each bid must be accompanied with a certified check for $500. JOHN T. BROWNE, Mayor.

BRIDGE.—Sealed proposals for the design, manufacture and erection of the superstructures of one metal single track railway swing bridge, and one metal highway swing bridge at Milan, Ill., will be received until May 1. Specifications, blank forms, and all available information will be furnished on application to W. L. MARSHALL, Captain Corps of Engineers, 2258 Wabash avenue, Chicago, Ill.

WATERWORKS SYSTEMS.—U. S. Indian service, Fort Peck Agency, Poplar Creek, Mont.—Sealed proposals, indorsed "Proposals for Waterworks Systems," and addressed to the undersigned at Poplar Creek, Mont., will be received at this agency, for furnishing, delivering and placing in position at this agency and at the Wolf Point sub-agency, watertanks, wind-mills, pumps, iron pipe, fire hydrants, etc., required in the construction of waterworks systems. A full list of the articles required together with plans and specifications governing the work at each point will be furnished upon application to the undersigned. Indians to be employed to do all necessary work of excavating for water pipes, foundations, etc. Rates per day to be paid them will be supplied bidders upon application. Capt. H. W. SPROLE, U. S. Army, Acting U. S. Indian Agent.

DREDGING—U. S. Engineer Office, 537 Congress street, Portland, Me.—Sealed proposals for dredging in Portland Harbor, Maine, will be received at this office until April 21, 1894, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. PETER C. HAINS, Lieut.-Col. of Engineers.

WATER WORKS.—Sealed proposals will be received for the construction of a complete system of water works for the City of Poplar Bluff, Mo., until April 16th, 1894. Plans and specifications may be seen at the clerk's office in Poplar Bluff, Mo. Bids will be received for the whole or a part of the system. Right to reject any or all bids reserved by council. A certified check for $500 must accompany all bids. J. B. REYNOLDS, Clerk of Poplar Bluff; ISAAC A. SMITH, Consulting Engineer, St. Louis.

U. S. ENGINEER OFFICE, 537 CONGRESS Street, Portland, Maine.—Sealed proposals for dredging in Portland Harbor, Me., will be received at this office until April 21, 1894, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. PETER C. HAINS, Lieut.-Colonel of Engineers.

U. S. ENGINEER OFFICE, 1537 CONGRESS Street, Portland, Maine.—Sealed proposals for dredging in Penobscot River, Maine, will be received at this office until April 21, 1894, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. PETER C. HAINS, Lieut.-Colonel of Engineers.

U. S. ENGINEER OFFICE, 2258 WABASH Avenue, Chicago, Ill.—Sealed proposals for the design, manufacture and erection of the superstructures of one metal single track railway swing bridge and one metal highway swing bridge at Milan, Ill., will be received at this office until May 1, 1894, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. W. L. MARSHALL, Capt. Corps of Engineers.

NAVAL SUPPLIES.—Sealed proposals, indorsed "Proposals for Supplies for the New York Navy Yard. To Be Opened April 17, 1894," will be received at the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until April 17, 1894, and publicly opened immediately thereafter, to furnish at the New York Navy Yard a quantity of lubricating oil, red lead, white lead, white zinc, iron pipe, brass pipe, pipe fittings, lavatories, fire clay, files, borax, rivets, bolts and candles. The articles must conform to the Navy standard and pass the usual naval inspection. Blank proposals will be furnished upon application to the Navy Pay Office, New York. The attention of manufacturers and dealers is invited. Tie bids, all other things being equal, decided by lot. EDWIN STEWART, Paymaster-General, U. S. Navy.

WATER WORKS, MARCELLUS, MICH.—Sealed proposals will be received until April 25th, 1894, at the office of the Village Board, for furnishing all labor and material required in the construction of a system of water-works for the village of Marcellus, Mich. There will be required: 2,000 ft. 8-in. cast iron pipe; 2,000 ft. 6-in. cast iron pipe; 10 000 ft. 4-in cast iron pipe; 8,000 lbs special castings, and laying of same; one (1) duplex pump, 14-in. by 8½-in. by 12-in.; one (1) boiler, 12 ft. by 41 in.; 28 double-nozzled hydrants; 20 valves, 4 to 8 in.; 20 valve boxes; 2 6-in. wells, about 100 ft. deep. Each bid to be accompanied by certified check of two hundred dollars ($200), payable to the order of the Village Treasurer. For plans and specifications apply to the President of the Water Board. ALEXANDER TAYLOR, President of Village Board. W. S. PARKER Consulting Engineer, Pontiac, Mich.

BRIDGE.—ELKHART, IND.—The Elkhart & Western Railroad Company will receive bids until May 1, for a pile and trestle bridge about 800 feet long. Address E. C. BICKEL, Manager.

BRIDGE.—Bids will be received until May 1 for constructing two draw bridges, Address CAPT. W. L. MARSHALL. Davenport, Ia.

ARTESIAN WELL.—Sealed proposals will be received by the City Clerk of Boone, Ia., until May 2d, 1894, for sinking, tubing and testing an Artesian well in the City of Boone, Ia. Well to be large enough to receive 15-in. tubing to bed rock and 12-in. tubing to the depth of 500 ft., and continued to a depth of 2,000 ft. if necessary, with hole large enough to receive 6-in tubing.

The city to furnish steam and tubing, all other tools, pumps, machinery, labor and material to be furnished by contractor.

Each proposal must be made upon printed blanks furnished by city and accompanied by certified check of one hundred (100) dollars, payable to the city, and satisfactory bond for one thousand (1,000) dollars, furnished within ten days after receiving notice of award. Contractor to test well with not less than 10-in. pump when required by the city, with compensation in bid for each test. Well must be drilled with the use of poles; no cables or ropes will be allowed. Payment on completion of well. R. M. MITCHELL, City Engineer; JESSE L. HULL, City Clerk.

WATER WORKS.—Sealed bids will be received by the City Auditor of the City of Dell Rapids, S. D., until April 26, 1894, for constructing a system of water-works. The work contemplated is as follows: Furnishing and laying 122 tons 4" to 8" cast iron pipe. Furnishing and setting 14 hydrants and 7 gate valves. Erecting stone pumping station boiler and pump. Erecting a water tower, consisting of a wooden tank with stone substructure. A certified check for $400 must accompany each bid. Plans and specifications are on file at the office of G. R. KRAUSE, City Auditor, or can be seen at the office of S. B. HOWE, Engineer, Masonic Temple Bldg., Sioux Falls, S. D.

BRIDGE.—Sealed proposals will be received by the undersigned on behalf of the Commissioners of the State Reservation at Niagara, at 214 Broadway, New York City, until April 28th, 1894, for furnishing the materials and labor and for the construction of a steel and iron foot bridge from Goat Island to Luna Island, in the State Reservation at Niagara. Plans, specifications and conditions can be seen at the office of VAUX & CO., Landscape Architects, 74 Bible House, New York City, and at the office of the Commissioners of the State Reservation, Niagara Falls, N. Y. ANDREW H. GREEN, president, Commissioners of the State Reservation at Niagara, N. Y.

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DIVIDENDS.

HOMESTAKE MINING COMPANY,

MILLS BUILDING, 15 Broad Street, New York, April 16, 1894.
DIVIDEND 189.

The regular monthly dividend, FIFTEEN (15) CENTS per share, has been declared for March, payable at the office of the company, San Francisco, or at the transfer agency in New York, on the 25th inst.

Transfer books close on the 20th inst.

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MOLLIE GIBSON CONSOLIDATED MINING AND MILLING COMPANY.
COLORADO SPRINGS, Colo., December 1st, 1893.
DIVIDEND NO. 41.

A dividend of five cents per share ($50,000) has been declared, payable December 15th, 1893, to stockholders of record on December 8th. Transfer books close December 8th, and reopen December 16th, 1893.

PERCY HAGERMAN, Sec'y-Treas.

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1 Silver Mortar.	
1 Gold Mortar.	
2 Slag Pots.	
1 Scoop Car.	
2 Bullion Molds.	
1 Sectional 4 × 6″ Dodge Crusher	1,200 lbs.
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