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The advances in wages which are becoming general in nearly every industry, forecast higher prices for everything in the near future. Business is booming and every indication points to several years of prosperity. Nearly everything is "a good buy" and unquestionably much foreign capital will come here for investment when the fear of dangerous financial experiments has been allayed.

Investors in copper stocks on the Boston exchange appear to "have gone clean daft." Not only have the stocks representing really valuable properties gone up enormously, but all the old concerns which are thoroughly proven to be non-dividend payers have appeared at very high prices, and the prowling "wildcats" are making their appearance. Investors need be in no hurry to rush in. There are plenty of "good things" to be had, and the chances in buying copper stocks at present prices are greatly in favor of a loss to the investor. "Keep cool, and don't get parted too easily from your money," is advice that it will pay to heed.

Last year "The Engineering and Mining Journal" presented its readers with a remarkable series of photographs of underground workings in mines. In the present number we give half-a-dozen illustrations from photographs furnished us by a Wyoming correspondent, which show vividly some of the realities and actual methods of placer mining in that State. Nothing else could show so well the conditions under which gold is found in this form of mining, nor could any description so well convey the idea. Many of our readers will doubtless find the scenes familiar, and others will be interested in the representations. We hope hereafter to supplement these illustrations by others of the same kind.

The use of the improved forms of coke ovens in which the by-products of the coal are saved and utilized has made thus far but little progress in this country, though large numbers are in use in Europe, especially in Germany and Belgium, where the ironmasters are using every effort to reduce the cost of production. The conditions of our own trade for two years past have forced similar reductions upon the attention of our iron men; and among the possible economies a saving in the cost of coke-making holds an important place. With all our wealth of raw material we can no longer afford to waste any possible addition to the marketable products of one of our chief industries.

In another column we note the formation of a company for the introduction on a large scale of improved coke ovens, and it is understood that a prominent iron company is interested in the new venture. Its success may be the beginning of a general change in the coke trade, and that it will succeed under proper management there is little doubt. We may add that some interesting figures as to the cost and profits of by-product coke ovens will be found in the forthcoming volume of "The Mineral Industry."

We have heretofore referred to the approaching exhaustion of the higher grade ores at the Broken Hill silver-lead mines in Australia. It now seems that the period has nearly arrived, since it is announced from the London office of the Broken Hill Proprietary Company that it will be necessary, for a time at least, to curtail the operations of the mine and reduce the output. In the last annual report of the company Mr. John Howell, who was then general manager but has just retired from that position, gave a very fair explanation of the position and prospects of the mine, and his anticipations have been verified. There still remains a considerable quantity of ore to be taken out, but not enough to keep the furnaces continuously in operation. Nothing is said in the despatches of the low-grade sulphide ores, and the inference is that the experimental working of these ores has not yet given very satisfactory results.

To add to the company's troubles, late despatches inform us that a fire had broken out in the mine and extended so far as to stop all work for the present. No details of the accident have been received, but the statements indicate a heavy loss.

It is still doubtful whether the conference at Pittsburg this week between the representatives of the coal mine operators and the miners will result in any agreement. Though a disposition to compromise was manifested by both sides, at latest advices no satisfactory basis of agreement had been reached; on Thursday a proposition to adopt a temporary scale to hold until October only was rejected, and a total failure to agree seemed probable. The conference represents the coal trade, not only in the Pittsburg district, but also in Ohio, Indiana and West Virginia, and the results will affect the trade in Illinois and Kentucky as well. Should it finally fail, and a miners' strike result, it will probably extend through all those States, and reach as far as did the great strike of last year.

While there has been an increase in demand for coal, as for other raw materials, the sharp competition for business has prevented any corresponding rise in prices, and there have been few or none of the increases in wages which have been made in other branches, notably in the iron trade. The result has been much discontent among the miners, and they

also count just now upon the large demand for fuel at the blast furnaces and in other industries to aid them in case of a strike. The operators claim, on their side, that no general increase in the mining schedule is warranted in the present condition of the trade in the West, while a change in one or more districts is impossible, since it would simply result in the transfer of the business to other districts, which could fill orders at lower prices.

A general strike at the present time would be unfortunate, and it is to be hoped that the conference will succeed in finding a basis for an acceptable compromise.

A London cablegram of 1st inst. reports that in its financial article the "London Times" in discussing the possible consequence of an international bimetallic agreement says:

"Not France, whose monetary position is secure, but America, would be the first to take advantage, should we be foolish enough to enter into such an agreement. America is the only great country which would really gain by the agreement. She would try to dispose of her silver here for gold. But the mere hint that we would enter into an international bimetallic agreement would cause such a scramble for gold that it is very doubtful if any would be left in the Bank of England by the time the agreement was signed."

This is pure nonsense, even if it does come from "The Thunderer." It resembles the dire predictions made when this country resumed specie payments after the war. Many declared then that every one would scramble for the gold the government had provided, but events showed that no one wanted it. The ability to get gold for paper simply rendered the paper as good as gold, and then paper was preferred. The use of silver is not only absolutely necessary, it is preferred in all poor countries, and this use will not be lessened anywhere, but rather increased. Moreover, it would be very easy, in an international agreement for bimetallicism, to provide that the governments entering it should continue to hold not less than a certain proportion of their money in silver. This would be no hardship, for silver would be everywhere as good as gold at the ratio adopted.

One argument that should appeal to England in favor of bimetallicism is the fact that by making the money of the silver basis countries as good as that of England it would take away the advantage they now possess over British manufacturers in paying their wages in depreciated money. The adoption of universal bimetallicism would be equivalent to an advance in wages in the silver basis countries and would thus inure to the benefit of the exporting gold basis countries. The adoption of universal bimetallicism under a permanent international monetary commission or clearing house would benefit all countries but would be of greater advantage to England than to any other. "The Times" may dismiss its groundless fear, there would be no sale of American government silver for British gold under international bimetallicism.

The cause of international bimetallicism is making satisfactory progress in Great Britain—the only country that stands in the way of its prompt adoption—and for this progress the British Bimetallic League is to be thanked.

Not a few gold monometallists are fond of asserting with the utmost confidence that legislation cannot possibly make a market price for anything; and especially for silver, but this is simply quibbling. Legislation can make a market, as in fact it did here by the Sherman Act, and it then did for a time increase the price of silver. If this country had the ability—which it manifestly has not—to pay \$1.29 per ounce in gold for all the silver offered to it, and that the law required it to do so, legislation would then make the market price. In the prevalent distrust of the future of silver and with all the mints of the world that could pay gold for it closed to it, no one country, and probably no three or four countries combined, could make by legislation a market large enough to take all the silver that would be offered at any fixed price, but it is perfectly evident that if all the great commercial nations (the United States, Great Britain, Germany, Austria, Russia and the Latin Union) should agree to open their mints to free coinage and to maintain the free interchangeability of the metals at the ratio adopted, the market would, beyond all question, take at that price all the silver that would be offered. A much narrower market did it when the production of gold was far less than it now is as compared with that of silver and when the amounts produced or on hand of either or both metals was greater in comparison to the business of the world than they now are. Statistics demonstrate that there would not be the slightest difficulty in maintaining, for very many years, the free interchangeability of silver and gold at even 16 to 1 under such an international agreement.

The absolute and permanent commercial equilibrium between the metals would be fully attained by an international agreement to place the control of the value ratio between the metals in a monetary commission, for this would allay any fear or anxiety of a dangerous overproduction of either metal. And changes in the ratio that might, in the distant future, become necessary would be so small and few in number that they would create no inconvenience in requiring recoinages of the depreciating metal.

Whatever the relative or actual value (if there be such a thing as an

actual value of the money metals) may be, but a small proportion of either is or ever will be produced at a great profit; a large part of the output will always cost as much and some of it more than it brings. And there is no possibility, except by the fortunate discovery of extremely rare, large deposits of either metal, to greatly increase its production.

Legislation can make a market, and a market at a fixed price for all that is offered makes the price.

ELECTRIC COAL CUTTERS.

Some years ago a large amount of money was expended in this country in an effort to improve and make a commercial success of a long wall type of electric coal undercutter, the original idea and design of which was, we believe, obtained in Scotland. The effort was not immediately successful, and partly on this account and partly from the limited field for such a type of machine in American mines, unless the usual methods of working were radically changed, the machine appears to have been entirely discarded. The work has gone on in Scotland, however, and Mr. George A. Mitchell, president of the Federated Institution of Mining Engineers, and a prominent practical operator, has recently described a machine, in the design of which he took an important part, which does not differ materially from that used in this country. The plant had been in operation long enough when he reported on it, to demonstrate its success or failure, and proved successful. The machine cut regularly 420 ft. of face, to a depth of 3 ft. per shift of 10 hours. In a comparison of costs between hand and machine cutting, the figures being taken when but one cutter was in operation and the plant was worked by hands more or less inexperienced, the actual outlay appears about the same for each method, but as Mr. Mitchell points out, even should this so continue, there are the advantages gained of less slack and larger coal: larger output from the same faces, and consequently less cost for keeping up haulways, and the greater concentration of work, cheapening the cost of haulage. It is reasonable to expect that greater experience with the new cutter will also lessen the cost of working it.

TRANSVAAL GOLD MINES IN 1895.

The June returns of the Witwatersrand mines, as telegraphed from Johannesburg, show that the monthly production of the district has at last passed 200,000 ounces of gold. In June the report gives a total of 200,941 ounces, which exceeds by 6,361 ounces that of May—previously the record month—and by 32,779 ounces that of June, 1894.

It may be of interest to give the half-yearly output of the Witwatersrand for four years past, by way of comparison, as shown in the following table:

	1892.	1893.	1894.	1895.
	Oz.	Oz.	Oz.	Oz.
January.....	84,560	108,374	149,814	177,463
February.....	86,649	93,252	151,870	169,295
March.....	93,244	111,474	165,372	184,945
April.....	95,562	112,053	168,745	186,323
May.....	99,436	116,911	169,773	191,580
June.....	103,252	122,907	168,162	200,941
Totals.....	562,703	664,971	973,736	1,113,547

In four years, therefore, the output of the district has very nearly doubled, and the gain has been continuous month by month, with only three or four exceptions.

As the usual rate of Witwatersrand gold is about 800 fine, the production for the first half of 1895 was equivalent to about 991,000 fine ounces of gold, or \$2,048,397—an extraordinary result for a district numbering less than ten years of active existence.

Two points having an important bearing upon the future prosperity of the Witwatersrand are brought out by this year's returns. In the first place the tonnage of ore taken out continues to increase steadily, as was, indeed, to be expected from the increasing number of companies at work and the extension of operations by many of the older companies. We have for June only the cable report of the total production: but the detailed statement for May shows that 289,034 tons of ore were milled, an amount greater than that reported for any previous month in the history of the district. This large result was reached with no increase in the milling capacity; for, while several new mills were going up, and several old ones were being enlarged, the work was not yet completed, and the number of stamps at work in May—2,502 in all—was no greater than in May, 1894. In June, however, a number of the new stamps were started up, and it is expected that by the close of the year there will be 3,000 stamps in all the mills. The returns indicate that there has been an increase in the average quantity of ore crushed per stamp, showing either an improvement in milling methods, or an increased proportion of easily worked ore.

In the second place, the grade of the ore is gradually decreasing. As noted above, we cannot give the averages for June, but in May the return—including mill work, concentrates and tailings—was 0.67 ounce per ton milled. That is, taking the usual valuation of the gold of the district, the yield was about \$11 per ton. This may now be taken as a fair average, since nearly all the companies which have adopted the cyanide

process for their tailings have worked up the old accumulations, and are now running through the cyanide vats only the tailings which are collected from the current operations.

Both the larger tonnage worked and the comparative lowering in grade are chiefly due to the increased proportion of ore now taken by most of the larger companies from what is known as the "Main Reef," which has heretofore been neglected because of its lower yield. This does not imply that the higher grade ores are becoming exhausted, but rather that the improvements made in milling methods and the more systematic working now found in the large mines make it possible to work the lower grade ore at a profit, which could not be done some time ago.

No gold mining region in the world has ever approached the Witwatersrand in the extent and regularity of its ore deposits; and, while its early history shows plenty of the faults and mistakes which have been found everywhere that gold mining has been undertaken, there is at the present time no other district in the world where the industry is as systematically carried on, or where such regular returns are secured. The proportion of waste and loss has been reduced to a very moderate percentage, and improvements in this direction are continually being made.

The increase in production in the half-year just closed points to a very large production for the current year. There is no reason to doubt that the present level will be maintained and that the total output for 1895 will show a substantial gain over that of 1894. During the closing months of the year it is quite possible that those of the new deep-level mines which were first started will begin to be producers, while the new companies working on the heretofore little exploited sections of the district will also come into the list and help to swell the totals.

Much attention is now being drawn to the other parts of the Transvaal, especially to the Lydenburg and Potchefstroom districts. There are mines in both of these districts which have given good returns, and the exploiting of their deposits will probably increase, owing to the opening of new roads which will make them more accessible to men and machinery. While the nature of the deposits in these outlying districts differs from that of the Witwatersrand, and their quartz veins, so far as yet explored, do not show the regularity and certainty of the banket beds of the older district, there are many indications of promise, and it is very probable that good mines will be developed.

In 1894, as we have already noted in these columns, Australia showed a larger gold production than any other country in the world, its output slightly exceeding that of the United States. Most probably in 1895, and almost certainly in 1896, both those countries will have to cede the first place to the Transvaal.

NEW PUBLICATIONS.

REAL BIMETALLISM; OR, TRUE COIN VERSUS FALSE COIN. A LESSON FOR "COIN'S FINANCIAL SCHOOL." By Everett P. Wheeler. New York; G. P. Putnam's Sons ("Questions of the Day" Series, No. 84). Pages 92; illustrated. Price 75 cents.

This little book is another addition to the mass of literature called out by the present currency and financial discussion. It is in large part intended as a brief summary of facts and a refutation of the fallacies of "Coin's Financial School," the book which has obtained such notoriety, and which was recently reviewed in this column. The author is a lawyer and public man who has acquired a reputation for his ability to go at once to the heart of a case, and in arguing it to drop all side issues and force the fighting on the essential points. In his present monograph he has shown his usual directness. Basing his argument entirely on admitted facts and on the experience of our own and other nations, he goes straight to the point and shows what the results would be if the "cheap money" advocates should succeed. He is not sparing in his exposition of the motives which actuate some of the leaders in the attempt to depreciate our currency, and his language is everywhere plain and forcible. He has compressed a large amount of information into a very brief space, and, in fact, there is hardly a superfluous sentence in the book. Even those who do not agree with his conclusions will admit the force of his argument and the clearness of his style.

The great defect in the whole discussion is that the writers on both sides have not had that clear understanding of the conditions and cost of production of the precious metals which is really necessary to the proper understanding of the question. In the columns of "The Engineering and Mining Journal," and in the pages of the forthcoming volume of "The Mineral Industry," we have sought to present these facts in a condensed form, and we venture the opinion that they are a most essential addition to the literature of this all-important subject.

PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON AERIAL NAVIGATION. Chicago, August, 1893. New York: the "American Engineer and Railroad Journal." Pages 430; illustrated. Price \$2.50.

History and tradition tell us that from a very early period men have been ambitious to navigate the air; but it is only within a few years that the question has really been taken up in a scientific and practical way. Custom and association had led many of us to look on the man with an air-ship as a visionary and a "crank," and it needed a conference like that held in Chicago to show with what energy and method the subject had at last been taken up by men who could bring to its discussion all the resources of scientific knowledge and mechanical skill.

Of course there are still many who have not such resources at their command, and who try to bring about results by methods wholly impracticable and absurd; but the managers of the conference showed tact and skill in keeping these cranks away and in bringing forward those who were really capable of adding to our knowledge. Their success is shown

in the present volume giving a full report of the proceedings. It contains papers and discussions by such well known scientists and engineers as Octave Chanute, the late A. M. Wellington, Professors Langley, Harrington, De Volson Wood and Thurston in this country; Crossland Taylor, Wenham, Baden-Powell and Major Fullerton in England; Bretonniere and de Louvrie in France; Kress in Austria, and others of almost equal note. These writers and speakers have considered the subject in various lights, and have, almost without exception, contributed some results of actual experience and scientific deduction.

Unquestionably a great impulse to the consideration of aerial navigation was given in the Franco-German war of 1870, when even the exceedingly incomplete and variable results obtained during the siege of Paris showed how useful the art of traveling through the air might be in war, and put at the command of experimenters funds and resources which they might otherwise never have been able to secure. But while the experiments made under military direction have been of great service in certain directions, most of the real advance made has been after all through private observations and investigations. The public attention drawn and the moral support given by government patronage were of much more service than the material aid.

It is noticeable that ballooning, long supposed to be the only practicable method of air travel, has taken a subordinate place. In the conference and elsewhere the most prominent position is taken by the "aviators;" that is, those who believe in traversing the air as the birds do, and who use aeroplanes or artificial wings of some description. That final success lies in this direction there is no doubt, and the main question now is the discovery of some form of motor light enough and powerful enough for the purpose.

The volume under review gives very fairly the results which have been accomplished up to the present time; and it should be in the hands of all who believe that man will yet learn to navigate the air, or who take an interest in the possibility of his doing so in the future.

WAYS AND WORKS IN INDIA: AN ACCOUNT OF THE PUBLIC WORKS IN THAT COUNTRY. By G. W. Macegeorge. London, England; Archibald Constable & Company. Pages 566; with maps and illustrations. Price (in New York) \$5.20.

In collecting the material for the present work the author had the advantage of a long experience as consulting engineer to the Indian government, which gave him access to many public records and documents which an outsider is not always able to reach. The subject is an extensive one, and, as the author confesses, the present volume simply gives an outline of the work which has been accomplished under British rule, the object being chiefly the information of the public which has usually taken but slight and passing interest in Indian affairs. Besides the general introduction it has chapters on the Topographical Survey of India; on Roads; on Irrigation; on Railroads; on the Water Supply of Towns; on the Telegraph, and on Sea and Harbor Works.

The first chapter gives an interesting account of the topographical survey of the country which was the first attempt made at actual mapping in India and the results of which have proved of the greatest value to the government. This work was first begun as long ago as 1802 and is still being carried on, the operations having been extended as the boundaries of British rule and influence were pushed forward. It may be added that in connection with the present work of this survey some very interesting observations of a scientific nature have been carried on.

The chapter on roads contains some interesting historical notes on the road and highway work done by the various native governments before the advent of Europeans. English work on the highway roads has been, in fact, of a comparatively recent date. Although a "Grand Trunk" highway was projected by one of the best abused but probably the greatest of Indian governors, Warren Hastings, as long ago as 1780, the practical commencement of work dates only from 1835, and for many years it was carried on very slowly. In recent years work has been conducted more systematically, and a very large mileage of excellent highways has resulted. As in our own country, the improvement of the highways was somewhat delayed in India by the introduction of the railroad, which turned capital and engineering skill in that direction and caused for a time the neglect of the common roads, which in a country like India, to an even greater extent than in the United States, must always be a very important consideration in the proper development of the country.

The chapter on railroads gives a brief account of the development and construction of the great system of railroads which has been built up in that country. The chief defect of this chapter is that perhaps too much space has been given to the organization and development of railroads in England, which was somewhat outside of the subject of the book; and too much also has been given to general considerations of practice and not quite enough to the special peculiarities which characterize the Indian lines. It may be noted, by the way, that the general success of these dates from the time when they commenced to abandon English precedents and to adopt their own methods. We have been so accustomed to confine attention to our own practice that many will be surprised at the statement that some long Indian railroads, such as the Great Indian Peninsula, the Bombay, Baroda & Central Indian and the East Indian, are run successfully at a lower cost and give their patrons lower passenger and freight rates than any other railroads in the world, exceeding even our own in that respect.

The water supply works and the sea and harbor works which are described in this volume, are of more recent date than any other of the important undertakings, but include some very interesting constructions which are here briefly described.

By far the best and most important monument to British rule in India, however, is found in the irrigation works which have so largely benefited the people of the country, the government revenue, and the agricultural production upon which its prosperity chiefly rests. It is not too much to say that the grain and cotton exports of India are chiefly the result of the irrigation works which have been begun and completed by the government. From the earliest historical dates irrigation has been practiced in India, but under the various invasions from which the country suffered from time to time, and the inefficient rule of the native governments, many of the works which had been executed at an earlier date had fallen into ruin and disuse. The English engineers have not only renewed these, but have planned and

executed others on a large scale, and generally in a very comprehensive and intelligent way. The work is not by any means completed as yet but it has made good progress, and India is gradually being covered with a network of dams, reservoirs and canals by which the natural water supply can be utilized to the best advantage. One of the results most generally observed and commented upon has been the gradual disappearance of the periodical famines which formerly desolated large tracts of the country and the production of a surplus of wheat and rice for export which formerly existed only to a very limited extent. It is due to the great engineers who have charge of this special branch of the work that they should receive credit for having freed themselves and their department from home precedents, and have availed themselves of the experience of the French and especially of the Italians in forming their plans.

While the book does not pretend to be scientific or even a complete account, it is certainly a most interesting one and gives the reader a very good idea of the amount of engineering work which has been done in India as well as that which remains to be done.

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 supercede review on another page of the Journal.

Ontario: Fourth Report of the Bureau of Mines; 1894. Archibald Blue, Director of the Bureau. Toronto, Ont.; printed by order of the Legislative Assembly. Pages 264 with maps.

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. Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

Flint for Glover Towers.

EDITOR ENGINEERING AND MINING JOURNAL:

Sir: Any reader of the "Engineering and Mining Journal" would oblige by giving address of parties able to furnish pure flint of best quality for filling Glover towers in sulphuric acid works, writing me in care of your office.

LA SALLE, Ill., July 22, 1895.

A. E.

The Ortiz Mine Grant.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: For several years the citizens generally, and especially those engaged in mining in this section of New Mexico, have felt aggrieved by the claims of the owners of the Ortiz grant. The area claimed by the grant is for 10 miles square, with all mineral and other rights. It is believed that the Ortiz lands were not honestly obtained and cannot be rightfully held, and a petition to the Secretary of the Interior, signed by over 500 citizens, has been forwarded to Washington, praying that the patent be annulled.

The petition runs as follows: The undersigned citizens of the United States and residents of the Territory of New Mexico earnestly pray that proper judicial proceedings in the courts of said Territory be instituted and prosecuted to full judgment in the name and on behalf of the United States by the Department of Justice, or by special counsel to be appointed for that purpose to cancel and annul the patent of the United States dated May 20th, 1876, issued to the "New Mexico Mining Company," a corporation organized under the laws of the Territory of New Mexico, and recorded in Vol. 16, at pages 108-121 inclusive, in the office of the Recorder of the General Land Office of the United States, quit claiming and relinquishing to said patentee the tract of land known as the "Ortiz Mine Grant," and containing 69,458 acres of land; and also to vacate and set aside the survey of this tract of land made by and in behalf of the United States mentioned in the said patent. The grounds upon which we base this petition are frauds or mistakes of the most glaring character—disclosed upon the face of the public documents themselves, upon which the said patent is based, affecting the rights of the Government and of private citizens who are entitled to the benefit and protection of the laws of the United States. . . . We call attention especially to the following facts, recited in the patent or otherwise apparent, and to the laws applicable to the same: The act of Congress approved March 1st, 1861, only confirmed the private land claim numbered 43 which "was recommended for confirmation by the surveyor general" of New Mexico, and provided that "the foregoing confirmation shall only be construed as quit-claim or relinquishment on the part of the United States, and shall not affect the adverse rights of any other person or persons whomsoever."

Sundry facts and legal decisions are then recited, and the petition closes as follows: The question whether the precious metals contained in this tract, outside of the "Santa Rosalia" mine, passed by the patent, is not involved in this application; but we earnestly invoke the speedy action of the government, in order that upon due establishment of the actual facts, the lands improperly included in the patent may be relieved of the existing cloud, and may be thrown open to exploration and purchase; and, in conclusion, we call attention to the near approach of the time which, it is claimed, will debar relief, under the provisions of the act of March 3d, 1891. 26 stat. L. 1093.

The case is of much importance, to the citizens of Santa Fe County especially, and it is hoped that the United States government will give it prompt attention and render an early decision according to the merits of the case.

SANTA FE, N. M., July 25th, 1895.

J. G. B.

PIG IRON PRODUCTION IN 1895.

In our issue of July 20th we referred to the advance statement of pig iron production in the United States for the first half of 1895, issued by the American Iron and Steel Association. We give below the table prepared by the Secretary of the association showing the production of pig iron for the half year by States, in long tons, as compared with the first and the second half of 1894:

	1894.		1895.
	First half.	Second half.	First half.
Massachusetts	156	156	2,193
Connecticut	3,360	4,047	2,438
New York	91,611	83,574	88,349
New Jersey	36,878	26,95	28,112
Pennsylvania	1,350,466	2,019,686	2,087,381
Maryland	3,974	1,626	.....
Virginia	146,215	151,871	142,580
Georgia	22,540	17,728	11,535
Alabama	255,950	336,442	390,553
Texas	2,223	2,448	2,502
West Virginia	23,332	56,342	62,567
Kentucky	19,639	14,215	19,285
Tennessee	100,223	112,550	114,169
Ohio	332,804	567,225	632,571
Illinois	216,121	388,674	376,401
Michigan	46,309	48,862	48,868
Wisconsin	38,372	53,223	53,750
Missouri	892	5,630	2,267
Colorado	25,465	48,204	25,016
Oregon	1,000	.....	.....
Total	2,717,983	3,939,405	4,087,558

The production of spiegeleisen and ferro-manganese (included above) was 120,180 tons in 1895, as compared with 69,225 tons in the second half and 50,955 tons in the first half of 1894.

Of the total output of pig iron this year 2,402,023 tons were classed as Bessemer pig, against 2,307,080 and 1,501,487 tons for the second half and the first half of 1894, respectively.

The production of pig iron, classified according to the fuel used in the furnaces, was as follows:

	1894.		1895.
	First half.	Second half.	First half.
Anthracite	412,047	502,695	487,479
Coke	2,263,239	3,316,985	3,497,078
Charcoal	102,697	119,725	103,001
Total	2,717,983	3,939,405	4,087,558

The increase in production has been accompanied by a decrease in stocks, as shown by the following table, which gives the stocks at the close of each of the half-years named:

	1894.		1895.	
	Dec. 31.	June 30.	Dec. 31.	June 30.
Bituminous	288,528	165,167	227,307	129,566
Anthracite	136,359	122,144	119,598	109,007
Charcoal	207,181	229,705	250,183	200,687
Total	662,068	517,036	597,088	439,290

The decrease in stocks was 158,398 tons during the half-year. The consumption has therefore increased more rapidly than the production, a condition most favorable to the furnace owners.

A large increase in production may be expected during the remaining months of the year, and a number of furnaces are now preparing to go into blast.

GOLD AND SILVER—THEIR PRODUCTION, USES AND LOGICAL RATIO.

By Richard P. Rothwell.

(Concluded from Page 78.)

In the first part of this article the production of gold and silver and the relative output of the two metals have been considered; and there must now be taken up the question of their cost.

THE COST OF PRODUCING GOLD AND SILVER.

If investments were made in gold and silver mining with the prudence which characterizes those in most other branches of industry, instead of being, as they are in the majority of cases, simply gambles in a lottery, it would be possible to determine with a fair degree of accuracy the relative cost of producing the metals in any given quantity, and we would then have a logical ratio of values for their use in money. Unfortunately the problem is not so simple and cannot be solved with mathematical exactness.

It is not, of course, proper to consider the gambling investments in worthless mines and stocks as a charge against the gold and silver produced; still the actual legitimate cost of producing varies so greatly with the grade and amount of the ore and the facilities for mining and treating it, and these conditions are themselves so variable that even the actual expenditure in producing the total output of either metal one year would not be a fair measure of that in other years. Nevertheless such facts are valuable aids in arriving at the approximate average cost of production.

In the "Mineral Industry," Vol. I., the cost of producing 17,757,025 oz. of silver, or 32½% of the United States production in 1890, was ascertained to have been, exclusive of interest on capital invested, 50¢ per ounce, and it was estimated that of the 65,000,000 oz. produced in 1892 one-half was produced probably at an average cost of 65¢., and one-half at 90¢., giving an average for the whole of 77½¢. per ounce.

It is certain that the mines which produced nearly 18,000,000 oz. in 1890 at a cost of 50¢. per oz. could not now do so, notwithstanding the decline in wages and in many items of cost that have since taken place; because most of these mines are no longer in bonanza, and the grade of the ore has declined more rapidly than the costs of treating it.

In any inquiry as to the average cost of producing the precious metals the amount to be produced is an essential element in the problem. Probably more than 5,000,000 oz. are produced annually in the United States as a by-product in getting other metals, but if 65,000,000 oz. a year were now suddenly required it certainly could not be produced at 77½¢. per oz. Further than this the cost of producing such an amount in a year is increasing and will continue to increase until new bonanzas are found, and there is now little inducement to expend money in the costly search for these.

The commercial value of silver at the turning point when capital abandoned its production and sought that of gold would afford an approximate relative average cost of producing the two metals, though even this measure would be far from strictly accurate.

If we find that the production ratio of silver to gold over a long series of years has not greatly differed from their commercial value ratio then we can conclude with a fair degree of accuracy that the profits on their production have not greatly differed; that is, that their relative cost has been about the same as their production ratio, for we assume as also

lutely true that capital will go into the production of that which pays the best, taking due account of the risks in the business.

While a gold bonanza, owing to the higher value of the metal, is, probably, more profitable than one of silver, yet the risks are greater. It may indeed be stated, as a general proposition, with an approximation to the truth, that the profits in producing any of the metals is, in a rough way, inversely proportional to the unit value of the metal itself. No doubt, on the whole, the producing of silver is a more profitable investment for capital than that of gold, as the production of copper is more profitable than that of silver. It is probably also true that on the whole much more money is lost in the production of gold than in that of silver.

If either of the metals could be produced at anything like the small cost which the secular writers, who are unacquainted with the technology of the industry, are so fond of asserting, capital would be much more eager to invest in the industry and the output of the precious metals would be greatly increased.

Now the total production of the world since 1492 amounted to 12,470,477 kilos gold and 242,019,823 kilos silver, or in the proportion of 19.4 silver to 1 gold. Taking the values of the metals at their current value ratios throughout that period, as given in the accompanying table, the average relative values of this gold and silver were as 16.18 to 1—that is, assuming gold to be worth \$20.67 per oz. troy, or \$664.60 per kilo, the value of the silver would be \$1.27 per oz. The average relative cost of producing the metals in the last 402 years may be counted as between the average production and value ratios, that is to say, between 16.18 and 19.4 to 1, and a reasonable ratio for coinage at the present time would, considering the trend of the ratio value, be perhaps 18 to 1. For a series of years to come a ratio of 16 to 1 could undoubtedly be maintained under universal bimetallism without any dangerous over-production of silver, for, as already explained, during the next decade the relative cost of producing gold and silver will probably be much below 16 or even 15½ to 1.

The late Dr. Soetbeer suggested as a fixed ratio for universal bimetal-

year. The United States Mint published in 1894 an estimate of the stock of gold and silver money in the world, which gave the gold as \$3,965,900,000 and silver \$4,055,700,000. If we compare this with the total production of the metals since 1492, as given above (adding the amount of \$1,000,000,000 we have estimated as the possible stock on hand in 1492), we find that the actual stock of gold money in the world now amounts to about 45% of the production and that of silver to about 40% of the output. In other words, 55% of all the gold and 60% of all the silver produced in the last 1,000 years has been used industrially or been lost and only 45% and 40% respectively have remained in money. At the present time it is certain that the annual addition to the gold money of the world is much less than 45%, and is probably not much above Soetbeer's estimate of 25% of the annual output of the metal. In other words, if the present enormous annual production of gold in the world be \$180,000,000, the increase of the world's stock of gold money probably does not exceed \$45,000,000 to \$50,000,000 a year, or an annual increase of less than 1¼% of the gold alone and about one-half of 1% of the existing gold and silver money combined. The annual increase in the war funds—all of gold—of a few European countries more than absorbs this small available increase in gold money.

The general demonetization of silver is rapidly reducing the international money of the world by one-half, or 50%, and is rendering suddenly the other half, the gold, with its annual increase of less than 1¼%, the sole money foundation for the commercial credits and business of the world.

Is it strange then that every new demand for any important quantity of gold, such as that to satisfy the Franco-German war indemnity; that for the resumption of gold payments by Austria; the recent United States loans, and even smaller transactions, should put the whole financial world in a tremor of anxiety? The fact that it is quite within the power of a number of individuals, acting singly or in combinations of two or three, to create such a demand for gold as would disturb the whole commercial world, owing to the small amount available for money and the increasing demands on that, must make it clear that the money of the world is in a

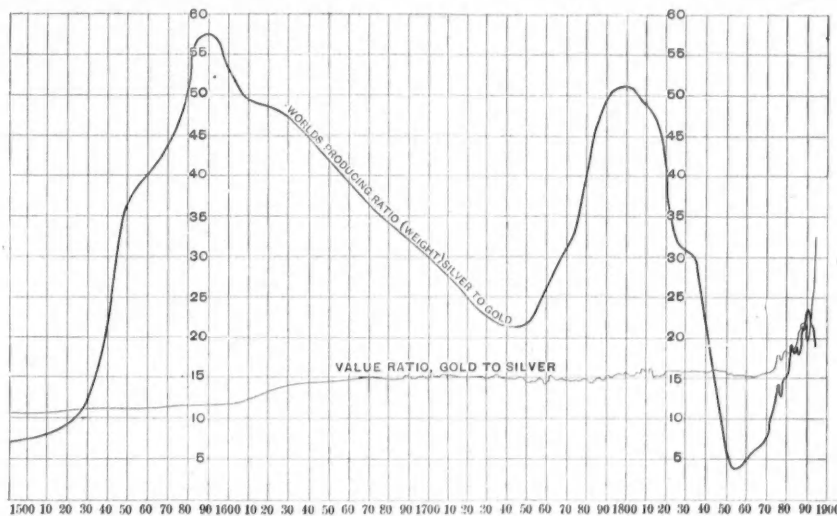


DIAGRAM SHOWING FLUCTUATIONS IN PRODUCTION AND VALUE RATIOS OF GOLD TO SILVER SINCE 1492.

lism 20 to 1 (\$1.03 per oz. for silver), and this is a proportion which would over a long series of years favor the production of gold.

THE SUPPLY OF THE PRECIOUS METALS FOR USE IN MONEY.

It must not be supposed that the entire production of gold and silver is available for use in money, for a large part of each, and especially of gold, is at present used industrially. Estimates made by Humboldt in 1827, from direct returns of some of the manufacturers, were that one-fifth of the production was so used, while Lowe estimated it in 1822 at two-thirds of the production. Dr. Soetbeer endeavored at different times to ascertain the amount of gold and silver used industrially, and his latest estimate, in 1891, was 650,000 to 750,000 kilos silver as so used in Europe and the United States alone. He estimated the consumption of gold in industry and for export to India, and amount hoarded, to have been 120,000 kilos out of an average production of 160,000 kilos, leaving but 25% available for "increase of the active monetary gold stock of civilized countries." The director of the United States Mint has estimated, from direct returns of manufacturers, that the United States and Europe alone consumed in 1892-'93 75,500 kilos gold, or about 33% of the world's production, and 663,000 kilos of silver, equal to 13.37% of the world's production, and this without counting the largest consumers—India, China and the Straits.

All statisticians agree that the industrial consumption of gold is increasing, with increasing wealth, more rapidly than that of silver, which will probably decline as the value of the metal declines, and its use in money is discontinued.

The world's coinage, according to the director of the United States Mint, amounted in 1891, 1892 and 1893 to the following sums:

	Gold.	Silver.
1891.....	\$119,534,122	\$128,291,367
1892.....	172,473,124	155,929,765
1893.....	231,862,530	135,945,426

This amount includes also the recoinages and use of old material, so that the new metal going into coinage is much less than this. Since coins, new and old, are melted down for use in industry, even if we knew the amount of recoinages and of foreign coins melted down at the various mints for recoinage, it would by no means enable us to determine the amount of gold and silver annually added to the world's stock of money. There appears to be only one way in which this can be done with any degree of accuracy, namely, by ascertaining the actual stock of gold and silver used as money in the different countries and from year to

very unsatisfactory and dangerous condition, and calls urgently for intelligent international control.

Under these conditions would it be surprising if gold should appreciate in purchasing power—would it not rather be marvelous, and contrary to the universal law of supply and demand, if it did not?

CONCLUSIONS.

We may sum up the evidence as follows:

The values or purchasing powers of gold and silver, as of everything else, depend solely upon supply and demand. The demand for them is chiefly for their use in coinage, the uses in arts depending upon the estimation in which they are held, owing to their money values. The physical properties of the metals would never create a demand for either, except for coinage, at any value which would secure its production in large quantity.

The manner of occurrence of gold and silver in nature precludes the possibility of their cheap production in large quantity. The cost of production of each will, in the great majority of cases, always approach very nearly to its market value over a series of years, and a large amount of each metal, and especially of gold, will always be produced at an actual loss.

While, generally, the higher the market value of either metal the more of it will be produced, yet, on account of the discovery of great bonanzas, there have always been and always will be waves of investment in and production of, first one, and then the other, of these metals.

Since profits in mining are, roughly, in inverse proportion to the unit value of the metal produced, and losses directly proportioned to this, the natural tendency from this cause is for gold waves to be shorter in duration than silver waves, as, indeed, the statistics show they have been.

The more rapid spread of knowledge tends to lessen both the duration and the height of the waves of production, that is to say, it lessens the fluctuations in production ratio between the metals and at the same time makes the increase in aggregate production more uniform.

The fluctuations in production from year to year become altogether insignificant when compared with the world's total stock of the two metals.

As the metal appreciates in value more of it will be used industrially, and as it depreciates less will be so used—contrary to the rule with metals which are in demand for their physical properties alone.

Probably not more than 25% of the annual gold production is available as an increase in the stock of the money of civilized countries.

So long as the precious metals are used as the basis of the world's medium of exchange, the smaller the fluctuations and the more uniform the increase in the supply of this basis, the less will be the disturbance in the world's industries.

There was no such production of silver in 1890-92, or since then, as to cause the slightest danger that silver would become superabundant. There was no reason, in the actual or possible production of the precious metals, for the abandonment of bimetalism by Germany in 1871. That was due to a groundless belief that the actual or possible production of silver would endanger the free interchangeability of the metals under international bimetalism.

To assure absolute confidence in the future it is only necessary to place the control of the ratio between the metals in a permanent international monetary commission or clearing house, which not only would dispel all anxiety concerning the stability and safety of universal bimetalism, but by the adoption of well-known clearing-house methods would render all the gold and silver money more readily available for the needs of the world.

THE FOURMILE PLACER FIELDS OF COLORADO AND WYOMING.*

Written for the Engineering and Mining Journal by E. P. Snow.

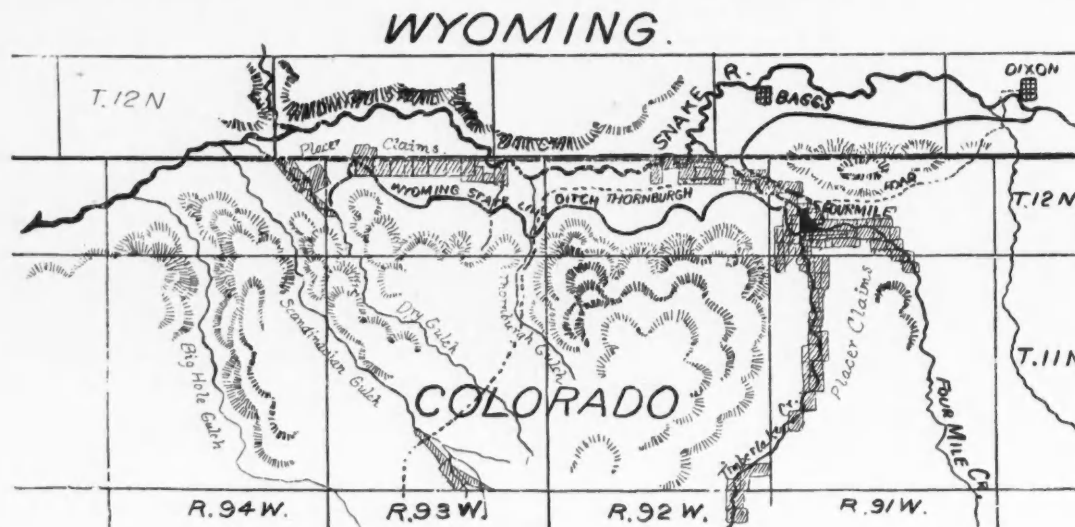
The Fourmile placer fields are about seventy-five miles south of Rawlins, on the Union Pacific Railroad. They are situated in Routt County, Colo., and Carbon County, Wyo., on the Snake River, a large and rapid stream, flowing in a southwesterly direction to the Pacific, the elevation being from 4,000 to 4,500 ft. above sea level. The Voorhees daily stage line leaves Rawlins at 7:30 a. m. and arrives at Fourmile the same evening.

The area of the belt is about forty miles in length and thirty miles in width. The auriferous gravel beds are from 2 to 20 ft. in thickness, the general average being 9 ft., although in a great many places it is 18 ft. These gravel beds are not, as is usually the case, in the various gulches,

Spring, Mr. Edwards' former home, interested several parties with them and organized the Rock Springs Placer Company, with G. W. Edwards, president; A. Kendal, treasurer, and W. K. Lee, secretary. The company's property consists of 700 acres of mesa land about 70 ft. above the valley of Fourmile creek. The soil is an auriferous gravel, some 9 ft. deep, when a formation of reddish talc and decomposed porphyry is reached. The gold is very evenly distributed through the gravel from grass roots to bed rock, the average of the entire body being, it is said, 30c. per cubic yard.

The water for this ground is transported through a ditch 17 miles in length with a capacity of 500 miners' inches. For the last half mile it runs through a 9-in. sheet-iron pipe with a fall of 65 ft. and connects with a giant throwing a 2½ in. stream. The giant washes the gravel down and into the ground sluices, through which it is carried to the plant below. In running into the plant the material passes over sheet-iron plates perforated with holes ⅜ in. in diameter, the coarse material being carried over to the dump and the fine falling into a sluice underneath. From this the finer material is carried in troughs to a series of 24 sluices, 12 on each side. These sluices are 3 ft. wide and 16 ft. in length, the bottoms being made of sheet iron. The upper 4 ft. has a fall of six in. and is bare; from this plate the gravel drops 3 in. on to the lower plate, which is covered with burlap and has a fall of 8 in. The burlap, which catches all the fine gold and is especially adapted to this district, is taken up and washed every two days; the washings are then run through a Bell's gold-saving machine which collects the gold with quicksilver; this is then strained through buckskin or heavy duck, the amalgam retorted and the product is ready to be taken to the mint for refining, and for which the mint allows the company \$19.72 per ounce.

The company is washing out 1,000 cu. yds. per day, it is said, at a cost when working of about \$20. Owing to lack of water in the past, the company has run the plant only about 90 days each season. This difficulty has now been overcome, and in the future the plant will run 240 days. As high as \$18,000 have been taken from less than two acres of this ground. This company also owns 320 acres of ground on Scandina-



MAP OF THE FOURMILE PLACER FIELDS.

but form the mesa or upland, and cover the entire country, the bedrock of the gravel being from 10 to 150 ft. above the valley through which the streams flow to Snake River.

The gravel, with few exceptions, contains no hard cement, pipe clay or boulders, and can be broken down and washed with a moderate head of water. It disintegrates with remarkable rapidity, and the gold, while fine, is easily saved, and is very regularly distributed through the whole area. The gold runs from 20 cents upward per cubic yard.

The elevation of the bedrock above the streams is sufficiently high to make tailings dump. Timber exists in abundance in close proximity to the district, every mountain stream being lined with pine, spruce and cedar groves.

The majority of the locations made thus far have been on Fourmile, Timberlake, Thornburgh, Dry, Scandinavian, Big Hole, and along Snake River south of Big Hole for a distance of 10 miles. These streams all rise on the northern slope of the Iron Springs divide, run from 15 to 20 miles in a northwesterly direction, and empty into the Snake River.

The first gold was discovered in 1891 by Mr. Hugh Morrison, an old-time prospector who left Aspen, Colo., intending to go into the Uinta range for the purpose of prospecting in that section. On his way he crossed Fourmile gulch, and, seeing that he was in a gold formation, proceeded to investigate and found gold. Mr. Morrison then prospected the heads of Willow, Slater, and Fourmile, finding that the gold did not come from that divide, started down Snake and prospected the sand bars down to Libby Peak and was well pleased with the country. On the 22d of December he started back to Aspen and returned to Fourmile in February of the following year in company with Mr. George Albert, and commenced active operations by locating claims on Fourmile, Dry, Scandinavian and Big Hole gulches. Mr. Morrison built the first cabin on Fourmile and commenced sluicing there with a Mr. Robert Ferris.

Messrs. J. G. Edwards and Frank A. Hinman first demonstrated the extent and value of these deposits and called the attention of the public to them. They at first operated with sluice boxes, and after satisfying themselves that the gold existed in paying quantities, went to Rock

vian gulch some 12 miles south. Here the gravel is much deeper and carries more gold; one man and his son are said to be taking out \$2.70 per cu. yd. with a rocker. The great expense necessary to convey the water on to this property will prevent its being worked on a large scale.

From the Rock Springs property up Timberlake gulch for a distance of 8 miles, the gravel is very rich. The famous Nelson, Boothe, Easum and Mollie G. properties are situated in this gulch.

The Nelson property consists of 600 acres of gravel bar, and is owned by William Nelson, an old time prospector. Mr. Nelson not having the means to build a ditch, is dependent on the Rock Springs Company's ditch for water. This company gives him their surplus water and with one man to assist him, he is taking out a fair amount of gold.

On the Boothe property, there is an arrangement for raising the water, consisting of an endless chain with buckets attached; these buckets hold 2 gals. each, and the plant will raise 250 gals. of water per minute. The plant is run by horse-power, the water being taken from a reservoir some 40 ft. below; this reservoir is fed by springs, the water is raised to the top of the mesa, washes the gravel into the sluice boxes, does its work there, and returns to the reservoir ready for another journey. Here the wife drives the horses to raise the water, while the husband attends to the sluices.

The writer made several tests on the Boothe and Nelson properties, and feels confident that the average yield will be over \$1 per cu. yd. A survey is now in progress to bring water from Snake River, that a close estimate of its cost may be arrived at. Mr. J. B. Adams, of Omaha, Neb., has an option on this group of properties.

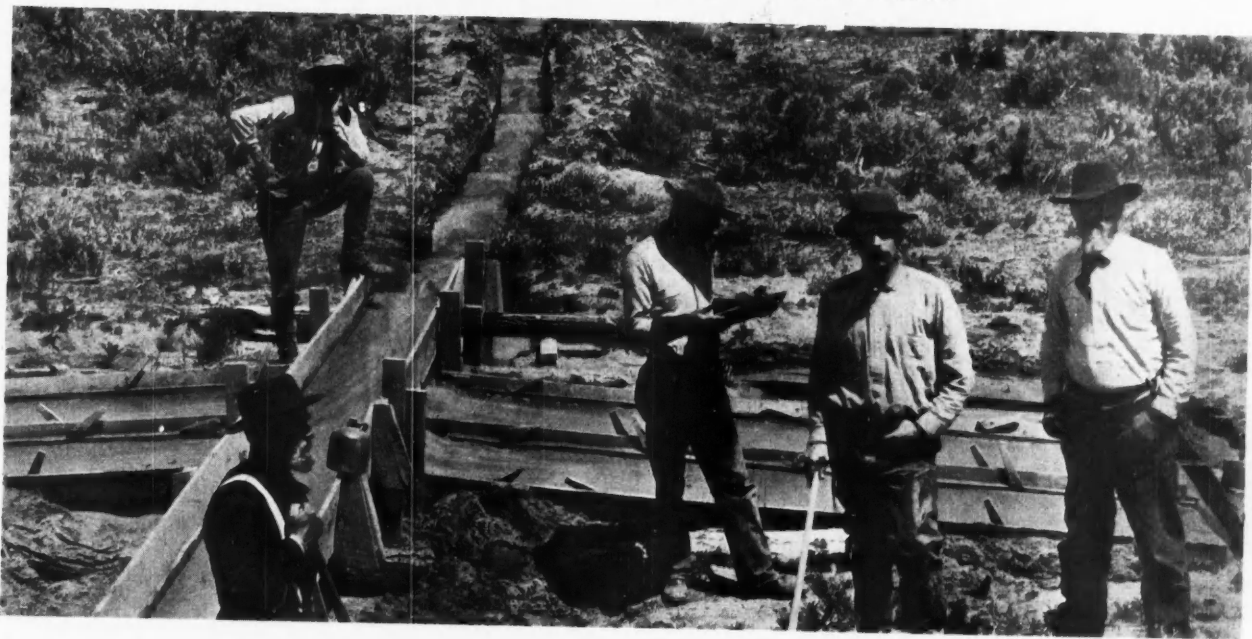
From the Rock Spring Company's property, up Fourmile Gulch for a distance of some six miles, the gravel is also rich, and is in all respects similar to the gravel on Timberlake, so that a description for one answers for both.

A New York syndicate now has a mining engineer in the district, who is making a careful examination of this ground, as well as of the facilities and cost of bringing the water upon the same. Should his report be satisfactory, the property will soon pass into the hands of capitalists.

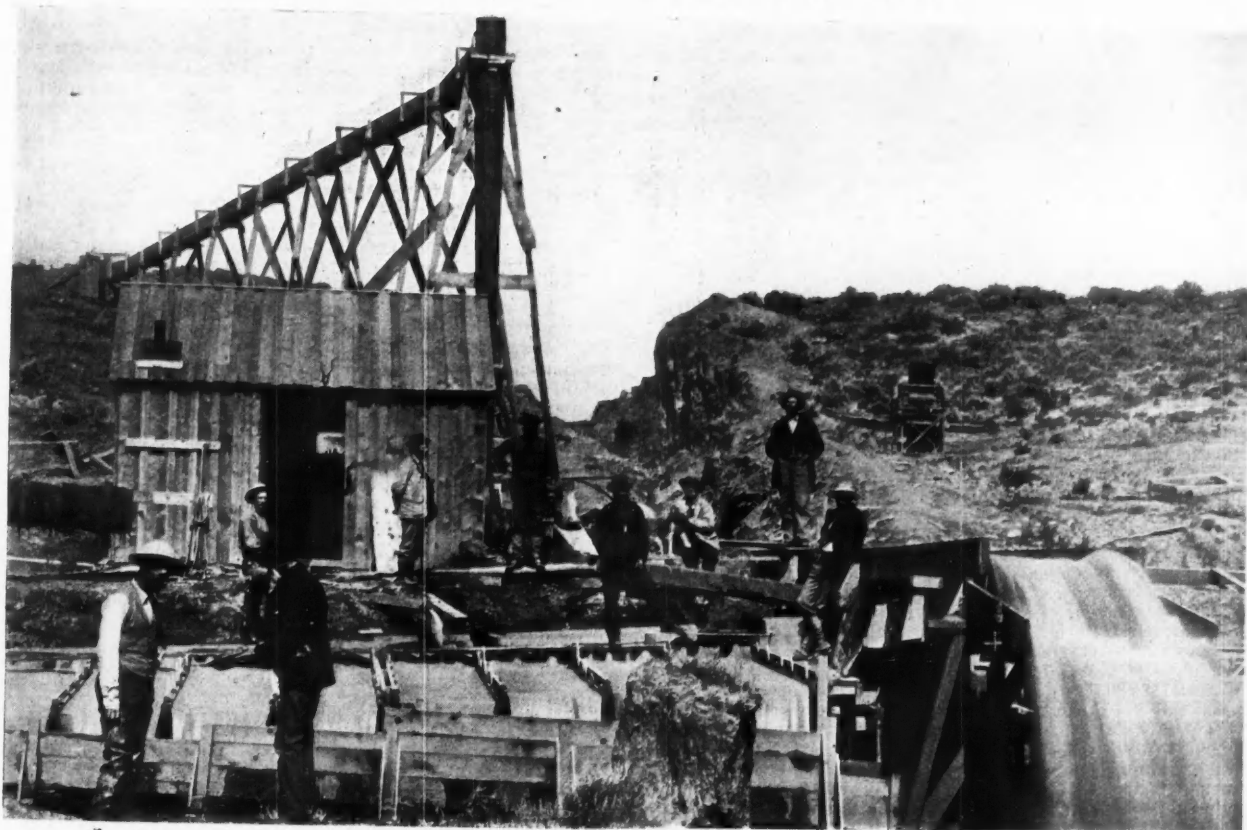
The next in order is the Dry Gulch group of placers, situated in Dry Gulch and vicinity, and containing 1,510 acres of rich gravel bars. Mr.



ROCK SPRINGS COMPANY'S PLANT, FOUR MILE PLACER DISTRICT.



HARDENBERG AND HINTON'S CLAIM, FOUR MILE PLACER DISTRICT.



ROCK SPRINGS COMPANY'S PLANT, FOUR MILE PLACER DISTRICT.

Adams recently negotiated a sale of 51% of this property to a syndicate of Rhode Island capitalists, the consideration being \$45,000 cash and the building of a canal of sufficient capacity to carry 3,000 miner's inches of water; also the erection of the necessary machinery to handle the gravel. The name of this company for the present is "The West Side Mining Association," with Messrs. William B. Haskins, William Howard and George F. Perkins, trustees; L. H. Tillinghast, treasurer; Edward A. Greene, consulting engineer. This association has invested in this field on purely business principles. They intend to work their property for what there is in it and not for a stock speculation. The members of the association are well posted in mining matters, and before investing a single dollar sent their own men to investigate the property and make a report.

The gravel beds on this property average 12 ft. in thickness and only in one place was the bed found to be but 6 ft., while in many places it is 18 ft. thick. The gravel on this property is as good as any found in the district. It does not contain any pipe clay, hard cement or boulders and it can be handled with a moderate head of water. The pitch of the bed rock, too, is most favorable for rapid work. The elevation of the bed rock above the outletting stream varies from 20 to 100 ft., insuring ample dump for tailings. This ground, it is said, will average 30c. per cubic yard, and may be handled so rapidly that it should prove extremely profitable for working. There are no boulders, trees or stumps to interfere with rapid progress.

Snake River, which has a flow of 25,000 in. of water, is within reach of this property, and the water will be taken from the river, just opposite the village of Dixon, at a sufficient elevation to give ample head for working the gravel. The water rights of this association are ample and well secured. The canal, now in process of construction, is 10 ft. wide on the bottom, with a slope of one to one and is to carry 3 ft. of water. The entire length of the canal is 38 miles, 9,000 ft. of which is to be piped with 36-in. wooden pipe of the C. P. Allen patent. The canal will cost \$150,000, and is to be completed on September 15th. Mr. Edward A. Greene, of Providence, R. I., has the contract.

In order that the reader may be able to form a correct idea of the value and magnitude of this placer belt, I copy the following from a report made on this property by an engineer for the Rhode Island Syndicate previous to their investment:

The area of this property is a little over 1,500 acres of auriferous gravel. In order to compute the value therein contained, we will estimate, conservatively, that the entire tract will average 20c. per cubic yard, and that the gravel averages a depth of 12 ft. Number of cubic yards per acre, depth 12 ft., 19,360. At 20c. per cubic yard, value per acre, \$3,872."

Situated just above and joining the West Side Mining Association's property is a tract of 1,500 acres of placer ground owned by Mr. J. G. Edwards. The gravel on this property is from 7 to 8 ft. to bed rock, and averages 30c. per yard in value.

From Dry Gulch we cross over to the Scandinavian. Here the distance to bed rock is about the same as in the other gulches. The owners of property along this gulch are reported to be ready to guarantee an average of \$1 per cu. yd. The water problem is the great drawback to the successful working of the ground on this gulch.

Two miles further on we come to the Big Hole gulch, which is similar in appearance to those previously mentioned and prospects well. The Utah Mining Company owns a strip of ground one mile wide, extending back from the river; then comes the Boyce group of claims containing 3,840 acres, upon which considerable development work is being done. Mr. Boyce was the discoverer of the Dry gulch placers and owns some 1,800 acres of selected ground outside of the Big Hole group.

From the mouth of Big Hole for a distance of 10 miles down Snake River the ground is all taken up, principally by the Utah Mining Company. There are a great many river bars that are rich. A survey for a canal to take the water on to this property has just been completed, and the canal will be commenced at once.

On the Bear River side of the Iron Springs Divide there is also a large amount of good placer ground. Messrs. Ferris & Scrivner are the owners of a large tract of placer on this side of the divide. The bars on this slope are very extensive and rich, but here there are more boulders and rocks than in the other portion of the district. The gravel extends from Blue Mountain around to Big Hole, a distance of from 15 to 20 miles.

The entire district is being rapidly surveyed and located. There are at least 200 persons prospecting and locating ground. All that is necessary to make this district a great placer producer is sufficient capital to bring the water upon the ground. To practical mining men this is a matter of little importance, as many a one has been compelled to spend from \$500,000 to \$1,000,000 on ditches alone before turning a wheel.

AN EXPERIMENT IN CO-OPERATIVE MINING.

Written for the Engineering and Mining Journal by D. W. Brunton.

The ores of the Aspen District, Colorado, contain too large a percentage of baryta and an insufficient amount of lead and iron to make local smelting practicable; consequently the output of the camp has to be shipped to the valley (Denver and Pueblo), a distance of 400 miles at a cost of from \$5 to \$8 per ton, according to the value. The shipments of native silver and argentite from the Aspen, Mollie Gibson and Smuggler have created an impression that the ores of Aspen are extremely high grade, but it must be remembered that the tonnage of these ores is exceedingly small as compared with the immense quantity of low grade ore throughout the district. In fact, the percentage of high grade silver and argentite ores even in the Aspen, Mollie and Smuggler is very small in comparison with the volume of low grade and medium ores, even in these three phenomenally rich silver mines. The usual production of Aspen is from 250 to 300 tons per day, all of which is shipped out over the Colorado Midland and D. & R. G. Railroads, without exciting even a word of comment in our local papers, but when either of the three mines above mentioned ships two or three tons of five or ten thousand ounces ore the fact is heralded throughout the length and breadth of the United States, and the average reader, especially in the east, never stops to consider that these wonderful pockets are simply prizes in the lottery of mining, without which the occupation would lose its zest and interest.

From the best information which can be obtained it is certain that the average value of the ores shipped from the Aspen district does not exceed 40 oz. of silver per ton, in addition to which the bulk of the mineral shipped contains somewhere from 10 to 70% of Ba So₄, which detracts very materially from its selling value at the smelter. It would be difficult to ascertain the average smelting charge imposed on Aspen ores, but the following figures may serve as an index; during the existence of the smelter clearing house the average smelting charge on the ores from the Della S. mine was \$7 per ton, which, added to the average freight rate from Aspen to Denver, \$5.65, made a total charge for transportation and smelting of \$12.65. Since the termination of the clearing house and the renewal of sharp competition between the different smelters the average smelting rate has decreased to \$3.70 per ton, a difference of \$3.30 per ton in favor of open competition as against organized monopoly.

When the price of silver fell below 75c. per oz., it became evident to the directors of the Della S. Consolidated Mining Company that no profit could be made by operating the mines under existing conditions, and after considering a number of plans the following method of operation was adopted: The mine was laid off into small blocks, each 100 ft. in length, extending from one level to another. In the old workings the distance from one level to another measured on the pitch of the ore body varied from 50 to 100 ft., but in the newer workings the distance from one level to another, measured on the slope, was 78 ft. Thus in the deeper portions of the mine each of these numbered blocks comprised a rectangular section of the ore zone 100 ft. in length by 78 ft. in height. The company retained control and possession of the mine and continued to employ foremen, engineers, skip tenders and timbermen the same as when the property was being operated by the day. These blocks of ground were offered to parties of from two to four working miners on what may be termed a co-operative leasing system, in which the royalties paid to the company were arranged on a sliding scale as follows: Up to 20 oz., 10%; 20 to 30 oz., 15%; 30 to 40 oz., 25%; 40 to 50 oz., 35%; 50 to 60 oz., 40%; 60 to 70 oz., 45%; 70 to 80 oz., 50%; 80 to 90 oz., 55%; 90 to 100 oz., 60%; 100 to 120 oz., 65%; over 120 oz., 70%.

At first considerable difficulty was experienced in inducing a sufficient number of men to go to work under these conditions, but as the majority of those who accepted the company's terms were very soon able to make more than wages, the difficulty of letting the blocks became less and less, until about a year after the inauguration of this system the competition among the miners for new ground became so strong that it was found necessary whenever a block was ready to work to post a notice calling for sealed proposals, these bids to state the amount of money which the bidders were willing to pay for the privilege of entering into a contract with the company to lease said blocks. The terms have uniformly been the same, one-third of the bid to be paid in cash at the time the lease is signed, and the remaining two-thirds to be deducted from the lessees' portion of the first ores sold. The majority of the bidders under the new system were men thoroughly acquainted with the mines, a great many of whom had been successful in the earlier leases, and the estimation placed by these men upon the leasing system is best shown by the following table, which gives the amount of premiums paid by the miners for the several blocks offered since September 1894:

Date.	No. of Lease.	Premium.	Date	No. of Lease.	Premium.
Aug. 1, 1894	N-12-4	\$1,200.00	Jan. 1, 1895	N-12-6	\$900.00
" 1, "	N-13-2	2,100.00	" 1, "	N-13-4	1,800.00
Sept. 1, "	N-11-6	300.00	Feb. 1, "	N-11-8	250.00
" 1, "	S-13-2	400.00	" 1, "	N-14-2	3,100.00
Oct. 1, "	52	200.00	" 1, "	S-14-1	350.00
" 1, "	N-12-5	2,175.00	May 1, "	N-13-5	2,400.00
" 1, "	N-12-1	600.00	" 1, "	N-14-3	3,110.00
" 1, "	S-11-2	500.00	June 1, "	S-11-2	50.00
Nov. 1, "	N-13-3	4,650.00	" 1, "	N-12-7	1,200.00
" 1, "	S-13-3	510.00			
			Total		\$25,695.00

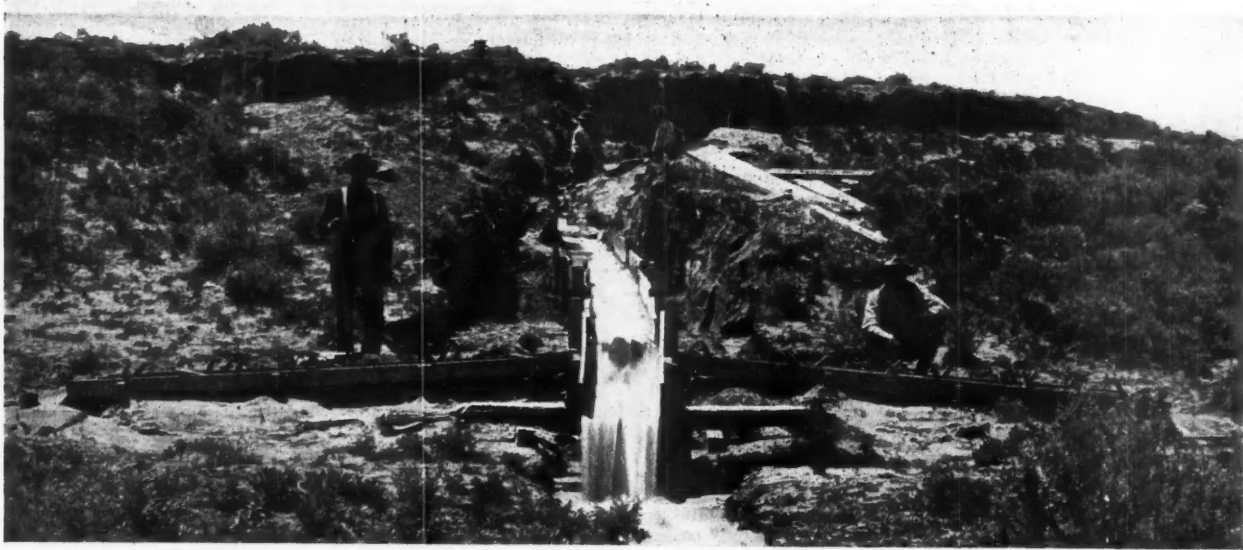
Independently of the amount thus paid into the company's treasury, the practice of selling the blocks instead of giving them away has many attendant advantages, inasmuch as it places a premium upon thrift, industry and skill. In order to obtain a block of ground under the new system, a workman must have accumulated by hard work and patient economy a considerable amount of money, or his reputation for integrity and skill must be so well established that some of his friends or acquaintances are willing to advance the premium required for an interest in the profits of the lease. Nor is this all. When a miner has paid a certain sum of money for a block he is much less apt to relinquish it before thoroughly prospecting the ground than if it had practically cost him nothing, and the company is thus not only assured that every part of the ground leased will be thoroughly prospected, but that when ore is discovered it will be carefully and economically extracted by the most skilled and industrious miners in the district. While the company under this system continues to operate the machinery and supervise all the workings of the property as if the mine were being worked by the day, a certain spirit of independence, freedom and good-will naturally springs up among the men when they are no longer obliged to be on hand at the exact minute or to ask the foreman for a trifling leave of absence to attend to their personal affairs, the only restriction upon them being that the number of shifts worked in any one month shall not fall below a stated minimum.

The following tabulated statement shows the number of shifts worked under this system by the lessees for each month during the past year, and the returns per shift to the lessee and to the company:

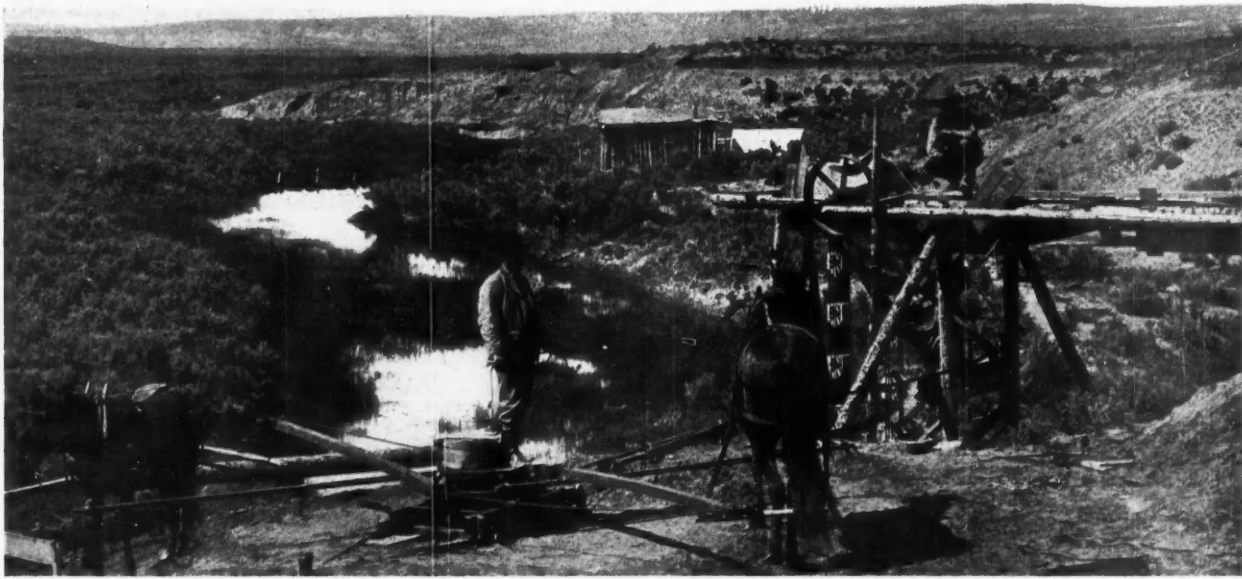
1894.	Shifts.	Returns to lessee per shift.	Returns to company per shift.	1895.	Shifts.	Returns to lessee per shift.	Returns to company per shift.
June	3,020	\$3.61	\$5.70	Jan.	3,159	\$3.40	\$3.02
July	3,689	9.95	9.50	Feb.	2,831	5.40	4.69
Aug.	3,395	6.53	5.48	Mch.	2,734	7.20	5.43
Sept.	2,811	5.12	4.57	Apr.	2,656	9.43	7.42
Oct.	2,818	4.36	2.86	May	2,234	8.99	6.24
Nov.	2,579	4.68	4.25				
Dec.	2,825	4.58	3.72				

Average for 12 months, \$6.43, \$5.24.

The mode of occurrence of ore bodies in the Della S. has undoubtedly contributed greatly to the success of the co-operative system. It is extremely rare that bodies of solid ore of any considerable thickness are found, the more usual mode of occurrence being small streaks of mineral measuring in thickness from 1 to 15 inches, assaying from 20 to 80 oz.,



NELSON CLAIM, FOUR MILE PLACER DISTRICT.



BOOTHE CLAIM, FOUR MILE PLACER DISTRICT.



HARDENBERG AND HINTON'S CLAIM, FOUR MILE PLACER DISTRICT.

separated from each other by bands of very much fissured and broken up brown limestone, assaying from 2 to 20 oz. In working by the day it is extremely difficult to get the workmen to effect a proper separation of these narrow ore streaks from the accompanying waste, as at this particular work miners may be divided into four classes: First, those who are painstaking and conscientious enough to take out the ore as if they were working for themselves; second, those who are so anxious to make a showing of work performed that ore and waste are indiscriminately broken down together; third, those who are so extremely anxious to make a high grade product that they spend nearly all of their time in sorting and accomplish little work; and, fourth, those who have no thought or care except when the eyes of the foreman are upon them. Unfortunately those of the fourth class outnumber the first to such an extent that company work by day's pay on disseminated ore streaks can never equal the results obtained by men who have a personal interest in every particle of mineral, no matter how small or difficult to save. Under the leasing system the men not belonging to the first class soon drop out of the race, and while the earnings of the lessees, as shown in the table given above, are unusually high, it is extremely doubtful if the net profits of the company under any other system would have equaled the royalties received from co-operative leasing.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

SUPREME COURT OF UTAH.

Right to Make New Location.—A locator of a quartz mining claim, who has allowed his location to lapse and become subject to relocation, under the statutes providing for the relocation of claims on which the required annual amount of work has not been done, has the right to make a new location, covering the same ground.—*Warnock v. DeWitt*, 40 Pac. Rep., 205.

Sufficiency of Marking Claim.—A mining claim marked by a discovery monument, on which was placed the notice of location, and by a stake at each of three of the corners of the claim, and a monument at the center of each end line, leaving one corner of the claim unmarked, was sufficiently marked under the statutes providing that such a claim shall be "distinctly marked so that its boundaries can be readily traced."—*Warnock v. De Witt*, 40 Pac. Rep., 205.

COURT OF APPEALS OF WEST VIRGINIA.

Question as to Implied Covenant in Lease.—Where a party in a written lease describes the property as "the premises known as the Bedford Salt Furnace Property, together with all the appurtenances thereto belonging, including six salt wells, tools, and fixtures of the same," there is no implied covenant on the part of the lessor that there are on said premises six salt wells of any particular productive capacity, or suitable for the purposes for which they are leased. The recitals contained in said lease as to the number of salt wells included in the premises after the lease has been accepted and acted on for more than two years by the lessee, with ample opportunity of knowing, not only the contents of the lease, but the character and quality of the property leased, must be regarded as conclusive of the fact between the parties to said lease.—*Clifton v. Montague*, 21 S. E. Rep., 558.

Manganese Ore in Bavaria.—A deposit of manganese ore, 6 ft. thick has recently been struck near Parkenstein, Bavaria, at a depth of about 120 ft. An analysis which has been made of the ore shows it to contain 44% of metallic manganese.

Belgian Blast Furnaces.—The number of furnaces in blast in Belgium at the commencement of July was 29, while there were 49 furnaces out of blast at the same date. The total in blast representing the number of furnaces in blast at the commencement of July was made up as follows: Charleroi district, 11; Liege district, 12; Luxemburg, 6; total, 29.

The Westphalian Gas Coal Industry.—At the recent meeting of the Society of German Gas and Water Engineers in Cologne, a paper was read by Herr Hegener, of Kalk, on the subject of "Westphalian Gas Coal." The great development in the mining of gas coal in Westphalia dates back only about 40 years, only a small quantity being produced before then. The whole district has a tray-shaped enclosure of large quantities of fossil coal. From time to time new shafts have been sunk, old anthracite being principally found, although newer deposits are met with above. It is to be expected that further deposits will still be struck in the northern districts of Westphalia. The rapid increase in the total coal production of Westphalia will be seen from the following figures: 1863, 4,000,000 tons; 1870, 11,000,000 tons; 1880, 22,000,000 tons; 1889, 33,000,000 tons and 1893, 38,000,000 tons. During the financial year 1894-95 the Rhenish-Westphalian General Coal Syndicate disposed of 1,570,000 tons of gas coal, while for 1895-96 the syndicate has contracted to supply 2,000,000 tons. Were it not for heavy freight charge and the absence of convenient waterways, the Westphalian gas coal industry would assume much larger proportions.

Uniform Methods of Testing.—It has long been known, says the London "Engineering," that the elongation and strength of a bar of iron or steel can be very seriously affected by varying the method of testing. It is also important, if comparisons are to be made between the physical qualities of two metals, that specimens geometrically similar should be used. As is well known, the percentage elongation of iron and steel bars is enormously affected by differences in the length on which the extension is measured. When we come to cement testing, the importance of working under uniform conditions is still more accentuated. A briquette with sharp re-entrant corners will break under much lower stress than one having a better form. By rapid loading, too, the apparent strength may, according to the late Mr. Faija, be made to appear some 23% more than when the test is conducted in a more leisurely fashion. Facts of this nature have given rise to a demand by the more scientific of our engineers for some uniform and generally adopted method of conducting such tests, so that a result obtained, say, in Germany or America, can be compared directly, without the necessity of making all sorts of allowances for different conditions, with tests made in Great Britain. The late Professor Bauschinger founded an international association with the object of bringing this about, and a conference of this association is to be held

at Zurich, Switzerland, on September 9th, 10th and 11th next, under the presidency of Prof. L. de Tetmajer, of Leonhardsgass 27, Zurich, from whom full particulars and a programme of the business to be done can be obtained.

PATENTS RELATING TO MINING AND METALLURGY.

United States.

The following is a list of the patents relating to mining, metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

TUESDAY, JULY 23D, 1895.

- 542,982. Producing Pure Electric Light Carbon. Edward G. Acheson, Monongahela City, Pa. The process consists in granulating coke, and subjecting it to the required degree of temperature necessary to volatilize the impurities associated with it.
- 542,986. Electro-depositing Device. John Bossard, Dubuque, Iowa. The combination consists of a tank and depositing bath herein, a bridge, hooks, electric connections and means for imparting an intermittent motion to the belt while drawing the articles through the bath.
- 543,002. Process for Making Ferric Sulphate. Stephen H. Emmens, London, England. The process consists in bringing sulphurous anhydride and air into contact with ferric hydrate and water.
- 543,041. Stone Crusher. George M. Miller, Utica, N. Y., assignor to Frederick C. Austin, Chicago, Ill. The combination consists of a frame and fixed roller mounted in one end of the frame, a fixed jaw in the opposite end of the frame, a reciprocating jaw between the roller and fixed jaw and the reciprocating mechanism adapted to move substantially at right angles to the axial line between the roller and fixed jaw and engaging the roller and rear end of the jaw.
- 543,043. Ore-Concentrator. William H. Moore, Deadwood, S. Dak., assignor of one half to Kitie Kidd, same place. The combination consists of a rocking pan having a curved bottom and side wings extending therefrom, each side wing being provided with transverse partitions.
- 543,083. Universal Drill-Shaft. Magnus S. P. Dahl, Chicago, Ill. The combination consists of three end-connected shafts, two revolving in their planes around the third, of superimposed inclosing shells for the shafts and elbows connecting the ends of the shells.
- 543,115. Treating Molten Metal. Edward A. E. Uehling, Birmingham, Ala. The process consists in molding or compacting the re-agents into a body having a form suitable for rotating about an axis, submerging the body in the molten metal and revolving the body on its axis of rotation until it is dissolved.
- 543,182. Cut-off Device for Chutes and Hoppers for Delivery of Coal, Ore, etc. Charles W. Hunt, West New Brighton, N. Y. The combination consists of a stationary delivery spout or chute, having an open lower end of two cut-off sections formed as segments of cylinders, pivots above such sections and upon which they swing, the pivots being near the centers of the cylinder segments and located nearly above the center portion of each cut-off section when closed, and means for opening and closing such cut-off sections.
- 543,192. Process of Manufacturing Bimetallic Plates, Slabs, etc. Adolph Rodig, Laband, Germany. The process consists in forming the core-piece with temporary overhanging projections at its edges for engaging and retaining the surface metal, then casting the surface metal on two opposite surfaces only of the core-piece and into the overhanging projections thereof, whereby the surface metal and core-piece are held firmly together by the projections.
- 543,221. Machine for Sifting Pulverized Clay. Frank S. Slattery, Bradford, Pa., assignor of one-half to Lemuel W. W. Young, same place. The combination consists of a vertical screen shaft and a foot-box adapted to bear on anti-friction balls of a funnel formed with the cross-bars, collar, outer ribs and anular flange, screen bars fixedly secured to the ribs, and bearing on top of them, and means for securing them to the screen-bars.
- 543,230. Sinking Shafts. Jesse A. Dubs, Pittsburg, assignor of one-fourth to Charles T. Russell, Alleghany, Pa. The method consists in forcing down and inclosing series of casings or hollow piles to the underlying strata and securing the lower ends of such casings or piles against lateral movement.
- 543,254. Process of and Apparatus for Extraction of Zinc. Leo V. J. Lynen, London, England. The process consists in enclosing the ore in non-metallic carbonisable envelopes, placing the envelopes in retorts, applying heat and condensing the zinc vapors.
- 543,284. Process of Decomposing Substances by Means of Ammonia Salts. Eduard R. Besenfelder, Gross, Mochbera, Germany. The process consists in exposing the materials in an air-tight tank and in the presence of sal ammoniac to a sufficient degree of heat, to produce dissociated vapors of the sal ammoniac and thus allow the free ammonia contained in the vapors to act upon the materials and combine with the foreign matter allied to the metal or metals to be extracted while the chlorine combines with the metal or metals.
- 543,292. Method of Refining Kaolin, etc. David H. Chambers, Pittsburg, Pa. The process consists in disintegrating and drying the materials, heating them to prevent their absorbing moisture, and then separating the larger particles of silica and other impurities from the powder.
- 543,293. Hand Rock-Drill. Theron W. Chapman, Lakewood, Colo. The combination consists of a track, a frame movably mounted thereon and carrying a tubular casing, a spring-actuated hammer located in the casing, shaft journaled in the movable frame and carrying a spider having arms adapted to engage the hammer and force it backward against the spring, a suitable feed mechanism composed of a keeper pivoted on the frame and carrying a dog engaging the toothed rack of the track.
- 543,410, 543,411, 543,412. Hydraulic Air-Compressing Apparatus. Chas. H. Taylor, Montreal, Canada, assignor of one-half to Walter Tyler Ross, Robert William Sutherland, and Henry Millen, same place. The combination consists of a suitable well and dam, of a main conductor, open ended air tubes or ducts extending from a point within the conductor, and an air conductor with open flared or hood-shaped lower end located within the main conductor and leading upward through same to any suitable tank or receiver.
- 543,433. Limekiln. Richard Vanderhoof and Harry Vanderhoof, Hamburg, N. J., assignors to Marcus Sayre, South Orange, N. J. The combination, with walls provided with fire-chambers and ash-pits, of an arch with the ends formed integrally with the walls above the fire-chambers, the arch being of less width than the space between the walls, and provided with transverse perforations or flues, and vertical flues extending from the bottom of the arch and intersecting the transverse flues; whereby the heat from the space underneath the arch is equally distributed to both sides of the arch.
- 543,446. Valve for Gas or Air Compressors. Samuel W. Johnson, Newport News, Va. The combination consists of a tubular valve guide, of a suction valve having a stem working in the guide, and an annularly recessed head adapted to fit over and work upon the upper end of the guide.

Great Britain.

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

WEEK ENDING JULY 6TH, 1895.

- 5,537 of 1894. R. Heathfield and W. S. Rawson, London. Electrically coating iron with zinc by first electrically coating the iron with mercury.
- 7,205 of 1894. A. F. B. Gomes, London. In electroplating with aluminum, using a bath of tartrate of alumina and ammonium chloride.
- 12,916 of 1894. W. Scott, Bovegno, Italy. Pneumatic plant for separating blends from galena.
- 15,632 of 1894. A. C. Girard and A. G. Street, Paris, France. Plumbago crucible in center of electric arc, which is caused to rotate round it.
- 23,006 of 1894. L. C. Daumas, Paris, France. Extracting gold from ores by protochloride of sulphur saturated with chlorine; heating, filtering, precipitating the gold and recovering the protochloride of sulphur and chlorine.

PERSONAL.

Mr. R. Hay Anderson has left Silver City, Idaho, and has gone to Mexico.

Mr. E. Bates Dorsey, mining engineer, has returned to London from a professional trip to the Transvaal.

Mr. J. W. R. Young, mining engineer, of Dundee, Scotland, is opening the Louder mine near New London, N. C.

Messrs. Caten and Worrell, of Dayton, O. are investigating North Carolina mining properties near Salisbury, N. C.

Mr. R. B. Turner, prominently connected with the Revenue Gold Mine of Colorado, is in Salisbury, N. C., on mining business.

Mr. Wm. Huntley Hampton, mining engineer, can now be reached by addressing him at Placer, Ore., which is now served from Leland instead of Wolf Creek.

Mr. W. W. Dixon has been appointed by Governor Rickards, of Montana, to fill the position of trustee for the School of Mines made vacant by the death of Moses Kirkpatrick.

Mr. J. C. Blume, mechanical engineer, who has been connected with the Massachusetts Institute of Technology of Boston during the past winter, has gone to the mining district of Macate, Peru.

Mr. H. S. Macomber, formerly in the employ of Fraser & Chalmers of Chicago, Ill., has charge of remodeling the concentrator at Camp Golden in Montana for the American Developing and Mining Company.

Mr. Hermann Unzicker, mechanical and mining engineer, has resigned his position as superintendent of the Excelsior Iron Works of Chicago, Ill., and is now connected with the Edward P. Allis Company, of Milwaukee, Wis.

Mr. W. P. Heath has received the appointment of assistant in the analytical laboratory of Mr. J. H. Pratt, at Bartow, Fla. Mr. Heath secured this position through the well known "Positions Vacant" column of the "Engineering and Mining Journal."

Mr. Louis Pelatan, mining engineer of Paris, France, is at present in this city; he will shortly leave for Denver, Colo., to join Mr. Fabrizio Clerici, who is there in the interests of the General Gold Extracting Company, Limited, controlling the Pelatan-Clerici Process.

Mr. Timothy W. Sprague, consulting engineer, of New York, has just returned from Winifred, W. Va., where he has been on professional business. Mr. Sprague has been engaged to supervise for manager S. Macdonald the installation of an electric haulage plant for the Great Kanawha Colliery Company of Mount Carbon, W. Va.

Mr. John Howell, the well-known mining engineer, has resigned his position as manager of the Broken Hill Proprietary Company's mines in New South Wales. He has accepted a position as consulting engineer to a London syndicate, including some important firms; his first work under his new engagement will be the examination of a number of mines in Western Australia. Mr. Howell's successor at Broken Hill is Mr. Alexander Stewart.

At Pottsville, Pa., on July 30th, Judge Cyrus L. Pershing appointed the following miners' examining boards for service in the anthracite region: Sixth District—Edward J. Burke, West Mahanoy; James Clifford, Mahanoy; John H. Reese, Shenandoah, Seventh District—Richard Howells, Wisconsin; Miles O. Dougherty, Shamokin; August Hinkey, Ashland (for two years in place of Joseph H. Fyfe, resigned); William J. Yarwarth, Centralia (for one year in place of Edward Samuel, resigned); Henry Pitts, Girardville, Eighth District—Lewis W. Kopp, Tremont; Henry R. Maugher, New Boston; John Fitzpatrick, Pottsville. The appointments are for three years, dating from August 1st, 1895, and are made in pursuance of the act of May 9th, 1889.

OBITUARY.

R. B. Gillespie, of Gallatin, Tenn., Chief of the Public Lands Division, General Land Office, died at Washington, D. C., on July 30th.

H. H. Burton, assistant general manager of the Carpenter Steel Works, died at Reading, Pa., on July 27th, aged 40 years. He was a native of England.

James Constantine Pilling, a well-known ethnologist and linguist, of the United States Geological Survey, died at his home in Olney, Md., on July 26th, aged 49 years.

Simon Wormser, a member of the banking and brokerage firm of I. & S. Wormser, died suddenly in New York City on July 30th. He was born in Landau, Bavaria, in 1824. He and his brother Isidor came to this country when young men. They went to California in the days of the gold excitement and began business in a small way as merchants. They built up an extensive trade, afterward branching out into banking and real estate. They came to

New York and established the banking firm of I. & S. Wormser in 1879.

Aaron W. Spencer, ex-president of the Boston Stock Exchange, died on July 29th at Sharon Springs, N. Y. He was formerly of the firm of Spencer, Vila & Co., which dissolved many years ago, and of late years had been interested in the management of his large property. Mr. Spencer was a director of the Boston and Montana and Tamarack Copper companies, and also of the Merced Gold Mining Company, and he had also held for many years as an investment 1,000 shares of Calumet and Hecla. Mr. Spencer joined the Boston Stock Exchange on August 22, 1850, and at the time of his death he was next to the oldest member, outranked only by Mr. Matthew Bolles, whose membership dates from 1834.

Ebenezer K. Sibley, a prominent railroad man and banker of New York City, died at Victoria, B. C., on July 27th. He was born at Westford, Vt., in 1842, and was educated there in the local academy. He enlisted in the First Vermont Cavalry and served throughout the war, rising to the rank of captain and being made major for gallantry. Soon after the war he went West and began railroading. His administrative ability soon found full scope. He was assistant general freight agent of the Iron Mountain Railway till 1882 and the general manager and receiver of the Memphis & Little Rock Railroad until 1885, when he was made superintendent of the Missouri Pacific Railway and branches. Later he was a member of the Board of Arbitration of the Southern Railway and Steamship Association and also of the Southern Passenger Association. He then came East, and for a number of years was a member of the firm of Marquand & Parnly in this city, retiring from it last spring. He was director in the American Surety Company and of the New York, Ontario & Western Railway; a trustee of the Saving, Investment and Trust Company, of East Orange, and connected with many other railway and financial institutions.

Richard Morris Hunt, the well-known architect, died at Newport, R. I., on July 31st. He was born in Brattleboro, Vt., in 1828. In 1843, when 15 years old, he entered a school in Geneva, where he began the study of architecture under Samuel Darier. He next went to Paris. Then he traveled through Europe, Asia Minor and Egypt, returning to Paris in 1854, when he received from the French Government the appointment of Inspector of Works in connection with the new building uniting the Tuileries to the Louvre. Mr. Hunt returned to the United States in 1855. He was engaged to assist the late Thomas U. Walter in preparing plans for the completion of the Capitol at Washington. Then he came to New York City and began the career of incessant activity which made him years ago the acknowledged dean of the architectural brotherhood of this country. Structures designed by Mr. Hunt are found in all the principal cities. Among them are the Lenox Library and the residence of William K. Vanderbilt, New York; the Theological Library and Marquand Chapel, at Princeton; the Divinity Building and the Scroll and Key Society Building, at Yale College; the Vanderbilt Mausoleum, on Staten Island; the Yorktown Monument and the pedestal of the Statue of Liberty. His most famous work, perhaps, was the Administration Building at the World's Fair at Chicago. He was appointed a member of the Jury of Fine Arts at the International Exhibition at Paris in 1887. He was made a Knight of the Legion of Honor in 1882 and was elected associate member of the Institute of France. He was also a member of the Central Society of French Architects, of the Society of Architects and Engineers, of Vienna, and of the Academy of St. Luke, in Rome. At the Philadelphia and Chicago Expositions he was a member of the juries which decided questions relating to the fine arts.

INDUSTRIAL NOTES.

The Union Drawn Steel Company has awarded the contract for a large addition to its mill at Beaver Falls, Pa., to Funkhouser & Coates.

The Cambria Iron Company contemplates the erection of an additional 14-in. mill, in connection with the Gantier works, at Johnstown.

The Glasgow Iron Company has made an additional advance of 25c. per ton to puddlers. This makes \$2.75 per ton which the men will now receive.

The Midas Gold Saving Machinery Company of San Francisco report shipments of Gold King Amalgamators to Bingham, Utah, Elgin, Ore., and Folsom, Cal.

Mellvain & Sons, of Reading, Pa., have given notice that the wages of puddlers in their mills will be advanced 10% on August 15th. The mill is busy, with a prospect of plenty of orders for some time to come.

Wm. B. Pollock & Co., of Youngstown, O., have lately received a number of orders for boilers and plate work from Lerda, Mexico, and from Montana and Idaho which keeps their plant running to full capacity.

The York, Pa., rolling mills announce that on and after August 12th the price for puddling will be \$3.00 a ton instead of \$2.75, as at present, with an

advance in other mill work. This will be the second advance within a short time.

The Chicago "Times Herald" offers a prize of \$5,000 for the successful competitors in a horseless carriage contest. This sum is divided into four prizes, and the trial will take place in November, from Chicago to Milwaukee.

Charles F. Stuart, James Andrews, Walter W. Andrews, E. E. Andrews, and James S. McKean, the purchasers of the Moorehead-McCleane plant, in Pittsburg, at the recent sale, will shortly apply for a charter as the Pittsburg Steel and Iron Company.

The Dunbar, Pa., Furnace Company recently declared an advance of 5% to its laborers. The men asked an advance of 15%. The company discharged the members of the committee, and now they declare they will go on a strike if the advance is not granted by August 1st.

The Taylor Iron & Steel Company, High Bridge, N. J., has recently installed the C. W. Hunt Company system of cars and track for handling its material. The Otis Company, of Ware, Mass., has again added to their already very complete system of Hunt industrial railways.

The capital stock of the New Castle, Pa., Tube Company has been increased from \$100,000 to \$150,000. The stockholders held a meeting recently and elected the following officers: President, John Stevenson; general manager, John H. Preston; secretary and treasurer, David C. Wallace.

The Bethlehem Iron Company has shipped fifty 8 in. cast iron shots, weighing seven tons to be used for accuracy firing, to the United States proving grounds at Sandy Hook, N. J. Also a shipment of porthole plates for the Indiana, weighing 24 tons to the Cramp shipyards in Philadelphia.

The new steel frame building now under way for the McKeesport Gas Company, of McKeesport, Pa., is being manufactured and erected by Wm. B. Scaife & Sons, of Pittsburg, Pa. The building is also to be covered with the corrugated iron roofing and siding which is manufactured by this firm.

The Carnegie Wire Nail Mills at Beaver Falls, Pa., have been purchased by the Consolidated Steel & Wire Company, of Chicago, Ill. Negotiations begun two months ago were consummated on July 27th, and preliminary payments made on the purchase price, which is said to be in the neighborhood of \$725,000.

The employees of the Columbia Rolling Mill Company, Columbia, Pa., have been notified of an increase in their wages. The puddlers will be paid \$3 a ton, and all the other tonnage men have had their wages raised in proportion. The laborers will receive an increase of 10%. This raise will effect over 300 men and boys.

There was a fire at the King's County Oil Works on Newtown Creek, N. Y., on July 27th, which could be seen for miles about. The store house and cooerage with seven tanks of naphtha and machine oil were destroyed. The loss was about \$50,000. The works cover about 10 acres, and the burned section is about an acre in extent.

The Reading Iron Company, of Reading, Pa., is having the Montour Rolling Mills, at Danville, Pa., placed in proper repairs for operating them commencing some time in August. The mills have been idle for the past three months. They comprise three finishing and two puddling mills and the contemplated revival will give employment to over 800 men.

The foundation for the new plant of the Finished Steel Company, which is being erected at Hasleton, near Youngstown, O., is almost completed. The plant will consist of the main building, 224 x 62 ft. with a wing 70 x 20 ft. and a boiler house 14 x 55 ft. W. E. Sprague, of Youngstown, has the contract to erect the buildings. Wm. Tod & Co. will supply five engines, each 9 x 8 in. Operations will be begun about October 1st, giving work to a large number of men.

An accident by which 18 tons of molten iron rushed out of the cupola of the foundry occurred at the Penn Hardware Works at Reading, Pa., on July 31st. The accident was caused by piercing the sand lining on the bottom of the cupola which caused the iron doors to melt through, releasing the charge. The workmen received warning and all escaped without injury, but 120 men will be thrown out of employment until the mass of metal can be broken up and the floor of the foundry cleared.

In Franklin, Pa., July 25th, at a meeting of the stockholders of the Franklin Steel Casting Company an organization was effected, the following officers being elected: President, Charles Mackey; First Vice-President, Henry M. Wilson; Second Vice-President, James W. Rowland, and Treasurer, William J. Bleakley, all of this city. A committee was appointed to select a site for the plant, and work on the buildings will be commenced at once. Work will be furnished between 300 and 400 men by the company.

The Leyner compressed air-drills, manufactured by J. Geo. Leyner, of Denver, Colo., are becoming very popular throughout Colorado, and are giving satisfaction. Seven of them have just been ordered for the Little Johnnie mine at Leadville, and three

for the Rebecca Mining Company at Cripple Creek; while at the Anaconda mine at the latter place two will also be in use before long. The success of this drill, which is the invention of a Colorado mechanic, at the Argo tunnel at Idaho Springs, has made a reputation for it all through the West, and its success is an assured fact.

A press despatch from Beaver Falls, Pa., says that the rumored sale of the Western File Works was corroborated on July 29th, when 50 men began making repairs about the plant, necessary for resumption. Although the sale was in reality consummated four weeks ago, yet the transfer was not made until last Saturday. The property was transferred to W. J. Judson, of New Jersey, and a company has already been organized with a capital of \$400,000. It will be known as the Great Western File Works, and will be run as a branch of the Nicholson File Company, of Providence, R. I. The price paid for the plant is understood to be \$200,000. Extensive repairs will be made, and 400 men will be employed.

MACHINERY AND SUPPLIES WANTED

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" of what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind, and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying or selling goods of any kind.

GENERAL MINING NEWS.

According to "Stowell's Petroleum Reporter," the number of new wells opened in the New York and Pennsylvania field during the month of June was 754 with a total production of 9,444 bbls. daily. There were 152 dry holes reported and 903 new wells were in progress at the close of the month. In the Buckeye field in Ohio in June 461 new wells, with a total production of 9,772 bbls. daily, are reported. There were 65 dry holes and 369 new wells drilling at the close of the month. In the Southeastern Ohio field in June, 56 new wells, with a production of 465 bbls. daily, are noted, with 18 dry holes and 38 new wells in progress on June 30th. In the Indiana field 153 new wells were completed with 4,929 bbls. production and only 20 dry holes are reported. At the close of the month there were 101 holes under the drill.

ALABAMA.

Jefferson County.

Sloss Iron & Steel Company.—A race fight is now in progress at Brookside coal mines, about 10 miles from Birmingham. The mines, which are operated by this company, work both white and black labor. At a melee on July 30th two white men were killed and several negroes fatally wounded.

ALASKA.

Drum Lummon.—Messrs. Sullivan & Smith have secured the contract for driving a tunnel on this lode across the bay from Juneau. The ledge on this location runs parallel with the bay and is submerged during high tides. A 75-ft. shaft is being sunk about 10 ft. above high water mark. This done, a tunnel will be driven in about 60 ft. to tap the ledge. The rock is of a class different from any other found on Douglas Island, says the Juneau "Mining Record." It contains considerable galena and is said to be very similar to the quartz found in the Berners Bay district. Mr. Ott, superintendent of the Treadwell Chlorination Works, estimates that the work outlined for the present will cost them \$1,500.

It is reported that a good strike has been made on Montana Creek by James Smith and John G. Heid. It is mainly free-gold ore. The vein shows up for a considerable width and the ore is said to be rich.

ARIZONA.

Yuma County.

Harquahala Gold Mining Company.—The official report for June says that the mill has started treating tailings by the cyanide process, which so far works well. During the month the mill worked 27 days, running 29 stamps, and crushed 1,023 tons, yielding \$10,000. Expenses on revenue account (inclusive of prospecting) were \$11,300.

CALIFORNIA.

The executive committee of the State Miners' Association held a special meeting at San Francisco on July 22d, for the purpose of considering what further action could be taken to prevent the railroad from seizing mineral lands. In the absence of President Neff, Vice-President Thornton took the chair, and Charles S. Yale acted as secretary. There was considerable discussion over the question of funds necessary to send on a representative to Washington to urge their case before the Land Department and the President. While there is considerable money due, the amount on hand was so little that it was decided to defer sending on a man for the present. The sentiment of the meeting, however, was in favor of taking this action and hav-

ing a strong case presented before the Land Department as soon as it can be done. There are enough funds due, which will probably be paid in soon for that purpose. It was stated that several attempts had been made to bring about a conference between the railroad people and the committee to see whether the former could not be induced to withdraw their illegal claims, but that they had been unsuccessful. The most important action taken by the meeting was to recommend that the committee on the protection of mineral lands and the chairman ask for a conference with Congressman Maguire to see about getting the whole question in shape to bring before Congress, in the hope of settling the whole matter finally and definitely.

Amador County.

(From Our Special Correspondent.)

Gover.—This mine, which has one of the largest ore shoots in the county, which extends from the 700 to the 1,000 ft. level, and which has been idle for some months, owing to legal complications, is about to resume. It is currently rumored that a large mill will be built.

Jackson District.—At Jackson, the Kennedy mine, the second largest producer in the State, is working regularly, with promise of years of prosperity. The main shaft has now reached a vertical depth of 1,950 ft. The Argonaut, which adjoins the Kennedy on the south, now has the shaft down something over 800 ft. The vein has not yet been encountered. This shaft is an incline sunk in the hanging wall diabase at an angle presumed to be greater than that of the vein. It was thought that the vein would be encountered at the depth of 1,000 ft., but it is now believed that it will be necessary to go considerably deeper before the shaft reaches the fissure. The Alma, on the hillside west of Jackson, is down 400 ft., with a crosscut at that level 300 ft. west. No vein has yet been found. The Anita, a new mine half a mile southwest of Jackson, is prospecting on the contact of black slate and diabase. No ore has yet been discovered of consequence.

Keystone Mining Company.—At Amador City, the Keystone and Medan, the latter belonging to the South Spring Hill Company, are working steadily. The McIntyre mine, an old prospect, half a mile south of Amador, is being reopened. The cyanide plant, at Sutter Creek, which was erected for the purpose of treating the tailings from chlorination works, has proved a failure, the material being too low grade, and the extraction unsatisfactory.

Plymouth District.—The activity which characterized mining operations at Plymouth a few months since, has almost entirely subsided. The Bay State has developed into a valuable property, and is running steadily. The unfortunate venture of the Lucille Mining Company, formerly known as New London, gave a disastrous set-back to the district. A 40-stamp mill erected under a 60-day contract, has never dropped a stamp. In fact, the mine was never unwatered, neither previous to the erection of the mill, nor since. At the Philadelphia, a mill built last fall, and remaining idle most of the time since, has again been started.

Reward Mining Company.—This company, which has purchased the old Clough mine, is developing what promises to become a valuable property. They have a five-stamp mill crushing rock, which is above the average grade. This mine is located a short distance east of Pine Grove. There are other veins in the locality which are about to be investigated. The Dane & Mitchell mine, situated a short distance from the Reward Company's property, and which for some time has had a disputed ownership, may possibly resume after a time, as suit has been commenced to quiet title.

South Eureka.—At this mine, which is a mile south of Sutter Creek, a stamp mill is about being erected. The mine has two ore shoots—one on the 500, the other on the 900-ft. level. This is one of the most fortunate ventures on the lode. The shaft was started on the lode line at a point where there was absolutely nothing indicative of value. No ore was discovered until explorations were made on the 500-ft. level.

In the districts lying east of the Mother Lode about Volcano and Oleta, many miners are ground sluicing, and some drift mines are also at work.

Sutter Creek District.—Sutter Creek is becoming an active point. The Wildman and Mahony mines, which about a year ago were idle, without ore reserves and an unpromising future, have, under the management of the new superintendent, developed large ore bodies and are doing a profitable business. Headings are being driven from both these mines for the purpose of establishing underground connection. East of the town the Mechanics mine, which for years has been idle, has been bonded to Valentine & Company, of San Francisco, who are about to erect machinery and re-open the mine. A run of 60 tons in a neighboring mill resulted in a return of about \$11 a ton. The Bernardis mine, a prospect about a mile east of Sutter Creek, which has considerable superficial development, is beginning to attract attention. It has a 3-stamp mill.

Treasure.—The first sign of activity south of Plymouth is at the Treasure mine, formerly known as the Hazzard, and owned by Alvinzo Hayward. Here a shaft is being sunk, and a hoisting plant erected. The mine is $1\frac{1}{2}$ miles north of Amador City.

Butte County.

Banner.—This mine, five miles above Oroville, on the Feather River, has resumed operations. Through

long litigation the mine has been tied up for years. About a year ago Colonel Frank McLaughlin secured control, and since that time has spent a great deal of time and money in putting it in shape.

Nevada County.

Champion Mining Company.—This company has all arrangements made to put up another quartz mill. It is to consist of 40 stamps and will have all the latest appliances and machinery used in the modern quartz mill. This new mill will be put up on the ground purchased from the Wyoming Company some time ago and will be used exclusively for crushing ore from the Wyoming ledge.

(From Our Special Correspondent.)

Merrimac.—Col. Geo. Stone, who has an option on the mine near Grass Valley, has leased the Pittsburgh Mill and will commence crushing very soon. This looks well.

Riverside County.

Golden Chariot & Jessie.—These mines at Ferris were recently sold by J. Shea to Day & French, of Redlands, for \$10,000. The mines have been developed to the 260-ft. level. The new owners intend to sink on the Golden Chariot to the 300-ft. level. It is intended, also, to erect a mill on the property in the near future.

Santa Fe Mining and Milling Company.—The case of William Kroonen and seven other claimants vs. the Santa Fe Mining and Milling Company was decided in favor of the plaintiff on default on the amounts prayed for. The several amounts aggregate about \$1,500, and are for work done on the Santa Fe mine. The Judge also decreed that the mine should be sold to satisfy the judgment.

San Bernardino County.

(From Our Special Correspondent.)

Alvord.—This gold mine, situated 23 miles north-east of Daggett, in the Mojave desert, is being investigated by Eastern capital. The 5-stamp mill was brought from the East and set up near the mine for the purpose of prospecting the ore in quantity, as the grade is low and the value unevenly distributed. A large portion of this ore is calcite, through which occur shoots of limonite. The Alvord has for many years been recognized as an anomaly among gold mines. Heretofore the attempts made to operate this property have been on too small a scale. The mine is 18 miles from the nearest railroad point and about 9 miles from water. If it were equipped with a railroad and a large mill capable of handling great quantities of this low grade material it would probably become a paying mine.

Morongo Gold Mining Company.—At the Rose mine, the property of this company, a new shoot of rich ore has been discovered in the lowest level. It is said that the deposit is from 5 to 10 ft. wide, and has been developed somewhat both longitudinally and in depth.

San Diego County.

(From Our Special Correspondent.)

E. J. Delano is opening some mines 30 miles north-east of Salton, in the heart of the Colorado desert. In the vicinity of Pinon Mountain several mines are at work, including the Lost Horse and the famous McHoney.

Blossom.—This mine in the Cargo Muchacho district, 4 miles east of Ogilby station, is running the 10-stamp mill on good ore. About 30 men are employed.

Golden Cross Mining Company.—This company, whose remarkable property is situated about 20 miles northwest of Yuma, is building an additional mill of 100 stamps, making a total of 140 on the mine. The company has large reserves, and could doubtless supply many more stamps. A new pipe line is being laid between the mine and the Colorado River for the purpose of increasing the water supply. The pipe line is 14 miles in length. It is necessary to raise the water to a height of 500 ft. This is done by powerful force pumps located on the river.

Hidden Treasure.—This mine in the Julian district is working about 100 men. The ore in the new chute is said to be very rich, running from \$800 to \$900 per ton.

Yuba County.

Flag.—A party of capitalists from Grass Valley have started to re-open this mine just north of Brown's Valley. It is claimed that the old workings show that the original workmen got off the main shaft and followed a stringer, which was not profitable.

New Era Gravel Mining Company.—This company was recently organized in San Francisco for the purpose of working an old gravel claim at Long Bar by means of a dredger, lifting the gravel from under the water, and thus obviating the necessity of pumping.

COLORADO.

Eagle County.

Mr. William McKissick has been engaged in systematic prospecting for placer ground about Red Cliff for a number of weeks, being the representative of a Denver company. The principal scene of operations has been Homestake Creek, and he has located 4 placer claims above the big park. The locations extend from the lower end of the patented ground at Gold Park nearly down to the big park. The location work on the ground is now being done and in a few weeks a plant of machinery will be in

place and a thorough test of the gravel made. The process to be used is the Bronson pumping machine, that is being extensively used in the Clear Creek country. Only one machine will be put on the ground this summer, as it is not expected more than a thorough test can be made before the season closes.

El Paso County—Cripple Creek District.
(From Our Special Correspondent.)

Catherine.—Some rich specimens of tellurium were recently found in the sinking of the shaft, which is now 300 ft. deep, or 85 ft. below the second level. The lessees on the south end of the claim were feeling jubilant, as in their shaft, 35 ft. deep, although the rock was much displaced and shattered, two small seams, each about 3 in. wide, which panned well, were found.

Christmas.—A reported rich strike has recently been made in the north drift at the 75-ft. level north, distant 17 ft. from the shaft. The ore is said to be largely a telluride.

Doctor.—This property on Raven Hill is preparing to increase its output. It is stated that the owners, for months past have been getting profits of \$12,000 a month, and certainly the mine never looked as well as to-day. The vein at the surface workings has the best showing of any vein in the camp. It was reported that one miner sacked \$7,000 worth of ore in one day. There is scarcely a piece of the vein that does not show gold scattered through the rock. In fact, it is hard to keep pace with the improvements and new strikes on Raven Hill.

Elkton Mining Company.—The improvements in the north and south drifts mentioned in my last letter at the 300 ft. level still maintain their value. Gold cannot be seen in the rock or seam, but Tellurium in the seams and through the rock. The rock itself does not show the least sign of oxidation. The north drift is now 180 ft. from shaft.

Ida May.—This mine, just due north of the Raven, on Raven Hill, is being worked by lessees, with gratifying results.

Lucky Guss.—The shaft on this property, also on Bull Hill, has been sunk 250 ft. The estimated output for July is \$8,000, with promise of a much increased output for September.

Pharmacist Mining Company.—This company on Bull Hill shows steady improvement. In a raise between the eighth and ninth levels, or 460 ft. deep, the vein shows well. The mine employs 26 men, and the output for July is estimated at \$5,000. Under the new management the debts are fast being liquidated from the profits of the mine. The sinking of the shaft has not yet been resumed, the present depth being 520 ft. The 13 oz. ore recently discovered in the raise was from what is termed the north section of the vein.

Plymouth Rock Mining Company.—This company, whose properties are situated on Globe Hill, sold four of its five claims to Denver and New York capitalists this week for \$80,000, and already a large force of men has been put to work under the management of Mr. Joseph Watson. The lessees recently sold some 15 tons of ore from a vein 8 ft. wide which sampled \$26 per ton. Quite a few surface deposits have been found on these properties, but the deepest shaft on the whole of the properties is less than 100 ft.

Portland Mining Company.—The purchase by this company of 17 additional claims to prevent litigation has been one of the principal topics of conversation during the week. Now it looks as if the Portland Company could not have any litigation in the matter of title, or that there would be any trouble in the question of securing patents. The price paid in stock and cash was over \$1,000,000, and all by local people, strictly Cripple Creek. The output of the properties will be largely increased.

Raven Mining Company.—The Raven mine, on Raven Hill, continues to increase its output, although only development work is being done. The winze in the lower tunnel is now 39 ft. deep, and shows increased values. The Jones lease, on one of the properties owned by the company, has recently uncovered a rich ore shoot.

Union Mining Company.—This company's leases on the Orpha Mays and Pike's Peak have all been cancelled or terminated by agreement, and the company is getting the different shafts in order preparatory to active development. A new steam hoist is being erected on the Wullf shaft on Orpha May. Fifty men are employed on the properties, the output from the Porcupine shaft being about 40 tons of 4-oz. ore. A recent shipment of 56 sacks, 3,000 lbs., netted over \$6,000.

Garfield County.

Colorado Fuel and Iron Company.—On the 27th ult., as the shots were being fired for the night shift, the East Allen entry in this company's coal mine was found to be on fire. There was no one in the mine except the shot-firer. The fire was caused by blowout shots, which ignited gas feeders. Water was turned in and the mine is being flooded with eight streams, in addition to the water the place makes. The fire is about 1,100 ft. from the foot of the shaft. Superintendent Evans says within 10 days the mine will be running as usual, if no new complications arise. Over 300 men are thrown out of employment.

Gilpin County.

Old Kentucky Mining Company.—This company is operating quite extensively a few miles north of

Central City, and is turning out considerable ore. Several tests of the ore at the Black Hawk stamp mills yielded from 2 to 4 oz. of gold to the cord, the gold being of an extra grade, worth \$19 per ounce at the mint, while bodies of smelting ore passed through in sinking the shaft are said to show values of \$20 and more. The main shaft is now 280 ft. in depth, and last week a No. 7 Cameron steam pump was placed to handle the surface water which will be collected in the lower level. When this is completed the shaft will be sunk another 300 ft. before further developments of the lode will be made. The company is composed of prominent business men of Denver.

Lake County—Leadville.

(From Our Special Correspondent.)

Agwalt Mining Company.—This big consolidation, headed by the well-known mining man, Mr. Tingley S. Wood, is pushing work on the Agwalt tunnel, which is in 3,300 feet, and is driven to cut squarely the Little Johnny ore chute. As soon as the tunnel is completed, the diamond drill will be used to locate the ore body.

Bell-Park Consolidation.—The new machinery is in place and the shaft will be sunk to the contact at once.

Big Johnny.—The ore body has opened up to 6 ft. and assays are very good, running as high as 7 oz. gold. As a big flow of water was encountered a pumping plant is to be placed in position before further development work proceeds.

Bohn.—The injunction against the Bohn Company, asking that the management be restrained from paying royalties to the St. Louis Smelting & Refining Company, has been granted. The suit was brought by the city, which claims the right to the mineral under the city streets. The injunction holds until the title of the city to this ground is decided by higher courts.

Famous.—This new company has the shaft down 135 ft. The water flow is moderate. A big plant of machinery is in place to handle the water.

Morning Glory.—Lessees are sinking a new shaft, which has encountered some good mineral. It is hoped to catch the rich ore chute of the old Adelaide property.

Pennsylvania.—This property is located on Breese hill near the Nettie Morgan. In a new shaft sunk by lessees a body of ore has been encountered that nets \$7 to the ton.

Penrose.—The shaft has been sunk deeper and the great ore bodies are now more easily handled. The lower ore bodies are to be thoroughly developed. About 25 tons daily are being shipped, the ore running from 60 to 90 oz. in silver.

Starr Placer Ground.—The city shafts going down on this ground are opening up richly mineralized territory. Welden No. 2 has a rich ore chute. The Bon Air has an ore body running 60 to 100 oz. silver and shipping 50 tons daily.

Mineral County.

Lady Fenwick Gold Mining Company.—Articles of incorporation were also recently filed by this company, to operate in Summit and Arapahoe counties, with general offices in Denver. The directors of the company are James M. Thomas, Henry Bray and Charles W. Trentman, and the capital stock \$300,000.

Mineral Hill Consolidated Gold Mining Company.—This company was incorporated recently with a capital stock of \$3,000,000. The incorporators of the company are William A. Otis, John L. Armit and F. E. Brooks, and these gentlemen, together with S. Z. Dickson and Spencer Penrose, constitute the board of directors. The company will carry on a general mining business and maintain smelters, concentration and reduction works and other incidentals in Fremont and El Paso counties, with headquarters at Colorado Springs.

Ridge.—Receiver Nickel resumed work on this property, and a car of concentrates were sent out recently.

IDAHO.

(From Our Special Correspondent.)

GRANGEVILLE, July 23d.

Elk City.—Work is rapidly progressing on the big hydraulic elevator plant of the Idaho Mining and Development Company, and it is expected that water can be turned through the pipes by August 15th.

Pierce City.—C. H. King, of Coeur d'Alene City, with Capt. O. H. Thompson and others, have made a purchase of some valuable quartz properties belonging to Dr. Poles and others. It is the intention of the new owners to immediately erect a stamp mill.

Salmon River.—Phil. Cleary has purchased for a Wisconsin company 140 acres of gravel bars in the vicinity of Fiddle Creek, and has obtained by location 60 more acres of similar ground. These properties have heretofore been worked only by a very slow process on account of lack of water, and this company will very shortly commence the work of opening them at different points and work them on a scale proportionate to their size.

Warren.—Machinery is fast arriving for the Dredge plant. Two more carloads are at Weiser awaiting shipment here.

Shoshone County.

Bunker Hill & Sullivan Mining Company.—This company now has nearly a full force at work, about

125 men being employed. Some additions are still being made, however. There has been no disturbance of any kind so far.

Coeur d'Alene Mining and Concentrating Company.—This company has put a small force at work clearing out the Custer mine near Wardner, which has not been worked for nearly three years. As soon as possible a larger force will be put on and prospecting in lower levels begun.

Last Chance.—At this mine Superintendent Sweeney reports that they have 35 men at work, which is all they can use at present, and that they have no difficulty in getting all the miners they need. They are already breaking down ore. They are running the mill on one shift for the present, but will commence soon to run it on two shifts. They are now working from the lower tunnel, but will also commence in the upper workings shortly.

Standard.—There are now about 100 men employed at this mine, says the "Coeur d'Alene Miner," and its development is progressing as rapidly as possible. The lower tunnel is in 100 ft. At present the work is done by hand, three shifts being employed. Very soon, however, the compressor will be ready for operating machine drills, when the work will progress much faster. The ore is taken to the Union mill to the amount of 200 tons daily and concentrated. In addition to this, some first-class ore is shipped without treatment other than sorting. The Union mill is running constantly on two shifts under the superintendency of J. H. Neill, employing 10 men inside and 2 outside. The assay office in connection with the mill, which was burned down a short time ago, has been rebuilt. It is 13 ft. shorter than the former structure and has a corrugated iron roof in place of the shingles heretofore employed. It is already in active service.

MICHIGAN.

Copper.

Atlantic Mining Company.—The June smelting returns of the Atlantic mine show that the 560,745 lbs. of mineral produced yielded 441,952 lbs. of refined copper, 78.81%, or 16.15 lbs. copper per ton of rock.

Calumet & Hecla Mining Company.—A telegraphed summary of the annual report for the fiscal year ended April 30 shows that the company produced mineral equivalent to 39,738 tons of copper and smelted 31,233 tons of refined copper; for the previous year the refined product was 30,652 tons. The mineral not smelted has been stored. The Treasurer's statement shows: Assets—Cash at mine office, \$68,704, cash at New York office, \$15,000; cash at Boston office (copper at 8½¢ per pound and mineral at 4¢ per pound), \$4,782,153; notes and bills receivable, \$707,766; total, \$5,573,623. Liabilities—Drafts in transitu, \$75,007; employees' aid fund, \$5,617; bills and notes payable, \$598,010; machinery contracts, etc., \$532,270; total, \$1,210,904; surplus, \$4,362,719.

Tamarack, Jr., Mining Company.—According to Boston advices officials of this company say in response to inquiries that the No. 2 shaft, which at one time showed rather poorly, is now opening out good ground and improving in the level to the north, showing an extension of the Calumet & Hecla ground further in this direction than was expected when the No. 2 shaft first reached the lode and found poor ground.

Iron—Gogebic Range.

Ashland.—By a cave-in at this mine at Ironwood a large body of ore was exposed recently. Work will commence shortly.

Colby.—Messrs. Corrigan, McKenney & Co., of Cleveland, O., have secured control of this mine at Bessemer.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

JOPLIN, July 29.

The prices of ore have stiffened considerably during the past week and the output has been large. Zinc sold at \$23 per ton and lead sold at \$19.50 per thousand. Practically all the ore above ground was bought up. The output of the different camps is as follows:

Joplin, zinc, 1,697,340 lbs.; lead, 229,790 lbs.; value, \$24,500. Webb City, zinc, 619,510 lbs.; lead, 142,230 lbs.; value, \$9,273. Cartersville, zinc, 724,330 lbs.; lead, 48,640 lbs.; value, \$10,414. Oronogo, lead, 23,560 lbs.; value, \$446. Spring City, lead, 13,230 lbs.; value, \$335. Zincite, zinc, 14,170 lbs.; lead, 1,850 lbs.; value, \$170. Stotts City, zinc, 40,000 lbs.; value, \$410. Springfield, zinc, 44,000 lbs.; value, \$440. Aurora, zinc, 756,000 lbs.; lead, 100,000 lbs.; value, \$8,350. Galena, Kans., zinc, 2,120,000 lbs.; lead, 500,000 lbs.; value, \$28,080.

MONTANA.

Silver Bow County.

Anaconda Mining Company.—This company is preparing to sink a 1,000-ft. shaft on the J. I. C. property in the Kemper addition. The work will not be commenced until after the hoisting engine now in use at the Green Mountain has been replaced with a much larger one, as it is the intention of the company to use the old machinery on the J. I. C. It is understood, says the Anaconda "Standard," that the company has reason to believe that some other corporation has been encroaching on the ore body of the J. I. C., and will sink the shaft with a partial view of demonstrating the correctness of its surmises. It is rumored that the Monitor,

Ground Squirrel and J. I. C. have been worked at a depth of 200 ft. through the shaft of the Glengarry—a level carried 1,000 ft. from the lines of the Glengarry into the ground adjoining—which comprises the claims mentioned. Only 150 ft. of the 1,000, however, is said to be in J. I. C. ground.

NEVADA.

White Pine County.

Joana.—The work recently done on this mine in the White Pine District developed that the ledge in the bottom of the mine is large and of high-grade ore. It has been drifted upon 18 ft. across the vein, and the extent is not yet known. The ore is very free and is said to assay \$50 a ton in gold. The ore is the same in character as the high-grade ore found in the Chainman.

NEW JERSEY.

Morris County.

Hurd Iron Mine.—The men at this mine struck recently for an increase in wages. The mine will probably be closed down for a time.

Mt. Pleasant Iron Mine.—About 200 employed at this mine have struck for an advance of 15c. per day in wages. The owners claim that they cannot grant the increase at present prices of iron ore.

NEW MEXICO.

Santa Fe County.

Pearl R.—The ore body in the recently discovered fissure in the Pearl R. mine at Golden is improving as depth is attained, says the Santa Fe "New Mexican." The owners have concluded not to cross-cut until they go down deeper on the lead and for that reason the width of it has not as yet been determined.

Smuggler.—A good strike is reported to have been made on this mine at Golden, owned by Cullen & Randall. The ore has been uncovered to the width of 20 ft. and only one wall found so far. The ore is said to assay \$20 per ton and is of the same character as that of the Pearl R. The Smuggler lies north of and adjoins the Pearl R.

NEW YORK.

Westchester County.

Croton Quarry Company.—This company has been organized with \$50,000 capital stock to operate stone quarries in the town of Croton. The directors are John J. Gleason, Flushing, N. Y.; Clinton T. Roe, Whitestone, N. Y.; John M. Burke, Scranton, Pa.

NORTH CAROLINA.

Cabarrus County.

(From Our Special Correspondent.)

McMackin Gold Mine.—Mr. T. B. Cantier, expert for the Reduction Works at Blacksburg, S. C., has visited this property with a view to obtaining sulphurets carrying gold for treatment at their works, where they propose to utilize the sulphurets in the manufacture of sulphuric acid and save the gold by amalgamation.

Widenhouse.—Ore from the Widenhouse mine has just been worked at the Eames mill in Salisbury, and has resulted in a good saving of free gold. The ore is a quartz with pyrite and galena containing gold and some silver.

Mecklenburg County.

(From Our Special Correspondent.)

The chlorination plant of the Mecklenburg Iron Works has been kept busy testing ore for intending purchasers of sulphuret properties. Ore from the Frazier Gold Mine was so successfully treated as to close a deal. Mr. Edward McDowell is to be manager of the mine.

Vanderburg Mine.—This property has been opened by some Dayton, O., capitalists and, after examination, abandoned.

Montgomery County.

(From Our Special Correspondent.)

Glen Brook Mines.—At this property there is a 40 stamp mill which is being changed into a dry crusher in order to work the cyanide process. The mine is located at Glen Brock, and is under the management of Mr. Richard Eames, Jr.

Rowan County.

(From Our Special Correspondent.)

Aldrich—The mine, formerly the Southern Belle, has been leased by Mr. Meritt and Dr. Payne, of Salisbury. They are about to develop it in a systematic manner.

Dunn's Mountain Mine.—Wm. F. Buckley, of New York, has been down looking after his mining property in this county. It is reported he will open the Dunn Mountain Mines again.

Yadkin County.

(From Our Special Correspondent.)

Dixon.—This mine has been opened to a depth of 40 ft. on a 3 ft. quartz vein which at the surface showed ore worth 1 oz. gold to the ton. It has not increased in depth either in richness or size of vein. Messrs. Eames and Judd, of Salisbury, are the operators of this property.

PENNSYLVANIA.

Anthracite Coal.

While boring for water at Harleigh last week the Diamond Water Company of Hazleton discovered a valuable vein of coal. The seam as far as penetrated is 18 ft. thick and is said to be of good quality.

It was officially announced at Pottsville, on July 31st, that the rate of wages to be paid the miners in

the employ of the Philadelphia & Reading Coal and Iron Company, for the last half of July and the first half of August, will be 10% below the \$2.50 basis. The collieries suspended work on the 31st, having been operated but three days this week.

A press dispatch from Hazleton says that the continued dry weather is causing much distress in that vicinity. In the southern portion of the city the hydrants are dry and people must carry water from a distance. The Cranberry and Crystal Ridge Collieries shut down on July 30th because they had not enough water to make steam to run the plants. The Ebervale washery is now using the water from the mine holes, but even this cannot last over a few days.

By a premature explosion one man was fatally hurt and two others seriously injured on July 31st at No. 4 Jeanesville Colliery, operated by the Lehigh Valley Coal Company. The men were employed driving a rock tunnel and prepared a heavy blast. After igniting the fuse and waiting a sufficient time for it to go off they went back and found that the taper did not burn to the powder. It was then necessary to withdraw the charge of dynamite or drill a new hole. They chose the former, and proceeded to remove the tamping. While so engaged a spark was struck from the rock and a terrific explosion followed.

Butler Mine Company.—Work has been suspended at the Schooley colliery of the Butler Mine Company, in Exeter borough. Manager Bennett says that under the present demoralized condition of the trade there is no profit in mining coal, and the company has simply decided to close the colliery until the trade improves sufficiently to warrant the resumption of work. The Florence Coal Company has also suspended work indefinitely at its colliery in Smithville for similar reasons.

Franklin Coal Company.—This company, says the Carbondale "Leader," has decided to enlarge the capacity of its plant for the manufacture of buckwheat coal out of its culm pile, by the use of a quadruplex shaking screen, 20 ft. long, consisting of four screens, one above the other, and operated from one shaft. This screen is now being built by the Hendrick Manufacturing Company, and will be in operation about the middle of next month.

New York & Scranton Coal Company.—Fire broke out at the foot of the shaft of the Sturges mine, of this company, at Peckville, on July 31st. The bravery of Edward Williams, a pump runner, probably saved the lives of all those in the mine. After trying to extinguish the flames, he ran to where 40 miners of the first shift, were at work in the main gangway and warned them of the danger. He had been so badly burned already, that after gasping the word "Fire!" he fell unconscious. The other miners rushed in a body to the foot of the shaft, dragging Williams with them, and all were safely carried to the top. Two trips were made and nearly half of each gang were unconscious when they reached the surface. Pumps were put to work and water forced down the shaft, and the fire was eventually subdued. Twenty mules were suffocated in the mine stables. Prompt action prevented considerable loss.

Bituminous Coal.

The strike of miners near Mercer ended on July 29th, when half the men returned to work, accepting a reduction of 5c. a ton.

A press dispatch from Pittsburg dated July 31st says that after the miners, officials and operators had conferred all night the diggers announced that they must have 69c. a ton or would strike. This was said after the operators had offered to pay 65c. a ton as a compromise until November 1st, when they said they would pay the full price. The operators also offered to abolish the company stores. An operators' committee composed of Messrs. T. H. Chapman, George W. Schluenderberg and Alexander Dempster represented their association. National Secretary Patrick McBride was one of the miners' committeemen. A strike of Pennsylvania, Ohio, Indiana and Illinois miners is almost certain. The miners are opposed to a compromise and it is almost a sure thing that the convention of the Pittsburg district's miners to meet there on Friday will decide on a strike. The officials of miners from other states were roundly censured by the operators for their course and the voice of these officials in the convention to-morrow will be for war. Operator Thomas Young, owning the Manown and other mines in the Youghiougheny Valley, announced Wednesday that he would pay the 69c. rate. The miners' convention may decide that operators paying the price may run their mines, but it is likely that a general settlement all along the line will be insisted upon before the miners will allow any pit to resume. Word reached the miners' headquarters that there would be a break in the operators' ranks along the Panhandle. Several large firms in that vicinity say they will grant the rate, and notices to this effect are expected to go up. The only request these operators make is that their mines continue to operate in the event of a general suspension. The miners along the Wheeling Division have declared themselves on the situation without waiting for the assistance of the leaders. They held a meeting on July 30th, and after indorsing the action of the recent convention, passed a resolution to get all local unions in good standing with the district and national organizations as soon as possible. In the event of a strike the miners' forces in the Pittsburg district will be increased. President Penna, Secretary McBride, Vice-President Cameron Miller,

President Ratchford, of Ohio, and President O'Connor, of Illinois, will remain at Pittsburg.

Pittsburg District.—A meeting of the Pittsburg railroad coal operators was held on July 30th and it was decided to meet the miners on the following day and discuss the demand for 69c. a ton, which if not granted is likely to precipitate a strike. The operators claim that their lake shipments were booked on 60c. a ton basis, and that for this reason they cannot pay the advance.

Mercer County.

The northeastern part of this county, near Sandy Lake and vicinity, is in a fever of excitement over the development of oil production in that section. Oil has been produced in limited quantities for several years at Raymilton, a few miles beyond Sandy Lake, and it is the extension of this field that is now being developed. The Sandy Lake "News" says that the new field, which has taken the name of the Sandy Lake Oil Field, is located about three and a half or four miles from Sandy Lake, in a northeasterly direction. The oil found in this new field is second-sand oil, notwithstanding the nearness of the wells to the old third-sand field—Raymilton. It is a good, heavy quality of the second-sand grade, has a good color, and shows a gravity of 36%. The territory in the new field is being rapidly sought after, with the result that a great block is already under lease, a portion now being in the hands of New York parties, but a majority of the best leases still remain under the control of local capitalists and producers. The wells in the Sandy Lake field are comparatively shallow, averaging about 700 ft. in depth, at which distance a good sand is found which is about 60 ft. through. The National Transit will connect the field with the pipe lines as soon as pipe can be secured. The only drawback to operations in the field at present is the scarcity of pipe, the large mills throughout the country being filled to overflowing with orders, and to get casing the operators have to order weeks ahead.

Northampton County.

The slate company officials and firms held a meeting at Bangor, on July 31st, and decided to shut down all the roofing slate quarries in that district for two weeks in order that the supply might be curtailed. This is a great disappointment to all concerned, for it was hoped that the business would take a fresh start this season. Such a suspension as this at this time is almost unheard of and affects 1,000 men.

SOUTH DAKOTA.

Lawrence County.

Cornucopia Mining Company.—This company has leased its property, consisting of nine claims, situated northwest of Bald Mountain to Al Holmes for a term of one year. The company has done a large amount of development work on the property. One of the tunnels has been driven nearly 200 ft. in quartzite that is said to assay from \$7 to \$12 gold per ton. In the other workings several small vertical veins have been found that carry from \$27 to \$40 per ton.

Golden Eagle.—Another good strike is said to have been made recently on this property, situated near Hayward. The ore is similar in appearance (a bluish-white quartz) to that of the Holy Terror, in the Keystone district, and shows considerable free gold. A few feet from the surface the ledge shows a width of 16 ft., but is all broken up. A shaft is now being sunk on the vein.

Golden Reward Mining Company.—This company has put a force of men at work grading at the Tornado hoisting plant at Terry for another pair of boilers, which will be put in at once. Work will soon be resumed at the Tornado, when the workings will be cleared of water and larger pumps be put in.

Golden Summit.—This property is situated on the Poorman's divide, within the corporate limits of Lead. A new ore shoot has recently been opened up that is reported to surpass in value any yet found in the vicinity, running high in gold.

Iron Hill Mining Company.—The surface prospecting which has been under way for the past few weeks on the property of the company situated in carbonate has resulted in the discovery of a seam of high grade ore lying between lime and porphyry, say the "Black Hills Times." A shaft is now being sunk on the contact, and indications are that this ore seam is merely a feeder from a larger body existing at a lower depth.

Lucky Cuss.—Development work is progressing satisfactorily on this property in Teepee gulch. Work on the 80 ft. level continues, an easterly drift being driven on the ore body, which has not yet been cross-cut. The sides, roof and floor of this drift are now in pay ore. The new double compartment shaft recently started from the surface is now down 25 ft. and will be continued down to intersect the vein now being opened on the 80 ft. level.

Red Cloud.—The lease of this mine to Messrs. Card, Slaughter & Abbott has been terminated by the owners, Card & Weedon, on account of the manner of working it by the lessees, who insisted upon taking ore back of the shaft timbers, thus weakening them to such extent that the entire shaft will have to be retimbered. During the lease but a few carloads of ore were taken out owing to an unexpected trouble from water. The last carload netted the lessees \$47.80 gold per ton. There is now on the dump 15 to

20 tons, which is estimated to be worth \$100 per ton.

Strawberry Divide.—This locality, a few miles east of Deadwood, is producing some good ore. John Burkman, who has a lease on the Red Bluff mine, owned by Messrs. Turgoose & Graves, has struck a good body of ore assaying \$40 gold and 21 oz. silver per ton. Over a carload of the ore is now on the dump, and will be shipped to the Globe smelter in Denver. The ore carries in addition to the gold and silver some iron and lead.

Wonderful and Easy To See.—These claims are owned by G. H. Hoshier and G. W. Clark, of Deadwood. On the Wonderful lode surface indications are that the ledge is 100 ft. wide between dykes of porphyry and slate. A tunnel 55 ft. in length has been driven in on the ledge. The face of this tunnel is now 75 ft. beneath the surface. Another tunnel 107 ft. in length has been driven on another portion of the claim, from which drifts will have to be run to reach the ore. The rock is said to carry gold, silver, iron and copper pyrites, and lead assays made at the cyanide mill gave returns as high as \$14 gold and \$4.50 silver per ton. The Easy to See lode is situated about 300 ft. west of the Wonderful. The surface croppings are over 200 ft. wide and extend the entire length of the claim. Assays are reported to give \$8.97 per ton. Both claims are being steadily developed and the ore corded up awaiting transportation facilities.

Pennington County.

Holy Terror Mining Company.—This company is sinking the original shaft, which is 65 ft. below the 85-ft. level. They expect to go down 300 ft. The mill is shut down at present, but is expected to be in operation in a short time.

Keystone.—Work is being pushed in the shaft of this property as rapidly as possible, and will be kept up until a 400-ft. level is reached. Some fine specimens of ore, it is said, were taken from the shaft recently. There are 15 stamps at work at present, and it is expected in a short time the mill will be running to its fullest capacity.

TENNESSEE.

Campbell County.

La Follette Coal and Iron Company.—According to the Chattanooga "Times," this company, the Walnut Ridge Lumber Company and the town of La Follette, in this county, have been placed in the hands of Maj. E. E. McCroskey, as receiver. The receiver was appointed by Judge Sneed, of the Circuit Court, upon application of Ingersoll & Peyton, who filed a general creditors' bill. The assets and liabilities are not known. The company is backed by Indianapolis capitalists, H. M. La Follette being president and J. E. Keller secretary and treasurer. The company has a New York office and was organized to develop the coal, mineral and timber lands of this county.

Sullivan County.

It is reported that the long-continued litigation of coal and iron landowners, near Bristol, with the South Atlantic & Ohio Railroad, which has tied up the property for a long time, has been settled, and that it is now being developed.

UTAH.

Juab County.

Grand Central Mining Company.—This company, whose property inheres that of the Centennial Eureka and Mammoth, has ordered a \$20,000 plant. This action was decided on at the meeting of the board of directors which was held at Provo on the 19th inst.

Old Fred.—George Leighton now has a sufficient body of ore developed in the Old Fred group to warrant the erection of a mill. A contract has been let for running a tunnel 300 ft., through which the ore can be brought from the mine, and at the mouth of which the mill is to be constructed.

Pacific Group.—A lease and bond on this property has been given to George Mullett and others. The claims are located below the Sunshine, have good surface showing, and the development thus far made has been of an encouraging nature.

Tetro Mining Company.—The retimbering and cleaning out of the Tetro tunnel has been completed and a drift started to the east from the end of the tunnel. A distance of 100 ft. in that direction will give a depth of about 500 ft. The tunnel is following a small streak of quartz, which gives a small assay, and is probably a feeder from the main or Godiva vein.

Tooele County.

Heffner Queen.—This property in the Stockton District was recently bonded, and is now controlled and will be for the next two years by Messrs. Garber and Hamilton, who will resume operations with full forces at once. This property has been idle for some time past on account of a disagreement among the stockholders of the company as to the working of the mine and the leasing proposition was a sort of compromise.

Poorman.—Maj. W. E. Stevens, of Toole, and others, have leased and bonded the Poorman group at Mercur, to George W. Carter and others, and development work will soon commence.

Syndicate.—This group of mines in the Camp Floyd district has been bonded for \$20,000.

Washington County.

Grand Gulch.—For some time past negotiations

have been on regarding this group of mines, and it is now announced that a bond has been given on the properties to the representative of a French syndicate, and it is the intention of the interested parties to visit the mines in the very near future for the purpose of experting them. At St. George, to the south of which the mines are located, a smelter was erected some years ago and kept in blast for over a year on ores from the Grand Gulch. The long wagon haul and the many other disadvantages caused a suspension of operations, and the properties have been idle. The ores are said to average 40% copper.

VERMONT.

Windham County.

Lyons Quarry.—One of the largest contracts on record for granite has just been closed by this quarry at West Dummerston. The contract is to furnish 18,000 car loads of stone for the new works of the Holyoke Water Power Company at Holyoke, Mass. The amount involved is upwards of \$500,000. It will require about three years to complete it, and 140 or 150 men will be required summer and winter. There will be 5,000 stones weighing five tons each, and 1,000 weighing seven tons each.

VIRGINIA.

Wise County.

Virginia Coal and Iron Company.—Work was begun last week on the railroad of this company connecting its mines with the Louisville & Nashville and the South Atlantic & Ohio railroads. The contractor is A. R. Wing, of Johnson City, Tenn., and he is to finish the road, 5½ miles long, in 90 days.

WASHINGTON.

Okanogan County.

Tacoma Smelting Company.—This company recently bonded a number of claims on Pike Creek. The claims are owned by Messrs. Hood and Grant, of Leavenworth. Pike Creek is a small stream joining the Peshastin River about three miles above the mouth of Ingalls Creek, says the Phillipsburg "Mail." The formation all along the stream indicates gold and any number of claims have been located a long time. It is near the old Blinn stamp mill, now owned by the Cascade Mining Company, which was a liberal producer of gold 15 years ago.

FOREIGN MINING NEWS.

CANADA.

Shipments of oil from the Petrolea region during the month of May were 18,165 bbls. of crude oil and 18,382 bbls. of refined oil. Reducing the refined oil to its crude equivalent, these shipments are equal to a total of 64,140 bbls. of crude oil, which compares with 67,369 bbls. in May, 1894, and 67,721 bbls. in 1893.

DUTCH GUIANA.

Two companies have lately been organized in Boston to carry on gold mining in this colony. The operations at first will be on placers on the Surinam river, about 60 miles from its mouth, but will be extended to quartz lodes which have been located in the same district.

LABRADOR.

The Labrador peninsula is admirably described, both geologically and topographically, in the "Scottish Geographical Magazine" for July by Dr. Robert Bell, of the Geological Survey of Canada. The account is, in large part, the result of his own observations made during several extended journeys and gives a less forbidding impression of the climate, scenery and resources of the country than other travelers have reported. He estimates the area of Labrador at 560,000 square miles, of which about a fourth is claimed by Newfoundland. The principal resources are still its extensive forests, which contain 24 different kinds of trees, but on the east coast of Hudson Bay there is a "practically inexhaustible" quantity of a "rich manganiferous spathic iron ore." Copper, galena, "apparently in workable quantities," and traces of gold are also found.

NEW SOUTH WALES.

Broken Hill Proprietary Company.—According to late advices the London office of this company has received by cable a summary of the accounts and report for the half year ending May 31st, as follows: Profit for the half year, £345,000; net liquid assets, £620,000, consisting of cash in bank and on deposit, £135,000; consols and local government bonds, £75,000; bullion and stocks on hand, £110,000. Profit and loss account shows a credit balance of £655,000. Value of ore extracted, £33s. 9d. per ton. Cost of production, £2 ls. per ton. Directors' report states: With regard to the future prospects of the mine, the board, together with the acting general manager, having fully considered in all its bearings the future working of the mine, and in view of the estimate of tonnage and value of reserves of oxidized ore remaining available for treatment by present existing plants, are strongly of opinion that every effort must be made so as to economize the high grade ore in order to prevent the excessive charges necessarily imposed on smelting low grade ore. The matter was fully considered by the board, and, acting on the recommendation of the acting general manager, it has been decided to reduce the weekly output to such quantity as will permit the maximum of economy in the cost of extraction and treating the ore, by reducing the output to advantageous limit. The board of directors regrets it will be impossible to declare usual monthly dividends at

present prices of metals without encroaching on the reserves of liquid assets. On the other hand, they think they are justified in believing the reduction for this half-year may not be very large, possibly one dividend of 1 s. per share. An extract from the acting general manager's report for this half-year states: Weekly output has been maintained for the past half year, but in consequence of ores varying very much in quality and grade, the high rate of production can only be done by sacrificing the economy in working expenses. From the knowledge we have gained, the oxidized ores remaining on hand are not likely to improve in smelting quality, and he is strongly of the opinion that, taking into consideration also the low-grade ore remaining on hand, a greater total profit can be secured by reducing output to a reasonable extent.

ONTARIO.

La Seine River District.

(From An Occasional Correspondent.)

Since the advent of the fly season prospecting has not been prosecuted with its usual steadiness, as apparently none but the most hardened of old-timers can successfully withstand the combined attacks of our mosquitoes, sand and black flies very long. Foremost among the active prospectors now at work here may be mentioned W. A. Dafter, of Grand Rapids. Mr. Dafter is largely interested in gold claims in this vicinity and is now sinking upon claim H. L. 145 with very encouraging results. H. L. 145 is located on the Little Turtle River, due north from the Ray-Wiegand claims and a little westward of the Ingraham locations now being partially opened up. Another claim under development is the H. P. 167, which, like the foregoing, pans gold wherever tested. Work at the Foley Camp, it is rumored, will shortly be resumed, the present suspension being due to reorganization of the company now in progress. This property, consisting of an area of 40 acres (A. L. 75), is literally honeycombed with auriferous veins, upon a few of which shallow pits, 12 to 45 ft. each have been driven, with good results in free milling ores. No machinery has so far been introduced, nor is it likely to be operated vigorously before additional territory is acquired. The surrounding locations are all more or less prospected, and, as a matter of fact, all carry gold apparently in paying quantities.

Among the last prospectors to leave here were the Campbell-Faucett people on A. D. 2 and A. D. 3—Bad Vermilion—where coarse and fine gold occurs in a strongly-defined quartz load with a strike of N. 30° E. and upon which a developing company is now being formed.

La Seine Mining Company.—Work at this mine and mill has not yet been resumed and the mill is at present in possession of a Dominion customs officer for an infraction of customs dues, etc. This, with other complications, renders the date of their re-opening problematical indeed.

RUSSIA.

The official statement of the production of petroleum in 1894 puts the amount at 297,500,000 poods 4,873,000 metric tons, which is a slight decrease as compared with 1893, but an increase over 1892, the production for those years having been 324,700,000 poods and 286,500,000 poods respectively. The stocks on hand on January 1st, 1895, were estimated at 6,500,000 poods against 23,000,000 poods in January, 1894. The production for the month of January, 1895, was 34,000,000 poods and for February 31,400,000 poods.

A recent report from the British consul at Batoum states that the railroad freight on mineral oil from Baku to Batoum which was last year reduced to 9 kopeks per pood, has been increased to 14 kopeks, and it was proposed on July 1st to make a further increase to 19 kopeks per pood, which was the old rate.

SCOTLAND.

Preparations are being made for the reopening of a colliery on Preston Island, situated in the Firth of Forth, between Bo'ness and Torryburn. The colliery was established about the beginning of the present century by Sir Robert Preston, and three shafts were sunk, but, not proving a profitable concern, it was abandoned, after £30,000 had been lost in the venture. Recently Messrs. James Hutton & Son, who proved the Culross coalfield and floated a company, directed their attention to the island, and by means of a small engine have pumped the water out of the old workings. The shafts have been sunk to a depth of 45 fathoms, and in that distance four workable seams, one of them 9 ft. thick, are passed through. It is believed that the valuable and now scarce Dunfermline splint lies a little further down. A pier still exists at the island, and at full tide vessels drawing 13 ft. of water can lie alongside.

SOUTH AFRICA.

Transvaal.

African Gold Recovery Company.—This company reports that in the month of June 56,780 oz. of gold were recovered by the cyanide process in the Witwatersrand and 6,600 oz. in other districts. This makes a total of 63,380 oz. for the month, against 66,200 oz. in May.

SPAIN.

For the five months ending May 31st imports of coal into Spain were 752,969 tons, an increase of 32,950 tons over last year. Imports of coke were 64,132 tons, a decrease of 39,138 tons. Imports of iron included 10,858 tons pig iron, 3,538 tons wrought

iron and 6,783 tons steel. For the five months the exports of minerals were as below, in metric tons:

	1894.	1895.	Changes.
Iron ore.....	2,143,346	1,909,665 D.	233,681
Copper ore.....	224,333	221,087 D.	246
Zinc ore.....	15,433	11,754 D.	3,679
Lead ore.....	5,622	3,689 D.	1,933
Salt.....	99,805	88,231 D.	11,574

Exports of metals included 10,076 tons pig iron, a decrease of 9,354 tons as compared with last year; 12,155 tons copper, a decrease of 1,549 tons; and 61,537 tons lead, an increase of 467 tons.

LATE NEWS.

The renewal of the report of an agreement between the Standard Oil Company and the Russian producers has called out the usual denials from all parties. Such an agreement would not be formally made, though some understanding might be reached in a quiet way.

In St. Petersburg this week, the "Novoe Vremya" has published a letter from the Nobels, the great Russian oil producers, denying the existence of any agreement between the Russian and American oil companies for the partition of the European markets.

Intending visitor to the Atlanta Exposition will be interested to learn that on August 1st the Southern Railway Company announced the following rates from Washington to Atlanta, Ga., on account of the Cotton States and International Exposition; Washington to Atlanta and return, on Tuesday and Thursday each week during Exposition, rate of \$14 for the round trip, good to return within 10 days; every day, during Exposition rate of \$19.25 good to return 20 days from date of sale; also return trip rate of \$26.25 good to return until January 7th, 1896. This is the lowest rate ever recorded for any similar Exposition.

A late press dispatch from Pittsburg, dated August 1st, says: After a convention of the miners of the Pittsburg district had been in session all day and a conference had taken up the entire night until a few moments of midnight no settlement could be reached and the matter was referred to the Executive Board of the operators. There were present 53 delegates. President John A. Cairns presided. Nearly all the delegates reported that their constituents were eager for a strike in case the advance was denied. In the afternoon the Operators' Committee, consisting of Messrs. Chapman, Schleuderberg and Dempster, appeared and argued the matter with the men. They advised against a strike, and argued in favor of postponing action until November 1st. They explained that contracts had been taken on the present rate and would not expire until that date. Promises were made that in the Fall a higher price would be paid to the diggers of the district. No fixed amount was given, but it will at least be as much as the diggers now demand, that is 69c., where "pluck-me" stores are run at the mines, and 64c., where there are no stores. The committee said the operators were anxious to avoid a strike, having made all their shipping contracts. This proposition was met with a like one by the miners, who proposed the operators concede the price and to use their efforts to have all the operators in line to pay the advance on October 1st.

COLORADO.

Clear Creek County.

(From an Occasional Correspondent.)

Bismarck.—An option for 20 days was given on this mine by the Beers Bros. to Denver parties for \$100,000, but just before it expired the ore body in the mine opened out from 4 ft. to 23 ft. wide, half of which is smelting. The Beers declare that the option expired before the Denver parties tendered the first payment of \$10,000, and say they would not sell it now for \$200,000, while the Denver parties claim they kept their part of the bargain. The courts will probably be resorted to to settle the difficulty.

Silver Ring.—This mine, which produced \$19,000 in silver in six months several years ago, is being started up by drifting, those in charge believing that they will again strike the ore chute.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Aug. 2.

PRODUCTION OF BITUMINOUS COAL, in tons of 2,240 lbs., for week ending July 27th and year from January 1st:

Shipped East and North:	-1895-		1894.
	Week.	Year.	
Phila. & Erie R. R.....	625	32,245	37,590
Cumberland, Md.....	70,016	1,770,578	1,785,367
Broad Top, Pa.....	8,038	263,232	185,974
Clearfield, Pa.....	82,839	3,241,621	1,196,620
Allegheny, Pa.....	39,698	2,404,971	574,000
Becon Creek, Pa.....		1,619,607	838,310
Pocahontas Flat Top.....	150,321	1,553,328	1,763,645
Kanawha, W. Va.....		1,722,140	1,272,439
Total.....	251,447	12,607,722	7,654,245

* Returns not received; † Week ending July 20th.

Shipped West:	-1895-		1894.
	Week.	Year.	
Pittsburg, Pa.....	32,661	1,125,516	748,974
Westmoreland, Pa.....	33,481	1,121,476	731,284
Monongahela, Pa.....	18,981	499,812	352,397
Total.....	85,123	2,746,804	1,832,655
Grand total.....	356,982	15,354,526	9,486,900

Production of coke on line of Pennsylvania Railroad for the week ending July 27th, 1895, and year from January 1st, in tons of 2,000 lbs.: Week, 109,922 tons; year, 3,188,196; to corresponding date in 1894, 1,477,445 tons.

Anthracite.

There is no noticeable change in the condition of the anthracite trade. The sales-agents held a meeting at the Astor House on Tuesday, and after some deliberation did nothing. The question of continuing the restriction of the output was brought up, and every interest present agreed that it was the only plan to follow. But when it was proposed to make fixed prices for coal and to adhere to them there were several companies which would not assent. The meeting then adjourned sine die, for it was recognized that there was no use in holding any more meetings so long as the agents were not authorized to come to any understanding.

There is an air of expectancy about the offices of some of the companies that does not seem to be justified by actual conditions. There seems to be a widespread feeling that something will happen ere long to put an end to the present demoralization of the trade, but what that something will be none can tell, for the simple reason that no one in the coal trade knows. Probably the stockholders of some of the companies will grow weary of mismanagement and take steps to stop it.

In the meantime, "the trade" is in as bad condition as ever. People never buy in a panicky market, and anthracite is no exception. Dealers are deterred from buying by the ruling low prices. Not every producer has a Western outlet, and the result is an accumulation of coal here which renders impossible any firmness. As we stated last week, it is impossible to give "market quotations," as it is impossible to say how low certain sellers would be willing to go to dispose of accumulations. The output is being well restricted by all producers; but, even so, it is not all being absorbed, as new business is very light. A fair quotation for good coal would be \$2.75 for stove on board, though some grades have been sold for less.

Reports reach us that some of the smaller independent operators have closed down indefinitely, or until there is an improvement in the anthracite trade. The coal companies controlled by railroads cannot afford to follow this example, but they are suffering from present conditions as much as any one else, and the prices at which their shares are quoted in the Stock Exchange are certainly much higher than they should be if intrinsic value alone were considered. When this fact becomes generally known there is a possibility that the anthracite interests will be forced to come to an understanding. But as the time for the stockholders to interfere is apparently still remote, we see little probability of any change for some time, all rumors of an impending settlement to the contrary notwithstanding.

Bituminous.

There is very little change in the soft coal market this week. Prices continue so low that at times there seems to be no bottom to them. The latest development in this line seems to be the Rochester and Pittsburg coals coming in over the Erie canal, and reaching New York harbor, selling at about \$2.10 alongside. The people representing this coal say there is no money in it at this figure. The contractors have now pretty well settled down to their contracts and understand the details connected with the new trade that they have taken, and shipments to all consumers are nearly all on old business. The transient and spot business is a little improved from what it has been and a small amount of coal is moving forward on it. It is thought the low prices have induced this result.

Tonnages continue large, and apparently every one is endeavoring to get as much coal forward as possible, probably to take advantage of the low ocean freights, and the transient trade to take advantage of the low prices offering.

A considerable effort is making to induce the Western miners to strike, and it is reported that agitators have gone into the mining districts of Virginia, West Virginia and Pennsylvania for the purpose of further organization. The companies working the various mines supplying the Atlantic seaboard have not heard of any result in their mines from these efforts as yet, and it is not thought they care very much, as it would improve prices if the supply were curtailed.

The New England States, especially those most eastern, continue to take the bulk of the coal coming forward and the other consuming districts take comparatively small amounts.

The all-rail trade is a little dull, and tonnages are smaller than they have been of late. The coal to the various navy yards, proposals for which were asked for some time ago, was to have been placed last night. It is thought that with some exceptions it went to many of the old contractors as some of the producing interests do not care to go into the details required by the Government in supplying coal, and those concerns who have hitherto been supplying the Government are prepared for these requirements, and understand fully what is to be done.

In transportation of coal from mines to tide there is considerable delay, and some blockades are reported on the main line roads. Shippers have complained of this delay, as the captains of the chartered vessels who were to receive prompt dispatch are threatening to throw up their charters if delayed very long. The car supply, notwithstanding the blockades, continues good, and the mines not only receive all the cars asked for for the tide water business, but also for places off the main line roads, which have in a number of instances required special requisition.

In the coastwise freight market vessels are not in as good a supply as they were two weeks ago, but the delay in the arrival of coal at tide offsets this to a considerable degree. However, the efforts that were making to cut slightly under the rate in special instances to desirable points have now been rendered futile by the present short supply of vessels. The arrival of a number of empty vessels at the various shipping points will put freights where they were two weeks ago.

We quote current rates of freight as follows from Philadelphia: To Boston, Salem, Portland, Portsmouth, Providence, Fall River, New Bedford and other Sound ports, 60c.; to the ice ports, 65c., towage where usual; Wareham, 85c.; Lynn, 75@90c.; Newburyport, 75c.

Buffalo.

Aug. 11.

(From Our Special Correspondent.)

The anthracite coal trade continues to drag along in a listless way, and the market continues weak. The bituminous coal dealers still complain of low prices, and only moderate demand.

On August 5th the Lehigh Valley, the Philadelphia & Reading and the Pennsylvania railroad companies will put into effect a new coal tariff from the mines to Buffalo. The present freight rate is \$2 a ton for anthracite coal, but the new rate will be \$1.75. This reduction will be made to meet the rate now in force on the New York, Lake Erie & Western, and the Delaware, Lackawanna & Western railroads.

Lake chartering of coal very dull with no present prospect of improvement.

The coal shipments westward by lake from Buffalo from July 21st to 27th inclusive, aggregated only 51,903 net tons, distributed to 18 ports, as follows: 15,825 tons to Chicago, 6,400 tons to Milwaukee, 6,950 tons to Duluth, 4,500 tons to Superior, 4,050 tons to Toledo, 675 tons to Marinette, 900 tons to Houghton, 500 tons to Gladstone, 800 tons to Traverse City, 700 tons to Kenosha, 1,325 tons to Lake Linden, 12,000 tons to Fort William, 4,025 tons to Green Bay, 924 tons to Ashland, 409 tons to Bay City, 1,400 tons to Saginaw, 320 tons to Sand Beach, and 1,000 tons to Hancock. The rates of freight were 50c to Chicago, Traverse City, Kenosha and Racine; 45c. to Milwaukee, Green Bay and Marinette; 40c. to Saginaw, 35c. to Houghton, Lake Linden and Hancock; 30c. to Bay City, and 25c. to Superior, Duluth, Ashland, Gladstone, Marquette, Fort William, and Toledo.

Here is an illustration of the difficulty of obtaining accurate statistics of the coal movement from Buffalo by lake. Recently the propeller Nichols arrived here from Duluth laden with wheat; after unloading her cargo, the captain took a clearance at the Custom House for Duluth light. The same day, the Nichols was chartered and took on board 2,891 net tons of coal for Superior, so the agent alleges, but the captain neglected to make the change in the manifest, and it has not yet been reported. During the season of navigation many vessels come up from Tonawanda light and take on cargoes of coal from Buffalo and the captain never reports to the Custom House the quantity taken, consequently no correct statistics are kept.

Chicago.

July 31.

(From Our Special Correspondent.)

The conditions governing this market for the past month or so are yet with us, and their seems to be nothing ahead that will afford a change for the better. At present anthracite coal is selling at a figure so low that the oldest coal dealer here only recollects in his experience of 30 years, but one period of a few weeks, years ago, when hard coal sold actually lower than the present. Retailers are offering to deliver coal at your door at from \$4.75 to \$5. Last year at the same time it was offered for \$5.75. There is a brighter aspect to the bituminous trade, and some very good contracts are being booked. These contracts do not extend very far forward, as they are taken at prices that at any other time than this would be considered outrageously low. The city has let about all its contracts for hard and soft coal for the next year, and it will be a gainer by many dollars over last year's prices. A considerable quantity of both hard and soft coal is coming to town and there is plenty for all purposes. Coke is in much better demand, and those who are using this article say that prospects are brightening.

Pittsburg.

Aug. 1.

(From Our Special Correspondent.)

Coal.—The river coal trade is at a stand still, and no change is expected until we have a rise. The present year has been an unfortunate one for the coal men, and there is no telling how long it will continue. The railroad operators still complain of a car shortage; it is thought that this difficulty will soon be obviated, and that shipments will soon be made with a greater degree of regularity.

At DuBois, Pa., some time ago, the lumber industry at Winterburn was finished, and the little vil-

lage has been going to decay for several years, but the present summer the Blanchard heirs who own thousands of acres, have been prospecting for coal and have found a good vein. They proceeded to open it, and will in a short time be ready for shipping.

It looks like a big miners' strike; all hope of an amicable settlement of the wage demand with the operators has about gone. A strike here means a strike in three States; Ohio can get it, Illinois has it and wants to hold it. The matter will be decided the present week.

Connellsville Coke.—On account of the scarcity of cars shipments fell off slightly last week, but the demand remains good and indications all point to an advance from \$1.35 to \$1.50 a ton. Open-top cars are unusually scarce and plants that are constructed with high runs are put to great disadvantage. Box cars are plenty, but all plants cannot load box cars and are in bad shape when open-top cars cannot be secured. The scarcity of opens may grow and put some of the operators at a great disadvantage in the next few weeks. The most of the coke plants now have high runs for loading open-tops. Summary of the region for the week show 15,303 ovens in blast and 2,531 idle. There was no change reported in the idle and active list. The products of the region for the week estimated at 145,265 tons, a falling off amounting to 2,692 tons. The shipments from the region in cars was 8,140, a decrease of five cars. The week's shipments were as follows: To Pittsburg, 2,506 cars; to points east, 1,658 cars; to points west of Pittsburg, 3,976 cars; total, 8,140 cars.

The average time made by the 74 plants in blast, 5.41 days against 5.57 the week previous. Prices show no change.

Shanghai, China. July 5.

(Special Report of Wheelock & Company.)

Coal.—Cardiff coal is not inquired for, except by an occasional war vessel. Australian coal is steady but with no great demand. In Japan the stocks are large, with heavy cargoes arriving, and no offers can be had. We quote for American anthracite 12 taels per ton; for Welch, 11 taels for Cardiff; Australian, 10.50 taels for Wollongong and 7.50 taels for Newcastle; for Japan, 4.50@5.75 for Takasima; 4.25@5.25 taels for Namazuta, and 4.25@4.75 taels for other sorts.

Kerosene Oil.—The market has been quite lively with a good number of sales at enhanced prices. Arrivals noted are one cargo of American, 80,136 cases; stock, including this, are 1,228,974 cases American and 287,200 cases Russian. We quote for American 1.65 taels per case for Devco's and 1.60 taels for American; for Russian, 1.55 taels per case for Batoum and 1.52 taels per two tins for Batoum bulk.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, August 2d, 1895.

Pig Iron Production and Furnaces in Blast.

Fuel used...	Week ending		From		From	
	Aug. 3, 1894.	Aug. 2, 1895.	Jan. '94.	Jan. '95.	Tons.	Tons.
Anthracite...	31	13,119	37	21,501	456,319	633,279
Coke...	55	69,209	133	142,504	2,547,859	4,124,231
Charcoal...	23	3,911	17	3,731	120,361	122,217
Totals...	109	86,239	187	168,636	3,124,539	4,879,727

Favorable accounts of the iron market continue to come from all quarters. The "reaction" predicted in certain quarters has not shown itself and prices are well maintained, while makers everywhere report that they are unable to keep up with their orders. There is a demand especially for Bessemer pig and steel billets, and some buyers who have postponed purchases in the hope of lower prices are finding it difficult to procure necessary supplies.

Increases of wages are still frequently reported. In the finished iron trade, wages have very generally been restored to the standard of two years ago. Raw materials are still low, and miners' wages have not generally risen to the same level.

NOTES OF THE WEEK.

The strike of the iron ore miners on the Marquette Range in the Lake Superior region, still continues. The Republic Mine, on August 1st, granted an increase of from 10% to 15% in wages, and its mines are at work; but no other mine on the range is doing anything.

The puddlers in Western Pennsylvania and Ohio have generally voted to secede from the Amalgamated Association of Iron and Steel Workers. They will organize a separate association. Their grievance is that the Amalgamated Association has not sufficiently protected their interests, but has sacrificed them to make better terms for other branches of the trade.

A report comes from Chicago, that the companies making steel tires for locomotive and car wheels, have settled their differences, and will join in a combination. The particulars are still lacking. These companies are the Midvale Steel Company of Midvale, Pa.; the Standard Tire Company of Lewistown, Pa.; the Nashua Iron and Steel Company of Nashua, N. H.; the Latrobe Steel Tire and Iron

Company of Latrobe, Pa., and the Chicago Tire and Spring Company.

The certificate of incorporation, under the laws of the State of New Jersey, of the Bee Hive Coke Oven By-Products Company, was filed July 29th, at Trenton. The object of the company is the manufacture of coke and the by-products. The capital stock is \$500,000, with authority to increase it to \$5,000,000. The incorporators are Warren Delano, Jr., James B. Dill, and Robert A. Cook. Mr. Delano is the Vice-President of the Lackawanna Steel and Iron Company and is also President of the Mill Creek Coal Company and other coal companies in Pennsylvania. It is said that the new corporation is the forerunner of a combination of prominent coke companies, and that they intended to utilize the by-products of the coke. It is said that some prominent English manufacturers are interested in the company. The new company's charter expressly provides that no other preference stock and no debentures of any kind should be created or issued to rank with the cumulative preference stock provided for in the articles of incorporation. The Farmers' Loan and Trust Company of New York is the registrar of the company's stocks and bonds, and the Corporation Trust Company of New Jersey is the company's transfer agent.

Pig Iron.—The local market is not particularly active just now, as foundries are generally supplied, but small sales are frequent and prices steady. We hear, however, of some sales of Southern foundry iron from second hands at a shade below quotations; this is said to be part of a large lot bought some time ago at low prices.

Prices are firm, and for some grades a little higher, and we quote for Northern brands, No. 1 X, \$13.50@ \$14; No. 2 X, \$12.50@ \$13 gray forge, \$11.50@ \$12. For Southern irons prices are: No. 1 foundry, \$13.50@ \$14; No. 2 foundry, \$12.75@ \$13.25; No. 1 soft, \$12.75@ \$13.25; No. 2 soft, \$12.50@ \$13.

Steel Billets.—A number of sales are reported and there is a stronger demand apparent. Nearly all the large mills are full for some time ahead, and it is not easy to place orders for near delivery. Foreign billets are not in special demand, but one or two sales have been made. Quotations for Eastern billets are firm at \$21@ \$21.50 at mill, or say not far from \$23 at tidewater. Prices are steady.

Spiegeleisen and Ferromanganese.—There is more business doing in both ferro and spiegel, but prices are unchanged. Quotations are: \$21@ \$22 for 20% domestic spiegeleisen at furnace, and \$24@ \$25 for foreign, \$48@ \$48.50 for 80% foreign ferromanganese at tidewater.

Merchant Steel.—Business continues active and prices are firm. Quotations are: Tire steel, 1.65@ 1.70c.; toe calk, 1.75@ 1.85c.; Bessemer machinery, 1.55@ 1.70c.; open-hearth machinery, 1.70@ 1.80c.; spring, 1.85@ 1.90c.; steel hoops, 1.40@ 1.45c. delivered; links and pins, 1.70@ 1.80c.; soft steel bars, 1.40@ 1.45c.

Structural Iron and Steel.—Some new contracts for structural material are reported and the demand is good. Quotations are: Angles, 1.50@ 1.60c.; beams up to 15 in., 1.65@ 1.75c.; channels, 1.65@ 1.75c. on dock; tees, 1.80@ 1.90c. on dock, all firm.

Plates.—Plates are still scarce and in demand and prices are strong. The mills are all well supplied with orders and cannot give immediate delivery, for new orders. We quote steel plates, flange, 1.95@ 2.05c.; firebox, 2.10@ 2.25c.; boiler shell, 1.80@ 1.95c.; tank, 1.75@ 1.90c. Universal mill plates are in demand and are held at 1.75@ 1.85c.

Rails and Rail Fastenings.—A sale of rails to the Pennsylvania railroad is reported elsewhere. The New Haven company is said to be in the market for a large lot of heavy rails for fall delivery. For street and girder rails the demand is good. Quotations are: Standard rails at tidewater, \$24.75. In rail fastenings prices remain firm. Fish and angle plates, 1.40@ 1.45c. at mill; spikes, 1.80@ 1.85c.; bolts and square nuts, 2@ 2.15c.; hexagonal nuts, 2.10@ 2.20c. delivered.

Old Material.—Quotations are: Old steel rails, \$12.50@ \$13.50; old iron tees, \$11@ \$13; New York railroad scrap, \$11.50@ \$13 per ton, delivered at mill, and yard scrap at \$11.25@ \$12.50. In other varieties prices are unsettled, with generally an upward tendency. Old iron rails are scarce, and it is said that offers have been made at \$15.50@ \$16 per ton.

Buffalo. Aug. 1.

(Special Report of Rogers, Brown & Co.)

We have to report this week that sales have been above the average. The business for all the month just passed has been a trifle above the average, as far as sales are concerned. Shipments have been heavier, and foundries are waking up to the fact that they must carry more stock. Several have had to place additional orders for pig iron to cover the increase in consumption. One of the local furnaces has been forced to advance the price on all grades 50c. per ton, and say it may be forced very soon to withdraw from the market, until they can catch up with their orders. A few round lots of Southern iron have been offered in this territory, and immediately snapped up by those who have not been able to get iron shipped on existing contracts. Lake Superior charcoal furnaces are stiffer in their views, and one of them has advanced the price 50c. per ton. This makes a total advance of \$2 per ton over the lowest point reached. We quote below on a

cash basis f. o. b. cars Buffalo: No. 1 foundry strong coke iron, Lake Superior ore, \$14.25; No. 2, \$13.75; Ohio strong softener, No. 1, \$14.25; No. 2, \$13.75; Jackson County silvery, No. 1, \$15.75; Lake Superior charcoal, \$14; Southern soft, No. 1, \$13.50; No. 2, \$13; Hanging Rock charcoal, \$18.50.

Chicago. July 31.

(From our Special Correspondent.)

Sales in some lines of iron and steel have improved and in others there is considerable activity, though they show no gain over last week. In pig iron the market shows an exceptionally good run of orders, and structural material is in much better demand. There has been no advance in prices the past week, though the market shows strength in a few lines enough to warrant an advance soon.

Pig Iron.—A good steady run of orders is being received by the pig iron dealers in this city, and all are being booked at the advanced prices now in vogue. The largest sale of the week was 5,000 tons, and from that amount down to carload lots the aggregate sales would foot up 15,000 tons for the week. Lake Superior charcoal iron continues to be in great demand, and \$14 is the price asked for it. Southern iron continues in good demand, one sale of 1,000 tons of coke iron having been made and a number smaller of both coke and charcoal.

Prices are per gross ton f. o. b. Chicago: Lake Superior charcoal, \$13.50@ \$14; Lake Superior coke No. 1, \$13; No. 2, \$12.50; No. 3, \$12; Local Scotch No. 1, \$12.50@ \$13; No. 2, \$12@ \$12.50; Jackson County silveries, \$16; Southern coke, foundry, No. 1, \$12.75@ \$13; No. 2, \$12.25@ \$12.50; No. 3, \$12@ \$12.25; Southern soft, No. 1, \$12.50@ \$12.75; No. 2, \$12.25; Southern car-wheel iron, \$17.50@ \$18; Southern silveries No. 1, \$14; No. 2, \$13.50; Tennessee charcoal No. 1, \$13@ \$13.50; Bessemer, \$13.50@ \$14; Ohio strong softeners, \$13.

Structural Material.—The demand for bridge material has increased while building shapes continue to be bought in fair quantities. Quotations are, f. o. b. Chicago, mill lots: Angles, 1.60@ 1.70c.; tees, 1.75@ 1.85c.; universal plates, 1.70@ 1.80c.; beams and channels, 1.70@ 1.80c.

Bars.—Sales of bar iron have aggregated more than the preceding week, some very good contracts having been closed. Some large orders for freight cars placed by railroad companies have created the extra demand. Prospects for other good contracts are excellent, and inquiry is active. Common iron is selling at 1.30@ 1.35c.

Steel Rails.—The market for rails continues active, a tonnage of probably 12,000 tons having been booked by the local mills during the week. Quotations remain \$25@ \$27.

Billets.—The Illinois Steel Company has booked enough orders to guarantee the mills running for four months ahead, and they are now very conservative about taking orders. The amount of business booked by them for the week has been small, they having evidently refused a considerable amount. Billets are quoted \$23@ \$23.50.

Merchant Steel.—Shipments from mills continues active, and new contracts are being made right along, assuring a continued good run of business. Possibly a small advance will be made soon. Prices are: Bessemer bars, 1.55@ 1.65c.; tool steel, 5.50@ 7c.; tire, 1.70@ 1.80c.; machinery, 1.85@ 2c.

Old Rails and Wheels.—Old iron rails continuing to be held at \$17, there have in consequence no sales been made. Old wheels are in no demand at quoted price, \$12.

Scrap.—There is but little doing in scrap, though business is better than last week. Prices are: Cast borings, \$5.20; wrought turnings, \$6; axles, \$15@ \$15.50; mixed steel, \$8.25; railroad forge, \$12@ \$12.25.

Pittsburg. Aug. 1.

(From our Special Correspondent.)

Raw Iron and Steel.—A very noticeable feature of the iron and steel trade is the difficulty experienced in securing prompt deliveries, mills and furnaces continue crowded with orders, many for early delivery as well as a large tonnage for the balance of this year and several large blocks for the first quarter of 1896. Consumers failed to realize the strength of the situation until the manufacturers were full of work and are now experiencing considerable difficulty in getting material absolutely required to carry on their business. The railroads are beginning to place orders a little more freely and many of them are now running their repair shops on full time with an increased force. Railroads are being made aware that they have deferred their purchases entirely too long; contracts could have been made at several dollars per ton below present prices.

Heretofore the building of new steam railroads has been accepted as sufficient to explain the unexplainable in the iron trade, but it is clear that we are too near the limit to expect a long continued demand in that direction such as has prevailed in the past. While it is true, it may not be forgotten that we are actively engaged in building railroads of another description which will make a large demand on our rail mills.

At Hubbard, O., preparations are being made to light one of the furnaces. The furnace has an annual capacity of 70,000 gross tons. It certainly looks very healthy for trade when Pittsburg orders for steel billets are sent to Eastern mills, and shows that our mills are unable to supply the demand. The market closed very firm for all grades with

liberal transactions. There are plenty of buyers, while sellers are running short of material. An advance of \$2 per ton is announced on bar iron. A Duluth, Minn., dispatch says: Henry W. Oliver, of Pittsburg, and others have purchased for \$85,000 the Sheridan ore mine, one of the best in the district.

The tonnage men in the converting mills of the Edgar Thompson Works made an unprecedented run on Tuesday night in 12 hours 73 heats, making 1,110 tons and 700 lbs. of steel.

An offer of \$13.75 was made for 10,000 tons Bessemer pig at Valley furnace and was refused; \$13.85 was demanded.

The outlook for business is all that could be desired.

Southern Pig Iron.—At Birmingham, Ala., the boom continues. In these days it is a very different town from what it was six months ago. Everything there now is life and activity; not a blast furnace company in Birmingham is able to keep up with its orders. Of soft and mill irons there is such a scarcity that if the furnaces did not sell any more of this grade for two months they would still be behind hand in filling orders.

COKE, SMELTED LAKE AND NATIVE ORE.		2,000 Billets, Aug., Sept.
Tons.	Cash.	Oct. at mill..... 22.00
8,000	Bessemer, Sept., to Oct., Pittsburg.....	2,000 Billets, Aug., Sept. at mill..... 21.75
	1,000 Billets, Nov., Dec., Wheeling.....	21.00
5,000	Bessemer, Aug., to Sept., Pittsburg.....	1,000 Billets, Aug., Sept., Pittsburg..... 21.65
3,000	Bessemer, Aug., Sept., Pittsburg.....	14.50
2,500	Bessemer, Sept., Pittsburg.....	14.50
2,500	Bessemer, Aug., to Dec., Valley.....	13.85
2,000	Bessemer, Sept., Valley.....	13.65
1,500	Gray Forge, Aug., Sept., Pittsburg.....	11.65
1,000	Gray Forge, Aug., Sept., Valley.....	11.60
1,000	Bessemer, Aug., Sept., Valley.....	13.75
800	Bessemer, Aug., to Sept., Pittsburg.....	14.30
800	Gray Forge, Pittsburg.....	11.65
500	Gray Forge, Valley.....	11.25
500	Gray Forge, Valley.....	11.30
300	Bessemer, spot, Pittsburg.....	14.50
300	No. 1 Foundry.....	14.00
250	No. 2 Foundry.....	13.00
150	No. 1 Silvery.....	13.80
150	No. 2 Silvery.....	12.80

CHARCOAL.		50 Prime Western.....
100	No. 2 Foundry.....	\$17.00
100	Cold Blast.....	24.00
100	Cold Blast.....	24.00
100	No. 2 Foundry.....	17.25
100	L. S. Charcoal.....	16.00

BLOOMS, BILLETS AND SLABS.

BLOOMS, BILLETS AND SLABS.		1,000 Heavy Steel scrap, gross.....
Tons.	Cash.	15.00
3,000	Billets, Aug., Sept., Oct. at mill.....	\$22.00
3,000	Billets, Sept., Oct. at mill.....	21.75
2,500	Billets, Sept., Oct. at mill.....	21.80

Philadelphia. Aug. 2.

Philadelphia. Aug. 2. (From Our Special Correspondent.)
Pig Iron.—Less iron is being contracted for, and there is less anxiety to place orders for future delivery. The effect of the enormous production is being felt, but optimists say there is a coming fall demand that will put a "bull" aspect on the market. The action of the stove-men in agreeing to increase their product will send a good many large orders into the market soon. Some brokers say No. 2 is \$13@13.25. Forge iron is very strong, and it seems to be agreed that more of it could be contracted for at \$12@12.50 than is offered, except the poorer brands.

Steel Billets.—Very little has been said or done this week. Prices are given at \$22.50@23. The agents say several large buyers who were pushing for billets a week or two ago, are now waiting for developments.

Merchant Iron.—The bar iron manufacturers advanced prices one tenth to take effect immediately. The price is from f. o. b. mill 1.45@1.55. The retailers met and advanced store prices to 1.70@1.75. The demand is very urgent.

Nails.—Nail-makers are pushing ahead at a speed that must lead to an accumulation of stock before many weeks. They report an extraordinary demand at the full card rates recently made.

Skelp.—Manufacturers report to-day through their local representatives that buyers who want large quantities this fall are making a stand for concessions from present asking prices. They do not say what they may do.

Sheet Iron.—Sheet iron for stove makers use has been asked for this week and mill owners have quoted figures that do not suit. They say their figures will be paid on all orders to be executed before October 1st.

Pipes and Tubes.—This branch has been quieter for a week.

Merchant Steel.—While there is no evidence of

lower quotations having been made, good authorities say that buyers will find mill men in a more conservative frame of mind when the new fall business comes to be placed.

Plates.—Plates run from 1" to 2" according to kind. Late inquiries show that buyers are bent upon anticipating fall requirements with more promptness than they did spring requirements.

Structural Material.—The mills are delivering large quantities of material for city and outside trade. Much of the business is in small orders. Manufacturers are very circumspect in accepting fall business in order that they may be able to work on high-priced orders for quick delivery.

Steel Rails.—The Pennsylvania Railroad has ordered 10,000 tons at \$24, of which 9,000 tons went to Pennsylvania mills and 1,000 tons to Chicago.

Old Rails.—Brokers say there would be no difficulty in making big sales at 50c@75c. less.

METAL MARKET.

NEW YORK, Friday Evening, Aug. 2, 1895.

Gold and Silver.

Prices of Silver per Ounce Troy.

July.	SKELP IRON.				July-Aug.	SKELP STEEL.			
	St. Ex.	London Pence.	N. Y. Cts.	Value of sil. in \$1.		St. Ex.	London Pence.	N. Y. Cts.	Value of sil. in \$1.
27	4.85 1/2	30 1/2	66 1/2	.511	31	4.90 1/2	30 1/2	66 1/2	.511
29	4.89 1/2	30 1/2	66	.510	1	4.90 1/2	30 1/2	66 1/2	.512
30	4.90	30 1/2	66	.510	2	4.90 1/2	30 1/2	66 1/2	.512

Silver has ruled very steady this week, without any special feature in the market. The London demand is for India, and is somewhat limited. The market closed strong, with an advancing tendency. The United States Assay Office in New York, reports the total receipts of silver at 61,000 oz. for the week.

Gold and Silver Exports and Imports.

At all United States ports, June, 1895, and years 1895 and 1894 in coin and bullion:

	Gold.		Silver.		Total excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
June 1895..	\$131,641	\$2,095,391	\$1,087,136	\$939,157	\$1,183,929
1894..	35,231,438	23,969,698	23,894,777	4,278,839	\$30,879,718
1893..	70,901,779	11,445,773	23,714,315	4,584,319	\$78,604,402

Imports and exports of gold and silver in ores for the six months to June 30th are reported as below:

	Gold.		Silver.	
	1894.	1895.	1894.	1895.
Imports	\$325,972	\$702,784	\$3,187,579	\$4,992,607
Exports	10,042	26,255	169,774	.....

Excess Imports.....\$315,930 \$676,429 \$3,017,735 \$4,992,607

These imports and exports in ores are not included in the table of exports and imports of coin and bullion given above.

Adding the exports and imports in ores to those in coin and bullion, we have the following statement for the six months of the present year to June 30th:

	Exports.	Imports.	Excess.
Gold.....	\$35,267,793	\$24,672,392	E. \$10,595,401
Silver.....	\$23,896,727	9,279,816	E. 14,625,881
Total	\$59,164,520	\$33,943,238	E. \$25,211,282

The statement includes all United States ports, the figures being furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending August 2d, 1895, and for years from January 1st, 1895, 1894, 1893 and 1892:

	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	\$466,400	\$136,724	\$767,915	\$1,748	E. \$1,092,843
1895..	35,062,582	24,205,606	23,969,100	1,022,825	E. 33,791,751
1894..	80,316,101	10,989,711	21,243,111	992,632	E. 89,576,769
1893..	69,219,127	12,975,509	19,611,115	1,475,284	E. 74,428,049
1892..	49,858,009	6,318,600	12,953,458	1,203,091	E. 55,259,867

The gold exported for the week went to London and Paris; the silver nearly all to London. The gold imported was from the West Indies; the silver from the West Indies and Central America.

FINANCIAL NOTES OF THE WEEK.

Reports continue generally favorable, and though we are now near the middle of the usually dull season there is a continued steady growth of business. The upward tendency of prices is still unchecked, but the rise seems to stimulate demand rather than to lessen it. The expectation of a further rise has moved manufacturers generally to put in stocks rather than wait for a possible reaction, as some of them have been doing.

The unfavorable point in the situation just now is the possibility of a general strike among the western coal miners. The conference held at Pittsburg this week has apparently failed to reach a basis of compromise, and a strike is quite possible.

Some gold has been taken for Canada this week, and gold to the amount of \$2,350,000 is reported taken for shipment by Saturday's steamers. Whether this is the beginning of larger exports is doubtful.

The Treasury gold reserve was increased this week by \$2,000,000 in gold which was paid into the New York Subtreasury by the Syndicate in exchange for treasury notes. The total Treasury receipts for July were about \$30,000,000. The expenditures, usually large in the first month of the fiscal year, were about \$9,000,000 greater than the receipts.

The statement of the United States Treasury on Thursday, August 1st, shows balances in excess of outstanding certificates as below, comparison being made with the corresponding day of last week:

	July 25.	August 1.	Changes.
Gold.....	\$105,604,123	\$107,236,486	I. \$1,367,637
Silver.....	30,078,172	30,367,815	I. 289,643
Legal tenders.....	21,020,887	18,411,688	D. 2,609,199
Treasury notes, etc.	30,781,798	31,485,899	I. 704,191
Total.....	\$187,484,890	\$187,501,888	I. \$16,998

Government deposits with national banks on the same date amounted to \$14,501,091, a decrease of \$18,131 during the week.

Total United States Treasury notes issued under act of July 14th, 1890, in general circulation and in the Treasury, \$145,554,280. Against these are held in the Treasury 21,552,518 coined standard silver dollars, and silver bullion purchased at a cost of \$124,001,782, making a total of \$145,554,280.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending July 27th, gives the following totals, comparisons being made with the corresponding weeks in 1894 and 1893:

	1893.	1894.	1895.
Loans and discounts.....	\$406,489,200	\$481,633,690	\$506,176,000
Deposits.....	382,177,100	384,019,103	570,942,900
Circulation.....	61,622,600	9,871,900	13,138,600
Specie.....	62,631,900	90,642,900	65,297,400
Legal tenders.....	28,615,700	127,265,600	119,431,900
Total reserve.....	\$91,242,600	\$217,908,500	\$184,732,300
Legal requirement.....	95,544,275	146,004,775	142,733,125
Surplus reserve.....	\$4,301,675	\$71,893,725	\$41,999,175
Deficit.....	.....	.....	.....

Changes for the week this year were increases of \$3,505,450 in surplus reserve, \$928,100 in specie, \$3,233,500 in legal tenders, \$2,624,600 in deposits; decreases of \$750,500 in loans and \$99,600 in circulation.

For convenience of comparison, we have grouped together in the table below the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	Gold.	Silver.	Total.
Asso. Banks of New York.....	.....	.....	\$61,297,400
1894.....	.....	.....	90,642,900
Bank of England.....	\$195,670,040	.....	195,670,040
1894.....	196,508,785	.....	196,508,785
Bank of France.....	409,784,400	\$253,704,200	663,488,600
1894.....	372,819,402	254,096,630	626,916,032
Imp. Bank of Germany.....	.....	.....	257,690,000
1891.....	.....	.....	231,630,000
Austro-Hungarian Bank.....	102,960,000	67,009,000	169,969,000
1894.....	62,925,000	80,186,000	143,111,000
Netherlands Bank.....	21,417,000	34,975,000	56,392,000
1894.....	22,626,000	34,630,000	57,256,000
Belgian National Bank.....	.....	.....	19,757,000
1894.....	.....	.....	21,734,000
Bank of Spain.....	40,021,000	61,107,000	101,128,000
1894.....	29,611,000	46,382,000	75,993,000
Bank of Italy.....	60,285,000	10,240,000	70,525,000
1894.....	.....	.....	.....
Imp. Bank of Russia.....	274,075,000	54,945,000	329,020,000
1894.....	.....	.....	.....

The return for the Associated Banks of New York is of date July 27th; all the others are of date August 1st, except the Bank of Italy, whose return is dated June 20th, and the Bank of Russia, June 16th-28th. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports its gold only, not considering silver at all. The Imperial Bank of Germany and the Belgian National Bank do not report gold and silver separately.

Shipments of silver from London to the East for the year to July 18th are reported by Messrs. Pixley & Abell's circular as below:

	1894.	1895.	Changes.
India.....	\$2,993,115	\$2,132,330	D. \$860,785
China.....	1,837,654	1,100,767	D. 736,887
The Straits.....	734,852	460,853	D. 274,000
Japan.....	241,800	165,000	D. 76,800
Total.....	\$5,806,821	\$4,869,450	D. \$937,371

Shipments for the week were \$91,200 to Bombay. Receipts for the week were \$18,700 from Chile and \$144,900 from New York; a total of \$264,800, all bar silver.

Indian Exchange continues steady, and the usual 60 lakhs of Council bills were taken this week at 13 1/2 d. per rupee. The continued demand for exchange in view of light merchandise exports is explained partly by the small shipments of silver this year and partly by the speculation in rupee paper, which is still going on in India.

Brazil has brought out a loan of £6,000,000 in England, of which £2,000,000 will be used to pay off short loans. The bonds bear 5% interest, and were offered at 85, the payments to extend over a year. The loan was all taken without difficulty.

The coinage of the United States Mints for July, the first month of the fiscal year, was as follows:

Coin.	Pieces.	Value.
Double eagles.....	97,000	\$1,940,000
Eagles.....	82,000	820,000
Half-eagles.....	30,000	150,000
Total gold.....	209,000	\$2,910,000
Half-dollars.....	330,000	165,000
Quarter-dollars.....	448,000	112,000
Total silver.....	778,000	\$778,000
Five cents.....	914,000	45,700
One cent.....	310,000	3,100
Total minor.....	1,224,000	\$48,800
Total coinage.....	2,211,000	\$3,235,800

In addition to the coinage above reported, the Mint turned out during the month \$100,000 in 20-cent silver pieces for Ecuador.

Domestic and Foreign Coins.

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

	Bid.	Asked
Mexican dollars.....	\$0.53	\$0.53 3/4
Peruvian soles and Chilean pesos.....	.49	.51
Victoria sovereigns.....	4.90	4.95
Twenty francs.....	3.90	3.93
Twenty marks.....	4.80	4.85
Spanish 25 peseta.....	4.78	4.85

Other Metals.

Copper.—The past week has been a busy one for everybody connected with the copper trade, and very large transactions have again taken place at higher prices. Early in the week a few sales of Lake copper were effected at 11 1/2, but very soon first hands withdrew from the market, and we close at 11 1/4 bid for Lake and refused. At 12c. no doubt quite a considerable quantity of copper will come out, mostly for late deliveries, as nearly all the producers are fully sold up for one or two months. Large transactions have taken place also in electrolytic copper from 11 1/2@11 3/4, and higher prices are now asked for this grade also.

Casting copper is considerably higher, too, and while a few days ago 10 1/2@10 3/4c. was accepted, nothing is now to be had below 11@11 1/4c., with very little offered. All manufacturers are very busy and are crowded with orders. The consumption in this country is just now probably larger than ever before. During the last few days inquiries have also been received from abroad for fine copper, and some sales took place on private terms. Copper statistics in Europe have increased 700 tons for the past fortnight.

The European market has shown a continued firmness, and prices have gradually hardened. On the 29th ult., g. m. bs. opened at £45 2s. 6d., and they close at the best at £45 17s. 6d. @ £46 for spot, and £46 5s. @ £46 7s. 6d. for three months prompt. Large business has been done in refined copper, which appears to be rather scarce in Europe. For refined and manufactured we quote: English tough, £48 @ £48 5s.; best selected, £48 15s. @ £49 5s.; strong sheets, £55 @ £56; India sheets, £52 10s. @ £53; yellow metal 4 1/2d.

Copper Exports.—The exports of copper from the port of New York during the week ending August 2d, 1895, as reported by the New York Metal Exchange, were as follows, in long tons:

Port	Wire	3 tons
Havre—La Touraine.....
La Normandie.....
Genoa—Kaiser Wilhelm II.....
Hamburg—Prussia.....
Glasgow—State of Nebraska.....
Liverpool—Nomadic.....
Trieste—Pocasset.....
Rotterdam—Spaarndam.....
Havre—La Champagne.....
Hamburg—Phoenicia.....

Exports of copper from Baltimore for the week ending August 2d are reported by our special correspondent as follows:

Port	792 bars.	112,273 lbs.
Hamburg—Markomania.....
Antwerp—Storm King.....
Rotterdam—Durango.....

This is a total of 751 long tons of copper, and 18 tons of matte from New York, and of 505 tons of copper from Baltimore; making a total of 1,256 tons of copper, and 18 tons of matte exported for the week.

Tin.—The market has been very irregular, with fairly large transactions. The demand from consumers continues at quite a fair rate, but the metal was pressed for sale from certain quarters. At the close the tendency is rather firmer, spot being held for 14 3/5, August, 14 3/5 and September-December, 14 5/10.

The London market opened higher at £65 5s., reached £65 15s., but afterward showed a declining tendency. Prices closed somewhat lower at £64 10s @ £64 12s. 6d. for spot and £64 15s. @ £64 17s. 6d. for three months prompt.

Shipments during this and next month will probably not be heavy, and the statistical position for the second fortnight in July shows an increase of only 200 tons.

Arrivals of tin at San Francisco for the six months ending June 30th, amounted to 487 long tons.

A special despatch to the New York Metal Exchange says that the sale of Banca tin on July 29th went off at an average price of 39 3/4 guilders, equivalent to about 14 7/8c. per lb., c. i. f., New York. At the previous sale in May the average realized was 39 1/4 guilders, the present sale showing a slight decline.

Lead.—With offerings exceedingly light and a continually rising market in Europe the metal has ruled very firm, and a further slight advance could be obtained. We have to quote to-day 3.55 New York, but for outports higher prices can be realized, as the offerings from the West are very light and above the parity of New York.

In Europe higher prices have again been established, and Spanish lead is quoted at £11 @ £11 2s. 6d. and English lead 2s. 6d. more. Stocks in Europe are reported to be rather small. A fire has broken out in the Broken Hill mines in Australia, which will somewhat curtail the production.

The Bureau of Statistics, Treasury Department reports the imports of lead in June at 2,258 tons, and exports at 867 tons. The stock in warehouse June 30th was 6,233 tons.

Arrivals of lead at the port of New York during the month of July, according to the statement compiled by the New York Metal Exchange, were 5,125 tons in all, including 425 tons from Europe and 4,700 tons from Mexico. Exports of Mexican lead in bond were 550 tons to Europe and 237 tons to Canada, or 787 tons in all. The total stock in bond at New York and nearby ports on July 31st was 10,156 tons, an increase of 2,308 tons during the month.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is steady at the advance, common being readily salable at 3-3 1/2c., and corroding at 3-3 1/2c. The demand for all sorts is fairly active, and sellers continue to predict higher rates for the metal.

Spelter.—Prices have gone up by leaps and bounds, and they are now higher than for a long time past. Producers who have great difficulties in getting the necessary supply of ores are very stiff, and are already talking of 4c., East St. Louis, but this price has not yet been established, and we quote to-day 4@4 1/4c., delivered New York.

The foreign market has advanced, and good ordinaries are quoted £15 5s. and specials £15 7s. 6d.

Antimony is somewhat firmer. Cookson's, 7 1/2 @ 8c; Hallett's, 7 1/2 @ 7 1/4c.; other sorts unchanged.

Aluminum.—The standing quotations, according to producer's price list, are given below, the three prices named being respectively for small lots, for orders of 100 lbs. or over, and for orders of one ton or over: No. 1 metal, over 98% pure, in ingots ready for rolling, etc., 60c., 58c. and 55c. per lb. No. 1 metal, in ingots for remelting, 55c., 52c. and 50c. per lb. No. 2 metal, over 94%, but less than 98%, in ingots for remelting, 53c., 50c. and 48c. per lb. Rolled sheets, No. 1 metal, 80c. @ \$4.40 per lb., according to size and thickness. Wire, \$1 @ \$2.50 per lb., according to gauge. Tubes, from 14c. @ \$3.15 per linear foot, according to thickness and diameter. Castings, from 9c. per lb. up, according to pattern and size of order.

Abroad the price is fixed by the Neuhausen Company, which quotes 5 fr. per kilo.—equivalent to 45c. per lb.—at works in Switzerland for small orders; a discount is made on large sales. Quotations in Paris, for large orders, are 5 fr. per kilo. for ingots; 6 fr. per kilo, and upwards for sheets; 10 fr. per kilo for wire, 0 1/2 mm. and over; 15 fr. per kilo, and upwards for sheets. For small orders the quotations are 6-50 @ 7 fr. per kilo.

Bismuth.—Quotations are nominally \$2 @ \$2.50 per lb., according to size of order.

Magnesium.—The maker's prices are as follows, at works in Germany: 27 marks per kilo.—equivalent to \$2.94 per lb.—for ingots; 26 marks per kilo. for bars; 36 marks per kilo. for powder, and 38 marks for ribbon and wire. For orders of less than 10 kilos., 1 mark per kilo, must be added for ingots or bars, and 2 marks for wire, etc.

Iridium.—The demand is very small, and only occasional sales are made. The price varies from \$25 to \$35 per ounce, according to order and quality.

Nickel.—Quotations are steady at 35 @ 38c. per lb., with few sales reported.

In London quotations are unchanged at 13 @ 14d. per lb. In Paris quotations are 4 50 @ 5 fr. per kilo, (equivalent to 30 @ 45c. per lb.) for pure metal; 2 50 @ 3 fr. per kilo, for copper-nickel alloy, 50% nickel. These quotations are nominal, and actual sales are said to have been made at least 0 50 fr. lower.

Platinum.—The advance noted for last month on account of increasing demand and light production so far this year is fully held. The present London quotation for large lots is 45s. @ 46s. per ounce. New York prices for large orders are about \$11.50 per ounce, with an upward tendency.

For chemical ware, best hammered metal, Messrs. Eimer & Amend, New York, furnish the following

quotations, the prices given being respectively for orders of over 250 grams; for orders of over 100 grams and less than 250 grams, and for orders of less than 100 grams: Crucibles and dishes 41c., 43c. and 45c. per gram. Wire and foil are 40c., 41c. and 42c. per gram. The current retail price for crucibles is 50c. per gram.

Phosphorus.—Quotations current are 50 @ 52 1/2c. per lb., New York or Philadelphia.

Quicksilver.—No change is reported in prices, and we continue to quote \$40 per flask, New York. The London price is £7 5s. per flask, with £7 3s 6d. quoted from second hands.

Sodium.—In England makers' price is equal to 90 @ 96c. per lb., according to quantity. Occasional sales only are reported here, usually on private terms.

Tungsten.—The following quotations for this metal and its compounds are furnished by the manufacturers: Tungsten metal (powder) 98% pure, 70c. per lb.; tungstic acid, 45c. per lb.; tungsten salt (tungstate of soda), 30c. per lb. These quotations are for large lots. For ferro-tungsten the quotations for ton lots of the various grades are as follows: 60% metal, 60c. per lb.; 50% alloy, 45c. per lb.; 37% alloy, 33c. per lb. There has been no recent change.

Imports and Exports of Metals.—Exports of metals (other than copper) from the port of New York for the week ending July 27th, are reported by the New York Metal Exchange as follows: 5 tons nickel to Havre; 15 tons nickel to Hamburg; 11 tons wire rods to Glasgow; 13 tons nails to Rotterdam; 50 tons sulphate of copper to Genoa.

Imports of metals at the port of New York for the week ending July 27th, were: 5 tons nickel from Liverpool; 315 tons tin from London; 100 tons Straits tin and 25 tons Banca tin from Holland; 147 tons ferro-manganese from Liverpool; 28,243 boxes tin plates from the United Kingdom.

Imports at Philadelphia for the week ending July 27th included 35,309 boxes tin plate from the United Kingdom; 2,657 tons iron ore from Cuba.

Imports at Baltimore for the week ending July 27th were: 50 casks antimony from London; 3,773 tons manganese ore from Asiatic Turkey.

Exports from Baltimore for the week ending August 2d are reported by our special correspondent as follows: 2,003 plates, 99,909 lbs. spelter to London; 41 bbls., 22,550 lbs. sulphate of copper to Antwerp; 169 bbls., 90,175 lbs., sulphate of copper, to Rotterdam.

CHEMICALS AND MINERALS.

NEW YORK, Friday Evening, Aug. 2.

Heavy Chemicals.—As far as actual business is concerned there has not been much improvement in this market, but the firmer tendency which we noted in our last issue has continued and has affected trading for future delivery. Our Liverpool correspondents write that an understanding between the English and the Continental alkali makers is reported to have been reached and this has caused a firmer tone, in that sellers display less eagerness to book orders at low prices. Caustic soda is quiet, but steady, with little new business of any consequence doing. Alkali and carbonated soda ash are in better demand for future delivery. Bleaching powder is in very fair request and values are steady.

Shipments of heavy chemicals from Liverpool to the United States for the first half of this year as compared with the corresponding half of 1894 were as follows, respectively: Caustic soda, 14,010 tons, against 9,254 tons; carbonated soda ash, 27,407 tons, against 27,344 tons; bleaching powder, 21,381 tons, against 18,211 tons; sal soda, 2,617 tons, against 1,474 tons; salt cake, 6,948 tons, against 4,005 tons.

Quotations are as follows: Caustic soda, 60%, 2 @ 2 1/10c. for spot, other tests, futures, 1 95 @ 2 10c. Carbonated soda ash 48%, is 95 @ 1c.; 58%, 90 @ 95c.; according to quantity and delivery. Alkali is 90 @ 1c., according to test. Bicarb. is 1 90 @ 2c. for spot. Bleaching powder is \$1.80 @ \$1.85. Sal soda, 62 1/2 @ 65c.

Acids.—The market for acids continues quiet and featureless. Some acid is moving on old contracts, but the new business is small. There is no change in prices and we quote, per 100 lbs. in New York and vicinity, in lots of 50 carboys or more: Acids, acetic, \$1.40 @ \$1.65 (in barrels). Muratic, 18°, 75 @ 85c.; 20°, 90c. @ \$1.15; nitric, 30°, \$3.25 @ \$4; 40°, \$4 @ \$4.50; 42°, \$4.50 @ \$5.25. Mixed acids according to mixture: oxalic, \$7 @ \$7.50. Sulphuric, 60°, 60 @ 70c.; 66°, 70 @ 85c. Blue vitriol is quoted at \$3.75 @ \$4.

Brimstone.—The market for Sicilian brimstone continues quiet. Quotations for best unmixed seconds are as follows: Shipments, and near by arrivals, \$16 @ \$16 50. Best thirds are 50 @ 75c. less.

Fertilizing Chemicals.—The usual midsummer dullness prevails in the fertilizer market. Consumers are well supplied and there is very little spot business. In the potash salts the usual contract deliveries are making. Our quotations this week are as follows: Sulphate of ammonia, was liquor, spot, \$2.60 @ \$2.70; bone, \$2.50 @ \$2.60. Dried blood, high grade, \$1.70 @ \$1.80; low grade, \$1.60 @ \$1.70 per unit. Azotine, \$1.75 @ \$1.85. Concentrated phosphate (3% available phosphoric acid), 70 @ 71 1/2c. per unit. Acid phosphate, 13% to 15%, av. P₂O₅, 57c. per unit at seller's works in bulk. Dissolved bone black, 17% to 18%, P₂O₅, 90c. per unit. Acidulated fish scrap, \$12, and dried scrap with few or no sales,

nominally \$21 f. o. b. fish factory. Tankage, high grade, \$19@22; low grade, \$18@19. Bone tankage, \$21; ground bone, \$19@20. Bone meal, \$21@22.

In lots of 50 tons on contracts we quote, per 100 lbs.: Double manure salts, 48-53% (basis of 48%); New York, Boston and Montreal, \$1.10; Philadelphia and Norfolk, \$1.12½; Charleston, Savannah, Wilmington, N. C., and New Orleans, \$1.15. Sulphate of potash, 90%, and minimum, 96% respectively (basis of 90%); New York, Boston and Montreal, \$2.08@2.09; Philadelphia and Norfolk, \$2.10½; Charleston, Savannah, Wilmington, N. C., and New Orleans, \$2.13.

Muriate of Potash.—Quotations for lots of 50 tons are as follows: 80-85% and minimum 95%, respectively (basis of 80%); New York, Boston and Montreal, \$1.78; Philadelphia and Norfolk, \$1.80½; Charleston Savannah, Wilmington, N. C., and New Orleans, \$1.83.

Kainit.—Prices for kainit (minimum 23%) are as follows for invoice and actual weights respectively: New York, Boston and Philadelphia, \$3.80; Norfolk, \$9.15; Charleston, Savannah, Wilmington, N. C., and New Orleans, \$9.55.

Nitrate of Soda.—We quote \$1.70@1.72½. Shipments are held at \$1.75@1.77½ according to position.

Liverpool. July 24.

(Special Correspondence of Joseph P. Brunner & Co.)
So far as actual business is concerned, there is little going on in heavy chemicals. The air has been rife, however, lately with rumors of combinations between chemical manufacturers both here and on the continent, and it is reported to-day that an arrangement has been actually effected between the leading ammonia ash makers in this country. No details have transpired so far, however, nor has any change in prices been announced, and in any case it is not anticipated that any immediate change will be made in spot quotations, although advances are expected for forward contracts.

Soda ash is quiet on the spot, and spot range for tierces remains unchanged, as follows: Leblanc ash, 48%, £3 10s. @ £3 15s.; 58%, £3 15s. @ £4; Ammonia ash, 48%, £3 @ £3 5s.; 58%, £3 5s. @ £3 10s. per ton, all net cash. Soda crystals are in demand at £2 3s. 9d. @ £2 5s. per ton, less 5% for barrels, and makers are reported to be very full of orders for early delivery.

Caustic Soda is rather more inquired for, but is not active. We quote: 60%, £6 5s. @ £6 10s.; 70%, £7 5s. @ £7 10s.; 74%, £8 5s. @ £8 10s.; 76%, £9 5s. @ £9 10s. per ton, all net cash.

Bleaching powder is rather slow, and prices for hardwood packages range from £7 @ £7 5s. per ton, net cash, according to destination.

Chlorate of potash is still dull, but there is a little better inquiry to-day and some second-hand parcels have been placed at from 4½d. to 4¾d. per lb. for prompt and August delivery. Makers still quote 5d. Bicarb. soda finds ready sale at £6 15s. per ton for the finest quality in 1 cwt. kegs, with usual allowances for larger packages. Sulphate of ammonia, although not active, is selling to a fair extent in a quiet way and quotations range from about £9 16s. 3d. @ £10 per ton, less 2½% for good gray 24 and 25% for double bags f. o. b. here, as to quality. Nitrate of soda is in limited request, but still quoted at from £8 7s. 6d. @ £8 10s. per ton, less 2½% for double bags f. o. b. here, as to quantity and quality. Carb. ammonia, lump, 3½d. per lb.; powdered, 3¼d. per lb., less 2½%.

MINING STOCKS.

Complete quotations will be found on pages 118 and 119 of mining stocks listed and dealt in at:

New York.	Denver, Colo.	Salt Lake, Utah.
Boston.	Aspen, Colo.	London, England.
Baltimore.	Colorado Springs.	Paris, France.
Philadelphia.	Duluth, Minn.	Mexico.
San Francisco.	Helena, Mont.	Shanghai, China.
N. Y. Coal Stocks.	N. Y. Industrials.	Valparaiso, Chile.

NEW YORK, Friday Evening, Aug. 2.

There has been, comparatively speaking, rather more doing in mining stocks this week, that is compared with last week or a fortnight ago. But, for all that, the mining stock market is duller in this city than anywhere else.

There has been an attempt to trade in the copper stocks in emulation of the example set by Boston, but it has not resulted in much. In this connection we would call attention to our comments in the editorial page, though it is unlikely that New York will be appreciably affected by excitement in shares which are a Boston specialty. According to the official lists the sales this week were 90 shares of Boston & Montana at \$90.88@91; 300 shares of Butte & Boston at \$22.50@22.63 and 105 shares of Quincy at \$139.50@139.75.

There was very little done in the Comstocks this week. Of Consolidated California & Virginia 300 shares were sold at \$2.65@2.75. Other sales were: 100 shares of Best & Belcher at 90c.; 200 shares of Sierra Nevada at 50c.; 100 shares of Union at 50c.

Of the California stocks Brunswick Consolidated has become active again, and this week shows transactions of 3,600 shares at 13@15c. The mine has been pumped free of water now and stopping will commence next week. Of Standard Consolidated 600 shares changed hands at \$2.20@2.25. The result of the clean up of the cyanide plant (on tailings), for the first two weeks of July was a little over \$3,000.

The Colorado shares have shown a wider range of trading, though transactions were not large. Lacrosse shows sales of 2,000 shares at 13@14c. Of Leadville Consolidated 500 shares were sold at 12c. Little Chief was stationary at 15c., with sales of only 400 shares. Isabella was traded in to the extent of 600 shares at 20@21c. Iron Silver continued in fair demand and total sales amounted to 1,100 shares at 46@50c.

Boston. Aug. 1.

(From our Special Correspondent.)

The past week has been one of great excitement in copper stocks. The dealings have been on an enormous scale and prices have been pushed up beyond all precedent in many of the leading stocks with but little regard to the merits of the several mines or their capacity for earning dividends. Undoubtedly the strength of the ingot copper market warrants an increased value to some of the mines which produce copper and are paying dividends, but speculation is not confined to this class.

The trading in Boston & Montana has been very large, nearly 70,000 shares, and the price has ranged from \$86½ to \$99½, with reactions between these points, closing to-day at about \$94. Butte & Boston came to the front this week and scored an advance from \$18½ to \$28½, with reaction to-day to \$24½. Sales aggregated about 75,000 shares.

The Lake mines have also been buoyant, and all show a handsome advance over last week's sales. Calumet & Hecla sold at \$330 on the announcement of a \$5 dividend—and later at \$310, ex-dividend. Quincy enjoyed a great boom, selling up from \$126½ to \$170, with reaction to \$150 on later transactions. Tamarack advanced from \$160 to \$175, with later sales at \$165. Tamarack, Jr., was advanced from \$24½ to \$30, reacting to \$28. Franklin sold up from \$19½ to \$25. Kearsarge sold as high as \$26, but lost a portion of the advance in later dealings, selling at \$24. Osceola opened at \$37½ and sold up to \$41, with later sales at \$38½. Atlantic sold up to \$34, which was too much for it to hold and on the reaction it went down to \$25. Wolverine touched \$10¼, an advance from \$8½, but later sold at \$9½.

Central came out at \$15. The last sale was on October 1st, 1894, at \$5. Copper Falls sold at \$11 and \$11½. The last quotation for this stock was in October, 1893, at \$7. Tecumseh sold at \$5, an advance of \$2. Aitouze advanced from 95c. to \$2½, and Arnold from \$4¼ to \$6, both selling lower in later dealings. Centennial sold at \$1¼ to \$2¼, and later at \$1½. National sold at \$1¼ and \$1½, and Humbolt at 50c. to 90c.

A sale of Lake Superior Iron Company is reported at \$30.

Santa Ysabel has been rather quiet this week with the price ranging from \$13½ to \$15 closing at \$14½. Merced Gold sold up to \$45, and closed at \$44½. Sales of Pioneer Gold are reported on the street at \$8 to \$8½. This company has been organized, and application to list the stock on the exchange will be made as soon as the certificates are ready to issue.

3 P. M.—The market to-day has been a declining one. Boston & Montana sold down to \$91½, Butte to \$22½, Kearsarge to \$23, Quincy to \$147, Osceola to \$38½, and Wolverine to \$9. Calumet & Hecla sold at \$310, and Tamarack, Jr. at \$27½.

Colorado Springs.

BY TELEGRAPH.

Messrs. Gardner & Co. wire us the closing quotations for the week ending August 1st as follows:

Name of Company.	26	27	28	30	31	1
Anaconda.....	.40	.40	.40	.41	.41	.41
Argentum-Juniata.....	.92	.90	.80	8.56	.80	.88
Isabella.....	.20½	.19	.18½	.19½	.22	.21
Mollie Gibson.....	.88	.88	.88	.86	.85	.86
Portland.....	1.02	1.04	1.11	1.07	1.09	1.11
Union.....	.19¼	.22	.27	.23	.25½	.23½

Salt Lake City, Utah.

(Special Report of James A. Pollock.)

Greater activity in the mines of the Territory than for five years past marks the approach of the fall season and argues for the continued reliability of mining investments in Utah. There are no signs as yet of any of the old established properties working out. New fields are being located frequently, the latest of which is said to be a reproduction of the great gold beds of Mercur. Few mines that were closed at the time of the slump in the price of silver in 1893 remain idle; while most of them give promise of reaching a paying condition after a very little further development. The stock market for the week shows active demand and some closeness in the matter of supply.

Ajax showed considerable life, selling at 25c. and closing at 20c. bid and 35c. asked. The majority of the stock has been pooled and I doubt if there will be any more of it come out at the latest selling price. The shares have been in quite a good deal of demand and have quite a following among the speculating fraternity.

Alliance is on the upward turn, advancing from \$1.05 to \$1.25. There are no new developments reported from the property to cause this advance. The stock is closely held and could easily be pushed up on limited buying orders. Anchor buyers are coming in to the market more frequently. Bogan shares sold at 25c. Bullion Beck is not in demand, and there is a big block of stock on the market at \$10. The property is undoubtedly being pushed far too fast for its own good. Centennial Eureka holds its place as the highest grade stock on the list. The

shares are in excellent demand, and there seems to be a dearth of sellers. Comstock is offered in small blocks at fair prices. Good reports continue to come from the developments now going forward. Dalton sold at 3c. and seems to be in fair demand. Daly is quiet. The property is making a heavy output, upon which a good profit is being realized. Daly West was in fair demand and sold at \$6.50, closing at \$6.25 bid and \$6.75 asked.

Horn Silver is not selling in any considerable amount; the shares are \$2 bid and \$2.50 asked. Lucky Bill is in fair demand.

Mammoth sold at \$1.10 and closed at 90c. bid. The property is said to be looking exceptionally well. Mercur is very active when stock comes out, but the available supply seems limited. Stockholders are very sanguine. Silver King declared a dividend of 25c. a share, or \$37,500, payable August 7th. Total dividends to date \$287,500, of which \$12,500 has been paid this year. Shares closed at \$14.37½ bid and \$15 asked. Ontario is very quiet and lowering. Tetro is pushing ahead with developments and the outlook is very encouraging. The recently levied assessment is being rapidly paid in.

San Francisco.

July 27.

(From Our Special Correspondent.)

The market opened very quietly this week and little was done in the way of sales. Later in the week there was a show of activity, but it did not last. All through the week there was notable absence of all but the regular dealers, and even they were not disposed to make much show.

The market closed very quietly, with a general downward tendency of prices. Some closing quotations are as follows: Consolidated California & Virginia \$2.60@2.65; Ophir, \$1.30@1.35; Hale & Norcross, \$1.40@1.45; Best & Belcher, 84@85c.; Mexican, 63@65c.; Gould & Curry, 35@33c.; Potosi, 33@34c.; Occidental, 30@31c.; Bodie Consolidated, 15@18c.; Bulwer, 5c.; Mono, 5c.; Caledonia, 12c.

The California Miners' Association has received official news that all of its protests against the railroad filings have been dismissed by the commissioner of the General Land Office at Washington. A special meeting of the executive committee of the association has been called.

The Debris Commission will hold another meeting next week, at which a number of applications for permission to start up hydraulic mining operations will be considered.

The Kinkead Mining, Milling and Manufacturing Company has been incorporated in Nevada for the purpose of working the waste dumps on the Comstock. The company, it is said, will erect a mill and work the Consolidated Virginia dump first, and the Consolidated California & Virginia Mining Company is to receive 10% of the gross value of all bullion produced.

The official returns of the ore worked and bullion produced at the Morgan mill for account of the Consolidated California & Virginia mine during the July run have just been received and are as follows: Ore worked, 1,100 tons, 1,870 lbs. Bullion produced, \$42,713, of which \$20,034 was gold and \$23,679 silver. Yield per ton in bullion—gold, \$18 19; silver, \$20 60; total, \$38.79 per ton. Assay value of the ore per ton per battery samples—gold, \$17.89; silver, \$27.76; total, \$45.65 per ton. Assay value of the above ore per ton per railroad car samples, \$50.51.

A. L. Tubbs, of Oakland, and Dr. O. L. Barton, of Rocklin, have purchased the Osborne mine, Placer County, for \$10,000, and work on the mine will shortly begin.

Work is soon to be started again on the Bullion mine in Grass Valley district, which has not been operated for nearly 20 years. George Mainhart has been appointed superintendent, but he will retain his position as superintendent of the Omaha and of the Lone Jack.

An assessment of 10 cents per share was recently levied by the Inyo Marble Company of Inyo County.

BY TELEGRAPH.

San Francisco, Cal., Aug. 2.—The opening quotations to-day were as follows: Best & Belcher, 85c.; Bodie, 13c.; Bulwer, 5c.; Chollar, 58c.; Consolidated California & Virginia, \$3.55; Eureka Consolidated, 20c.; Gould & Curry, 48c.; Hale & Norcross, \$1.50; Mexican, 62c.; Mono, 2c.; Ophir, \$1.30; Savage, 30c.; Sierra Nevada, 41c.; Union Consolidated, 43c.; Yellow Jacket, 37c.

London.

July 29.

(From Our Special Correspondent.)

The amount of business transacted in the mining department of the Stock Exchange, during the past week has not been large, but on the whole prices have been very firm. The only weakening influence noticeable has been the tendency on the part of some French holders of South African to sell out, as they fear that Stambouloff's murder may give rise to serious European complications. In the city the results of the general election so far declared are viewed with satisfaction.

In the South African market almost all the shares show an advance on the week. The most important event is the announcement relating to the result of the past half year's working of the Johannesburg Consolidated Investment Company. The profits for the half year amount to no less than £1,000,000, on a capital of £650,000. It was considered advisable, however, to retain the greater portion of the profits and place them to reserve funds, because the business of the company being of the nature of banking, it is best to have a large surplus of cash. Therefore £260,000 only is paid as dividend, while £600,000 is

placed to reserve fund, and £140,000 is carried forward.

The publication of a cable giving an outline of the report of the Broken Hill Proprietary Company's work during the six months ended May 31, has caused a considerable scare in the market for these shares. It is announced that in future the rate of output will be considerably reduced in order to decrease the cost of treatment. The stock of high-grade ore is now quite limited, and it is necessary to use it in conjunction with the reserves of low-grade ore in such a manner that no large supplies of low-grade ores shall be left over for treatment by themselves. Consequently the weekly yield of lead and silver will be considerably reduced, and the directors do not expect to be able to continue to pay regular monthly shilling dividends. The directors consider it unlikely that any new discoveries of oxidized ores will be made. The quotation of the shares dropped suddenly from 43s. to 35s. on the publication of the telegram. Another piece of news is that Mr. John Howell, the general manager, has resigned and is succeeded by Mr. Alexander Stewart. It will be remembered that a short time ago Mr. Howell came to England on leave of absence for six months, and at the time it was understood that his resignation might be expected to follow at no distant date. Mr. Howell's services are now in the hands of a powerful syndicate of London financiers, which has been formed to send him on exploration work in West Australia. This syndicate includes such influential firms as the Rallis and the Barings, and in their hands West Australian mining should be seen at its best. Almost immediately after the publication of the above-mentioned cablegram came another announcing that the mine was on fire. Though the details are meager, it is obvious that the fire is a very serious one and that nothing short of flooding will extinguish it. As all the water available is required for this object, the furnaces have necessarily been stopped. This catastrophe caused a second panic on the Stock Exchange and the shares are down to 30s. and very nervous at that.

In the American mining stock market the only feature noticeable is the activity in Jackson Gold Fields which appears to have really got out of the slough of despond in which it has been stuck for a couple of years. The title to the property has finally been made good and work has commenced on the Amador Queen claim, which has always been considered the best property of the group. Holders of options on the shares are now taking them up and during the past fortnight a very large number have been transferred in this way. Other shares have also been bought and the market quotation now stands at 2s. 6d. per £1 share.

During the past few months I have sent several messages relating to the important move in Cornwall, where the limited liability principle is being introduced in place of the cost book system at Dolcoath. This rearrangement has now been carried out and the new company registered. Active preparations are being made for the sinking of the new shaft and for providing the more modern machinery. Capt. Josiah Thomas is of course managing director and the other directors are mostly residents in Camborne.

A company called the Cauca Gold Estates, Limited, has been formed by a Scotch syndicate to acquire gravel deposits in the Cauca Valley, about 10 miles from the city of Cali, Republic of Columbia. The estate is said to contain 10 square miles of gravel beds, averaging 6 ft. in depth and carrying gold. In the prospectus nothing is said about water supply or fall for tailings. The capital of the company is £60,000, in 40,000 £1 deferred shares and 20,000 £1 preference shares. The purchase price is £45,000, payable as to £5,000 in cash, and £40,000 in fully paid deferred shares. The 20,000 preference shares are being offered for subscription by the public. Of the £20,000 thus raised £5,000 is to be paid to the vendors and £15,000 will be working capital. The preference shares carry a cumulative dividend. The experts who have reported on the property are Mr. C. M. Dobson, of New York, and Dr. Zinkeisen, of Glasgow.

The Ouro Preto Company of Brazil decided to increase the capital from £80,000 to £100,000 in order to provide new and improved machinery for dealing with the tailings and to replace a portion of the old-fashioned stamps. Since the reconstruction of this company in 1893, operations have been carried on much more successfully than before no doubt owing to Mr. Henry Gifford's good management, and at present a profit of £12,000 a year is being made. Recent experiments have shown that the Frue vanners give very good results, so that it has been decided to purchase a large installation, and at the same time to buy new stamps, rock drills, pumping and winding machinery, and to spend a little money improving the shafts. Mr. Gifford estimates that by the expenditure of this £20,000 he will be able to increase the yearly profit from £12,000 to £24,000.

The White Lead Company, Limited, which works Hannay's sulphate of lead process at Glasgow has had another bad year, having lost no less than £7,000. Both the chairman of directors, Sir Henry Tyler, and the manager, Mr. Charlier, hold out hopes for the future, and so operations are to be continued. A new company is being formed in London to take over the Anchor Tin Mine in Tasmania which has been worked on a small scale for some 12 years. The capital of the new company is £150,000, of which £100,000 (£50,000 in shares and £50,000 in cash) is the purchase price, while £50,000 is to be working capital. With the new machinery it is intended to work on a large scale.

The claims of British Guiana are being brought before the public here, but except in interested circles, very little encouragement is given. The other day the Sir Walter Raleigh Mining Company was floated to work properties on the Arakaka Creek, near the Barima River. Nothing is said in the prospectus about the matter, of course, but to a reader who knows anything of South America, it looks as if this property is in the district the possession of which is at present in dispute. It is in the northwest part of British Guiana, and is exactly on the meridian of 60° west of Greenwich.

Paris. July 21.

(From Our Special Correspondent.)

I have still to report an active market, and there has been much buying of stocks, notwithstanding the discouraging effect of public questions. The coal and iron stocks and the metallurgical shares have all attracted more attention than for some time past, and are generally stronger.

Buying of the Transvaal gold stocks continues steadily, and is not discouraged by the high prices which most of them have reached. At the present quotations it must be said that most of them are paying very moderate interest.

I hear that the recent organization of a company to work gold mines in Russia is the beginning of a new movement which is to take a large amount of French capital to the gold deposits of Siberia, now or soon to be made accessible by the new railroad. Apparently there are great opportunities there for profit, if the exploitation is conducted with intelligence.

There has been much movement in the shares of the Societe des Metaux, on reports that a dividend will soon be made. The company has been weighted down with its large holdings of copper bought for an advance, and there is now some opportunity presented to unload this burden at last.

The lead and zinc stocks are active and strong under the influence of the better prices of the metals.

Huanchaca silver has been quite active, and another effort to bring up the silver stocks has begun, with more prospect of success than a similar movement had some months ago.

The copper stocks continues the subject of an active speculation for the rise. Prices of the metal are good, and there seems to be a fair prospect that they will be maintained for a time, notwithstanding the large quantities which your American producers are sending us. I hear that in view of all the conditions the plan for a convention of European producers to limit the output has been altogether dropped.

After a short upward reaction Nickel shares have again fallen, and seem to have started on a permanent downward course.

The attempt to revive the speculation in the nitrate companies has not ended well for the managers of the operation. There have been many quotations, but the course has been downward, in spite of the efforts made to maintain the market. As I have written before, these stocks have not attracted our people, and what buying there has been, was entirely of a speculative kind, and not for investment, since there was a general distrust of the managers.

For the five months ending May 31st, values of the imports and exports of the precious metals in France are reported as follows:

	Gold.		Silver.	
	1894.	1895.	1894.	1895.
Imps. Fr.	80,640,770	Fr. 160,695,840	Fr. 44,530,170	Fr. 49,666,935
Exp. Fr.	49,956,506	87,919,126	33,383,264	21,846,387
Ex'ces imp. Fr.	30,684,264	Fr. 72,776,714	Fr. 11,146,906	Fr. 27,820,548

The imports of copper, bronze and nickel coins for the five months were, in face or coin value, 21,600 fr. this year, against 63,600 fr. in 1894. The exports of these coins were 1,398,600 fr. this year, and 107,100 fr. last year.

For the six months ending June 30th the foreign commerce of France is reported by the Ministry of Commerce as follows:

	1894.		1895.	
IMPORTS:				
Food.....	Fr. 627,657,000	Fr. 473,687,000		
Raw materials.....	1,166,537,000	1,070,875,000		
Manufactures.....	275,952,000	271,295,000		
Total imports.....	Fr. 2,070,146,000	Fr. 1,815,957,000		
EXPORTS:				
Food.....	316,707,000	296,515,000		
Raw materials.....	358,964,000	415,694,000		
Manufactures.....	780,895,000	855,590,000		
Postal parcels.....	41,087,000	58,898,000		
Total exports.....	Fr. 1,497,653,000	Fr. 1,620,697,000		
Excess imports.....	Fr. 572,493,000	Fr. 195,260,000		

The exports of manufactures show a very encouraging gain this year.

The Russo-Chinese loan had been so much talked about that its effect on our market had been entirely discounted, and the actual issue this week made but little stir. The money paid for the new issue of bonds will in any event be held here or in London—probably the latter—till November, when the first indemnity payment is due. I hear again that little or none of it will be remitted directly to the East. The funds will be held to meet Japanese bills in payment for war material. Of this, it is said, there will be heavy purchases made in Europe.

I must confess that your politicians are difficult for us to understand. To take advantage of the mistakes of the opposition is well; but to misrepresent and to malign the public credit for a supposed partisan advantage is both a crime and a serious

blunder. It seems very strange that men of ordinary astuteness cannot understand that any temporary advantage gained at the expense of the financial honor of the nation will be not only an injury to the people; it will, in the end, be ruin to the party responsible for it.

I must hope for you, as for ourselves, that these so-called party leaders make more noise than their real importance warrants. In the end it may be the people who do not shout, but think, who will make the decision.

AZOTE.

MEETINGS.

Calumet & Hecla Mining Company, at the office of the company, No. 12 Ashburton Place, Boston, Mass., August 21st at 10 a. m.

Western Mine Enterprise Company at the office of the company in Butte, Mont., August 30th at 11 a. m.

DIVIDENDS.

Calumet & Hecla Mining Company, dividend of \$5 per share, \$500,000 payable August 19th at the office of the company, No. 12 Ashburton Place, Boston, Mass.

Quincy Mining Company, dividend of \$4 per share, \$200,000 payable August 15th at the office of the company in Boston, Mass.

Silver King Mining Company, dividend of 25c per share, \$37,500 payable August 7th at the office of the company in Salt Lake City, Utah.

ASSESSMENTS.

Name of Co.	Loc'n.	No.	Dlnq.	Sale.	Amt
Ada Cons.....	Utah..		Aug. 5		\$0.01 1/2
Belcher.....	Nev....	51	" 20	Sept. 10	.25
Best & Belcher..	"	58	July 18	Aug. 8	.25
Bullion.....	"	45	" 17	" 7	.10
Challenge.....	"	19	" 16	" 6	.05
Dora.....	Cal....	4	" 15	" 9	.02 1/2
Federal Loan....	"		" 22		.05
Gibraltar Con....	"	3	June 22	Aug. 9	.20
Gold Bar Con....	"	1	" 29	" 5	.25
Gould & Curry..	Nev....	76	Aug. 6	" 28	.15
Gray Eagle.....	Cal....	40	July 12	" 9	.05
Hale & Norcross.	Nev....	107	" 3	" 25	.25
Mono.....	Cal....	35	Aug. 15	Sept. 10	.10
Occidental Con..	Nev....	19	July 30	Aug. 21	.10
Opit.....	"	67	Aug. 13	Sept. 2	.25
Osborn Hill.....	"	44	" 8	" 29	.25
Potosi.....	"	44	" 14	" 4	.25
South Eureka..	"	19	" 24	" 23	.04
Taylor, H. P....	"		May 31	" 26	.20
Union, Con.....	"	51	July 22	" 15	.20
U. S. Grant.....	S. Dak.	6	Aug. 3	" 22	.001 1/2
Waverly.....	Idaho.		July 14	" 2	.06
Ybarra Gold....	L. Cal.	1	" 29	" 19	.25

DIVIDENDS PAID BY MINING COMPANIES, JULY AND YEAR 1895.

NAME OF COMPANY.	Location.	Paid in July.	Paid in since Jan. 1.
Am. Dev. & Mg. Co.	Mont.		\$24,340
Alaska-Mexican	Alaska.		25,500
Alaska-Treadwell	"		150,000
Amethyst.....	Colo.	18,000	36,000
Bald Butte.....	Mont.		12,500
Bangkok-Cora Belle	Colo.	\$6,000	42,000
Belden, F. E. Mica	N. H.	4,000	30,000
Boston & Montana	Mont.		300,400
Bullion-Bek & Champion	Utah.	100,000	275,000
Calumet & Hecla	Mich.		500,000
Centennial-Eureka	Utah.	30,000	210,000
Champion.....	Cal.	3,400	23,800
Con. Cal & Va.	Nev.		162,000
Copper Queen Con.	Ariz.		150,000
Conis.....	Nev.		1,000
De Lamar.....	Idaho.	100,000	344,000
Elkhorn.....	Mont.		50,000
Elkton.....	Colo.		7,500
Forepaugh.....	"		16,000
Gold & Globe.....	"		11,250
Golden Fleece.....	"	6,000	42,000
Hecla Con.....	Mont.	15,000	105,000
Homestake.....	So. Dak.	31,250	218,750
Hope of St. Louis	Mont.		10,000
Horn Silver.....	Utah.		110,000
Iron Mountain.....	Mont.	10,000	80,000
Jackson.....	Cal.		2,000
Kennedy.....	"	48,000	136,000
Mayflower Gravel	"	6,000	42,000
Mercur.....	Utah.	25,000	125,000
Mollie Gibson.....	Colo.		50,000
Montana, Ltd.	Mont.		82,500
Mont. Ore Purchasing Co.	"		120,000
Morning Star Drift	Cal.	16,800	117,600
Moulton.....	Mont.	30,000	30,000
Mt. Rosa.....	Colo.		5,000
Napa Con. (Quicksilver)	Cal.		70,000
Nugget.....	Colo.		5,000
Oscuela Con.....	Mich.		100,000
Portland.....	Colo.		120,000
Quincy.....	Mich.		400,000
Silver King.....	Utah.	37,500	75,000
Smuggler.....	Colo.	50,000	350,000
Standard.....	Cal.		30,000
Tamarack.....	Mich.		200,000
Union.....	Colo.		12,500
Utah.....	Utah.	1,000	10,000
Victor.....	Colo.	20,000	160,000
War Eagle.....	B. C.		82,500
W. Y. O. D.....	Cal.	3,000	21,000
Total.....		\$560,950	\$5,282,740

Readers of the "Engineering and Mining Journal" will confer a favor on the publishers if they will notify the "Journal" of any errors or omissions in the above table.

STOCK QUOTATIONS.

NEW YORK.*

Table of stock quotations for New York, listing companies like Argonaut, Best & Belcher, and others with columns for location, par value, and prices for various dates from July 27 to August 2.

* Official quotations N. Y. and Con. Stock and Petroleum Exchanges. Total shares sold, 10,295.

BOSTON, MASS.*

Table of stock quotations for Boston, Mass., listing companies like Allouez, Arnold, and others with columns for location, par value, and prices for various dates from July 26 to August 1.

* Official quotations Boston Stock Exchange. Total shares sold, 191,196.

COLORADO SPRINGS MINING STOCKS.*

Table of mining stock quotations for Colorado Springs, listing companies like Alamo, Anacoda, and others with columns for par value and prices for various dates in July.

* Official quotations Colorado Springs Mining Stock Association. All the companies are located in Colorado. Total sales, listed, 217,033; unlisted, 247,975.

COLORADO SPRINGS, COLO.*

Detailed table of stock quotations for Colorado Springs, Colo., listing companies like Anacoda, Anchor-L, and others with columns for par value and prices for various dates in July.

* Official quotations Colorado Springs Board of Trade and Mining Exchange. All the companies are located in Colorado. Total shares sold, listed, 1,122,866; miscellaneous, 68,200.

COAL AND COAL RAILROAD STOCKS.*

Table of coal and coal railroad stock quotations, listing companies like Balt. & Ohio, Ches. & Ohio, and others with columns for par value and prices for various dates from July 27 to August 2.

* Official quotations N. Y. Stock Exchange. Total shares sold, 121,947.

INDUSTRIAL AND TRUST STOCKS.*

Table of industrial and trust stock quotations, listing companies like Adams' Exp., Am. Oil, and others with columns for par value and prices for various dates from July 27 to August 2.

* Official quotations N. Y. Stock Exchange. Total shares sold, 37,330.

HELENA, MONT.*

Table of stock quotations for Helena, Mont., listing companies like Ald. Dev. & Y. Co., Bald Butte, and others with columns for location, par value, and prices.

* Special report of Samuel K. Davis. Total shares sold, 8,000.

ASPEN, COLO.*

Table of stock quotations for Aspen, Colo., listing companies like Alta Argent, Argonaut Junata, and others with columns for location, par value, and prices.

* Special report of Arkell, MacMillan & Stewart.

DENVER, COLO.*

Table of stock quotations for Denver, Colo., listing companies like Alamo, Amity, and others with columns for location, par value, and prices.

* Clearing House Report, Colorado Mining Stock Exchange. Total shares sold, 201,300.

ST. LOUIS, MO., STOCKS.

Table of stock quotations for St. Louis, Mo., listing companies like Central Lead, C. & C. Co., and others with columns for location, par value, and prices.

PITTSBURG, PA.*

Table of stock quotations for Pittsburgh, Pa., listing companies like Gas Stocks, Allegheny, and others with columns for par value and prices.

* Official quotations Pittsburgh Exchange.

DULUTH, MINN.*

Table of stock quotations for Duluth, Minn., listing companies like Adams Iron, Biwabik I. M., and others with columns for par value and prices.

* Official quotations Duluth Exchange.

LONDON. July 20.

Table of stock prices for LONDON, July 20. Columns include Name of Company, Par value, Quotations (Buyers, Sellers), and Name of Company, Par value, Quotations (Buyers, Sellers). Lists include AMERICANS, COPPER STOCKS, AUSTRALIANS, SOUTH AFRICANS, and SOUTH AMERICANS.

PARIS. Week ending July 19.

Table of stock prices for PARIS, Week ending July 19. Columns include Name of Company, Country, Product, Capital Stock, Par value, Divs. last year, and Prices (Op'nin'g, Closing). Lists include Acieries de Cre'sot., Agues Tendas., Anzlu., Buec., Callao., Cape Copper., Courrieres., Dombrowa., Dourges., Dynamite Centrale., Epinac., Jerez-Laiteira., Jibao., Laurium., Malhidano., Metaux, Cie. Fran. de., Mokta-el-Hadid., Nickel., Penarroya., Pontgibaud., Rio Tinto., Saint-Elie., Salines de l'Est., Sulfures houilliers., Tharsis., Vieusseux-Neuv., and Vieille Montagne.

MEXICO. Week ending July 29

Table of stock prices for MEXICO, Week ending July 29. Columns include Name of Company, State, No. of shares, Last dividend, Last assessment, and Prices (Opening, Closing). Lists include Amistad y Concordia, Angustias, Asturiana y Anexas, Cerro Colorado, Cinco Señores, Concepcion y Anexas, El Oro, Luz de Maravillas, Purlisma de los Com., Real del Monte, Rosario y Anexas, San Rafael y Anexas, Sta. Elena Almohoya, Sta. Gertr. y Anexas, Sta. Maria de la Paz, Tlaxiueo, Zaragoza, Zemelahuacan (gold), and Zona Min. de Pozos.

VALPARAISO, CHILE. Week ending June 8.

Table of stock prices for VALPARAISO, CHILE, Week ending June 8. Columns include Name of Company, Capital, Share value, Last dividend, and Prices (Bid, Asked, Last sale). Lists include Arturo Prat, Caracoles, Descub. de Huantajaya, Huanchaca de rolivia, Oruro, S. Agustn de Huantajaya, Todos Santos, and Antofagasta.

SALT LAKE CITY, UTAH. Week ending July 27.

Table of stock prices for SALT LAKE CITY, UTAH, Week ending July 27. Columns include Name of Company, Par value, Bid, Asked, Actual selling price, and Name of Company, Par value, Bid, Asked, Actual selling price. Lists include Ajax, Alliance, Amer. Nat. Gas, Anchor, Bogan, Bullion Beck & C., Cane Springs, Cleveland Con., Comstock, Dalton, Daly, Daily West, Horn Silver, Mammoth, Mercur., Morgan, Ontario, Silver King, Tetra., Utah, and Utah Lime.

Philadelphia, Pa.* Week, July 31.

Table of stock prices for Philadelphia, Pa., Week, July 31. Columns include Name of Co., Par, High, Low, Sales. Lists include Cambria Iron, do. Allots., Hunt & Br. Top, do. pref., Lehigh C. & N., Lehigh Valley, Penn. R. R., and Westmoreland C.

Shanghai, China.* July 5.

Table of stock prices for Shanghai, China, July 5. Columns include Name of Co., Par, Last div., Price. Lists include Jelebu Mg., Punjon Mg., do. pref., Raub A'lian G., and Sheridan Con.

CURRENT PRICES.

Table of current prices for various commodities. Lists include Chlorine, Chrome Iron Ore, Chromalum, Cobalt-Oxide, Copper-Sulph., Vitriol (blue), Nitrate, Copperas-Common, Best, Liverpool, Corundum, Dryoil, Emery-Grain, Flour, Epsom Salt, Feldspar, Fluorspar, French Chalk, Fuller's Earth, Glauber's Salt, Glass-Ground, Gold-Chloride, Kaolin, Kieserite, Lead, White, American, Acetate, or sugar of, white, Nitrate, Lime Acetate, Litharge, Magnesite, Magnesia, Calcined, Brick, Manganese-Ore, Mercuric Chloride, Marble Dust, Metallic Paint, Mica, Mineral Wool, Nitre Cake, and Ochre-Rochelle.

Table of current prices for various commodities. Lists include Washed Nat Ox'rd. Lump, Washed Nat Ox'rd. Pow., Golden, Domestic, Oils, Mineral, Cylinder, light filtered, Dark filtered, Extra cold test, Dark steam refined, Phosphorus, Precip., red, white, Platinic Chloride, Plumbago, American or German, Potassium-Cyanide, Bromide, domestic, Chloride, English, Chloride, powdered, English, Carbonate, Caustic, Iodide, Nitrate, Bichromate, Yellow Prussiate, Red Prussiate, Pumice Stone, Original cks., Powdered, pure, Prites, Non-oxyporous, p. unit, Quartz-Ground, Motten Stone, Lump, Original cks., Rubbing stone, Salt-Liverpool, Domestic, fine, Common, fine, Turk's Island, Salt Cake, Saltpeter-Crude, Soapstone, Block and slab according to size, Sodium-Prussiate, Phosphate, Stannate, Tungstate, Hyposulphite, Strontium-Nitrate, Sulphur-Roll, Flour, Sylvinit, Talc-Ground French, American No. 1, Terra Alba-French, English, Domestic, Tin-Crystals, feathered or flossed, and Zirconium.

* Special Report of Jackson Bros. Values are in Chilean pesos or dollars.

* Special Report of J. P. Bissett & Co. Prices quoted are in silver taels.

Special report of James A. Pollock. † All the companies are located in Utah.

Table of current prices for various commodities. Lists include Muriate, single, Double or strong, 5* B., Oxymur, or nitro., Vermillion-Imp. English, Am. quicksilver, Am. quicksilver, bags, Chinese, Trieste, Zinc White-Am. Dry, Antwerp, Red Seal, Paris, Red Seal, Sulfate solution, and Sulfate crystals.

THE RARER METALS.

Table of current prices for various commodities. Lists include Arsenic (metallic), Barium (ex amalgam), Boron (cryst.), Cadmium (metallic), Calcium (per electrol.), Cerium (pulv.), Chromium (fus.), Cobalt (metallic), Columbium, Dysprosium (pulv.), Erbium Vitrium (oxydat.), Gallium (cryst.), Germanium (fus.), Glucinum (pulv.), Indium (cryst.), Iridium (fusum), Lanthanum (grains), Lithium (in glob.), Manganese (fusum), Molybdenum (pulv.), Niobium (pulv.), Osmium, Palladium (wire), Potassium (metal), Rb-dium, Ruthenium, Rubidium, Selenium (cryst.), Silicon (metal), Strontium (per electrol.), Tantalum, Tellurium (fusum), Thallium, Uranium, Vanadium, Wolframium (powder), and Zirconium.

DIVIDEND-PAYING MINES.

NON-DIVIDEND-PAYING MINES.

Main table with columns: Name and Location of Company, Capital Stock, Shares, Assessments, Dividends, Name and Location of Company, Capital Stock, Shares, Assessments. Lists various mining companies and their financial details.

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 \$12,330,000. ‡ Previous to the consolidation of the Copper Queen 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.