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CONTENTS.

HERR SIEMENS, one of the family so well known as inventors and electricians, is now traveling in this country.

THE American Society of Mechanical Engineers held its annual meeting in this city on the 3d and 4th inst. Young as it is, the society is enjoying a vigorous growth, and is doing excellent work. The annual election resulted in the re-election of the same principal officers, Prof. ROBERT H. THURSTON being chosen President and Mr. THOMAS WHITESIDE RAE, Secretary. The papers read were numerous and important, and the social features, including a reception tendered by Mr. and Mrs. DAVID WILLIAMS and the subscription dinner, were fully enjoyed.

THE finances of our government are in an exceedingly good condition, the large saving effected in the annual interest charged on the national debt by the completed conversion of bonds bearing 5 and 6 per cent into 3½ per cent bonds, and the heavy returns from customs and internal revenue showing in the large current reduction of the public debt. During the month of October alone, this reduction amounted to $13,321,458, and for the first four months of this fiscal year it has been $55,064,345. Even should the record of the remaining eight months only equal that of the corresponding period of the last fiscal year, $125,000,000 will be paid off.

ACCORDING to the reports which reach us through the English technical press, the autumn meeting of the Iron and Steel Institute of Great Britain, in London, has been a very successful one. We notice with pleasure that Capt. W. R. JONES, of the old Edgar Thomson Works, has again come forward as the champion of American steel-makers, his endeavor being to contest the claims of the engineers of the Eston works in England of "beating Americans out of sight" in rail rolling. Messrs. THOMAS and GILCHRIST and Herr KUPELWIESER brought forward the latest phases of the basic process, and there was a series of elaborate papers on the manufacture of ordnance. We propose soon to present a summary of the most important information elicited.

THE extended strike of the iron-workers of the Cincinnati mills, which began in June, has now come to an end, and it adds one to the long list of labor disputes which prove how little can be gained in this way, and what enormous sacrifices, both to capital and to labor, such a contest entails. Both the men and the manufacturers have had to abandon the extreme position they occupied before an agreement was reached; the former returning to work at the old wages, while the latter were forced to drop their resolutions not to employ union men. If the conviction that strikes and the refusal to recognize the unions are all that are needed to bring about some system of arbitration or conciliation, the Cincinnati strike has brought us one step nearer to the end which must ultimately be attained. The more thoughtful of both employers and employed must soon realize that to fight is as hurtful to one as to the other party, and that it is a poor consolation for bosses to be able to feel at the end of it that the other side has suffered the greater injury.

THOSE who have watched the developments of the electric lights in this city during the past year can not fail to have noted what great progress has been made in their steadiness and in the success in providing lights of medium power. In industrial establishments, the use of arc lamps is becoming more general, and it appears to us that the time has come when mine and mill managers ought to give this subject careful attention. We do not look to any extended use of such powerful lights in underground excavations, but we would urge the expediency of employing them in shaft-houses and mills, where work is done day and night, and where good illumination is so essential to good work. As a rule, the power in such establishments is so irregularly taxed that it would not be expedient to run the dynamo-electric machines from the main engines; but usually there is steam enough to supply a small auxiliary motor, which could furnish what is so much wanted, steady power. Where wood is cheap in the West, but freights high, the economy of electric lighting would be assured; while elsewhere the advantages of good illumination, though indirect only, would, we believe, fully counterbalance increased cost.

WE print elsewhere the second installment of our report of the proceedings of the Harrisburg Meeting of the American Institute of Mining Engineers, in which we give a portion of the discussion of the methods for the estimation of various elements in ores, pig-iron, and steel. The questions involved have long ceased to be of direct interest to chemists only. Analysis has become the leading test for the quality of notably raw materials; and as the specifications in contracts for the purchase or sale are drawn up so as to call for a certain composition with maximum limits, any differences of the results of the chemical work of different analysts become a source of much trouble to the contracting parties. The experience of iron-makers has been a very serious one indeed in the past, as conflicting returns are quite frequently made by different chemists, who naturally refuse to admit that their methods or their manipulation are defective. We know of cases where one chemist, for instance, found as much phosphorus in the filtrates of another as the latter reported to be present in the metal. Such occurrences have unfortunately been only too frequent, and as such errors have been made by men who enjoyed a national reputation as scientists, manufacturers have had to pay dearly for their "experience with chemists," and naturally possess a distrust for the work of many of them. While they value and appreciate the achievements of modern science, they believe that they can trust only a few of those who profess to be its representatives. This is a very serious matter, and we are glad to notice that, instead of protesting against the facts, chemists are beginning to take action; and no better medium of concerted effort for remedying existing evils could be found than the American Institute of Mining Engineers, which has as many as seventy-five chemists engaged in this class of work on its roll of membership. The first step of comparing methods and exchanging experience has been made, and the important suggestion has been offered that chemists agree upon some standard methods which will secure accuracy and uniformity of results. Of course, it would not do to lay down rules for all cases and formulate a series of recipes for the guidance of all chemists in all circumstances; but a careful investigation should be conducted with a view to define exactly the limits of accu-

racy of the most important methods, due regard being had to the time required for the work. The standard method should become obligatory in all analyses made for the settlement of disputes. The Institute could do no greater service to the iron and steel industries of the country than to seek to obtain a solution of this question, and we trust that Dr. DROWN'S efforts to bring out a full discussion of the subject will continue to be rewarded by success. The confidence which he enjoys with manufacturers makes him a particularly fitting person to divert the agitation into the best channels, and his great experience in this class of work will prove an invaluable aid in working out the problems involved. We trust that the annual meeting of the Institute will lead to the discussion and adoption of some plan looking to the settlement of this important question. There are other branches of metallurgy to which this might profitably be extended, especially as regards copper ores, in the purchase of which differences continually come up.

LEAD AND ZINC IN THE UNITED STATES.*

M. LÉON THONARD, a distinguished Belgian mining engineer, after a journey through the United States, lasting from September, 1879, to April, 1880, has addressed to three foreign companies, the *Société de la Vieille-Montagne*, the *Compagnie Royale Asturienne*, and the *Société Anonyme du Rhin et du Nassau*, a report of his observations on the lead and zinc industries of this country—a subject in which these companies, as large producers of those metals, and exposed, in our markets at least, to American competition, are naturally interested.

M. THONARD gives, in an introduction, an account of the Federal mining law, of the system of joint-stock companies, of the general condition of railroad transportation, and of the tariff. It is not surprising that this account, although intelligent and in the main correct, contains some errors of detail. The most serious of these which we have noticed concerns the so-called "side-line question." Under the mining law, M. THONARD says that, if the location is not so laid as to make its side-lines approximately parallel with the course of the outcrop of the mineral deposit, the locator acquires no right to follow the deposit in depth beyond the vertical planes drawn through the surface-lines. This is not only a serious misconception, but it indicates that the author has failed to understand the reasons for the construction of the law which he has attempted to state. He seems to regard the provision referred to as a sheer, inexplicable whim on the part of the legislature; as indeed it would be, if his account of it were correct. We need hardly explain to American readers that, while the law directs locations to be laid along the course of the mineral deposit, yet when they are laid (as in the case which M. THONARD illustrates with a diagram) with their longer sides across that course, the penalty is simply that the side-lines become the end-lines; but between the vertical planes drawn through these lines the locator still possesses the right to follow indefinitely in depth any ore-deposit of which his claim includes the apex. It is true, many embarrassing cases have arisen or may arise, and have been adjudicated or remain to be adjudicated, involving oblique and irregular locations; but in all such instances the decisions of our courts have been, and will doubtless continue to be, controlled by the spirit of the law, which is to give to the locator as much of the vein, longitudinally, as he has covered with his location, and a right to follow so much of it indefinitely in depth. This principle is, as we have often declared, not the best that could have been established; and its application involves many difficulties and conflicts; but the case is not quite as bad as M. THONARD makes it.

After the introduction, the volume is divided into two parts, the first of which treats of lead and the second of zinc. The lead industry is discussed under two heads, covering the production of argentiferous and non-argentiferous lead respectively. Under the first head, there is an excellent account of the Leadville and Georgetown districts in Colorado, the Frisco District in Utah, and the Eureka District in Nevada. These appear to have been personally examined by the author. Other districts in these States, as well as California and Montana, are briefly described at second-hand.

Under the head of non-argentiferous lead, the mines of Missouri naturally receive the chief notice. Those of the upper Mississippi and Virginia are briefly mentioned.

In the second part, the zinc industry in Pennsylvania, Maryland, Virginia, Tennessee, Illinois, Missouri, Kansas, Arkansas, etc., is reviewed; and the author concludes with a general *résumé*, in which the main object of his inquiry, the question of the probable effect upon European industries of the American production of lead and zinc, is discussed. We quote elsewhere a portion of this summary. It is certainly interesting and suggestive; and its conclusions are, in the main, correct—at least, so far as one might expect, in a case of which the conditions are changing so perpetually. The whole volume is creditable to the author and to the companies whose business sagacity suggested its preparation. The time is perhaps not far distant when such commissions will be given to American experts by American producers. Hitherto, we have had too little to do with foreign markets to feel, as we should, the importance of studying the methods, extent, and prospects of foreign production.

* LES INDUSTRIES DU PLOMB ET DU ZINC AUX ETATS UNIS. *Par* LEON THONARD, *Ingénieur des Mines*. Brussels. 1880. 8vo, 295 pages, with Map.

THE PRODUCTION OF THE PRECIOUS METALS IN THE UNITED STATES.*

Mr. HORATIO C. BURCHARD, Director of the Mint, has just published his annual report on the statistics of the production of the precious metals in the United States for the fiscal year ended June 30th, 1880; Messrs. A. M. LAWVER, of the San Francisco Mint; R. B. HARRISON, of the Helena Assay Office; and H. SILVER, of the Denver Mint, being prominently identified with their collection. The body of the work consists of a summary of the condition of the mining industries of the various States and territories, there being frequent special reports from a number of gentlemen whose knowledge of local affairs entitles them to speak with some authority, to which are added occasionally clippings from journals printed in the camps or districts which are described. Valuable information is scattered through these pages; but a thorough revision would, we believe, do good in weeding out much that is of little interest, and make the whole more acceptable reading. It would lead us too far to go over this ground, and we need only give the general results of an investigation which, we would add, has gone farther than it did formerly, a special appropriation of $5000 having become available.

Mr. BURCHARD gives his estimates in what he calls the "coining value," as distinguished from the "commercial value," thus reducing the whole to a basis which is misleading, and possesses no value for any body but mint officials.

We print below Mr. BURCHARD'S detailed estimate of the amounts of gold and silver produced by each State and territory during the fiscal year ended June 30th, 1880:

	Gold.	Silver.	Total.
Alaska	$6,000	.....	$6,000
Arizona	400,000	$2,000,000	2,400,000
California	17,500,000	1,100,000	18,600,000
Colorado	3,200,000	17,000,000	20,200,000
Dakota	3,600,000	70,000	3,670,000
Georgia	120,000	.....	120,000
Idaho	1,980,000	450,000	2,430,000
Montana	2,400,000	2,500,000	4,900,000
Nevada	4,800,000	10,900,000	15,700,000
New Mexico	130,000	425,000	555,000
North Carolina	95,000	.....	95,000
Oregon	1,090,000	15,000	1,105,000
South Carolina	15,000	.....	15,000
Utah	210,000	4,740,000	4,950,000
Virginia	10,000	.....	10,000
Washington Territory	410,000	.....	410,000
Wyoming	20,000	.....	20,000
Other	14,000	.....	14,000
Total	$36,000,000	$39,200,000	$75,200,000

We give below the totals of the deposits and purchases of domestic gold and silver bullion at mints and assay offices during the fiscal year ended June 30th, 1880:

	Gold.	Silver.
Alabama	$732.79	.....
Alaska	5,950.00	.....
Arizona	158,919.75	$901,323.38
California	7,118,816.42	363,840.91
Colorado	2,244,069.74	1,257,790.41
Dakota	2,750,022.00	21,104.54
Georgia	89,831.08	48.73
Idaho	510,546.73	102,999.86
Montana	1,805,768.00	1,262,982.32
Michigan	.....	129,686.94
Nevada	518,261.85	5,087,242.18
New Mexico	91,037.28	424,967.31
North Carolina	85,659.57	379.18
Oregon	583,365.34	1,174.26
South Carolina	11,861.70	15.52
Tennessee	1,998.30	.....
Utah	27,029.19	627,703.85
Virginia	9,322.07	.....
Washington Territory	34,529.24	.....
Wyoming	17,320.70	.....
Refined bullion	18,161,943.52	2,970,757.92
Parted from silver	1,449,524.54 (gold)	219,387.26
Contained in silver	1,161.47 (gold)	2,978.23
Other sources	144,013.13	18,728,368.15
Total	$35,821,705.40	$32,132,756.95

Mr. BURCHARD has made a commendable effort to get at the consumption of the precious metals in the manufactures, arts, and ornamentation, sending 3506 letters of inquiry, to which 1401 replies were received; and from the information thus obtained and from other sources he estimates it at ten million dollars of gold and five million dollars of silver. Probably five millions and a half of gold and four millions of silver of domestic bullion produced during the year, together with two millions and a half of gold and six hundred thousand dollars silver of United States coin, were at least consumed.

The coinage of gold by the mints during the fiscal year amounted to 6,124,862 pieces, of the value of $56,157,735; and that of silver, 27,971,400 pieces, worth $27,942,437.50.

To the report are appended a paper on the production of the precious metals in California, and improved machinery for milling and mining, by

* *Report of the Director of the Mint upon the Statistics of the Production of the Precious Metals in the United States.* By HORATIO C. BURCHARD. Washington: Government Printing-Office. 1881. 4to, 395 pages, with Index.

Mr. WALTER A. SKIDMORE; a report on parting gold and silver in California by Professor T. EGLESTON, which in substance has already been printed elsewhere; a translation by the same gentleman of an article by B. RÖSING, on parting in Lautenthal, Germany; an essay on machinery for crushing and pulverizing minerals by Mr. J. RICHARDS; and a number of other communications of less value.

THE HARRISBURG MEETING OF THE AMERICAN INSTITUTE OF MINING ENGINEERS.

On Thursday morning, October 27th, the members, their ladies, and a considerable number of gentlemen and ladies of Harrisburg took an early train provided by the Cumberland Valley Railroad Company, and after a short ride, reached the first of the hematite mines of the Philadelphia & Reading Coal and Iron Company on the line of the Harrisburg & Potomac Railroad, the Beltzhoover mine, which is capable of shipping about 30,000 tons of ore per annum, but did not in 1880 turn out more than 12,000 tons. Like all the hematite deposits along the South Mountain, the ore is strongly mixed with clay, which must be washed out by special appliances; and in this respect the Beltzhoover mine is particularly well equipped, the plant being modern and well and thoroughly managed. During the mining, a considerable quantity of large lump ore is obtained, which is shipped without any further treatment, the quantity amounting to about 20 per cent of the whole product at the Beltzhoover mine. The wash ore is taken to the banks in small mine cars of 1000 pounds capacity, and dumped into four Thomas washers, an apparatus which we are informed has proved the most efficient, and is now retained by all the mines of the region as the most satisfactory, after some experimenting with other devices. It consists of a trough 25 feet long, in which are two long wooden beams, armed with broad iron teeth. At the Beltzhoover mine, these arms are inclined toward the discharge-opening, and it is there that the great body of the water for washing is allowed to drop upon the ore from as great a hight as obtainable, in this case about 6 feet, the idea being thoroughly to soak the ore first on its way from the charging end, and do the final washing at the discharge end. The two beams are made to revolve in contrary directions, thus cutting up the masses gradually. We are informed that the washers have a capacity of from 35 to 40 tons, and that they require 45 gallons of water per minute, each calling for an expenditure of 10 horse-power per day. This seems excessive, and, to judge from appearances, the engine at the Beltzhoover bank, which was rated at 40 horse-power, did not actually represent that capacity. The water is obtained from a dam one mile distant from the mine. The ore, as it comes from the washers, is not entirely free from balls of clay as large as a man's fist. The ore is therefore drawn from a discharge-hopper into a car, boys picking out these balls. Immediately below are comparatively small chutes, from which the washed ore may be drawn directly into railroad cars on a track below; but naturally much ore must be stocked elsewhere. At the Beltzhoover mine, the waste water is run through a drum screen, and thus an extra grade of half-inch ore, termed "coffee," is made. This amounts to about three per cent of the whole quantity shipped, and it is stated that no trouble is experienced in finding a market for it. A slope from the banks to the washers is now preparing.

The next mines visited were the Ege banks, belonging to the same company; and as they have been worked for a much longer period, they are much deeper, and are reached by a small tunnel started at the railroad level, so that there is no room for washers at that point. The ore is exactly the same, and it is stated that at one time it had a thickness of not less than 90 feet. At the present time, it appears to be much less, however. The capacity of the mine is estimated at 34,000 tons; the production for 1880 was not, however, greater than 12,000 tons. For the edification of the guests, a blast was fired, throwing down a large bench.

The following analyses of the ores of these banks, which we find in Volume M3, of the reports of the Second Geological Survey of Pennsylvania, by Mr. Andrew S. McCreath, will best show the composition of the ores:

	Ege Bank.		*Beltzhoover Bank.*	
	Lump ore.	Wash ore.	Lump ore.	Wash ore.
Sesquioxide of iron	49·071	45·923	58·428	52·785
Sesquioxide of manganese	6·519	4·469	3·725	1·934
Sesquioxide of cobalt	0·180	0·170	0·130	0·120
Alumina	2·368	4·677	2·861	4·980
Lime	0·500	0·500	0·500	0·610
Magnesia	0·342	0·637	0·504	0·753
Sulphuric acid	0·055	0·055	0·075	0·072
Phosphoric acid	2·471	2·425	2·081	1·695
Water and organic matter	11·674	11·814	12·186	12·240
Siliceous matter	26·370	28·800	19·290	24·360
Total	99·550	99·475	99·780	99·549
Metallic iron	34·350	32·150	40·900	36·950
Metallic manganese	4·539	3·112	2·594	1·347
Sulphur	0·022	0·022	0·030	0·029
Phosphorus	1·079	1·059	0·909	0·740

Again taking the train, the party resumed their journey until the Carlisle Iron-Works, at Boiling Springs, were reached, where there is one charcoal stack, 28 feet high, with 8½-foot bosh, built in 1798 and rebuilt in 1815. It has a closed top and a hot blast, and is run by water-power. Its annual capacity is 2000 tons of neutral forge pig.

The next establishment visited was the Laurel Forge, built in 1830. Pine Grove pig-iron is worked in one double run-out fire and six blomary fires, the balls being hammered on a hammer consisting of a heavy T-shaped casting lifted by three cams on the main shaft of a water-wheel. Blast is supplied by a horizontal blowing-engine, to which motion is given through gearing from an overshot water-wheel. The capacity of the works is 1500 tons of blooms. We may note here a fact observed at a number of other establishments visited by the members, that white men were found working side by side with negroes, and, from all we could learn, no trouble was experienced.

A visit was then paid to the Pine Grove furnace and ore-bank. The furnace is a stone stack 36 feet high, with 9½-foot bosh. The crucible is 50 inches diameter. The furnace is blown with 3 tuyeres, has water-dam and tymp, and is furnished with sunken bell and hopper, to secure center-drop. An 18-pipe hot-blast stove heats the blast, and two double boilers, 36 inches in diameter and 30 feet long, supply steam to a vertical Weimer engine, with blowing-tub 5 feet in diameter, and 2 feet stroke. The furnace was out of blast, but we are informed that with lean, washed ores, it made on an average during the last six weeks of its run 103½ tons of pig, consuming 2600 pounds of charcoal.

The ore which has been opened out by the South Mountain Mining and Iron Company is in character and occurrence similar to all the hematite deposits of the South Mountain range. Mr. McCreath gives the following analyses:

	Wild Cat.	Pine Grove.	Laurel No. 2.	Laurel No. 1.
Sesquioxide of iron	68·857	60·212	58·000	54·428
Sesquioxide of manganese	0·527	3·891	4·408	10·379
Susquioxide of cobalt	0·240	0·130	0·340	0·520
Alumina	1·684	1·559	4·296	1·565
Lime	0·610	0·950	0·500	0·890
Magnesia	0·328	0·771	0·627	0·418
Sulphuric acid	0·062	0·070	0·085	0·056
Phosphoric acid	3·119	0·629	1·124	0·387
Water and organic matter	11·287	11·176	11·622	11·373
Siliceous matter	12·800	20·900	19·460	20·220
Total	99·514	100·288	100·262	100·236
Metallic iron	48·200	42·150	40·600	38·100
Metallic manganese	0·367	2·709	3·069	7·226
Sulphur	0·025	0·028	0·034	0·022
Phosphorus	1·365	0·275	0·491	0·169

The party partook of a lunch at Pine Grove on invitation of Mr. J. C. Fuller, and on their way back to Harrisburg stopped for an hour at Carlisle, to visit the famous Indian school established there.

THE THIRD SESSION

was opened by the reading of a paper on the Analysis of Iron Ores containing both Phosphoric and Titanic Acids, by Thomas M. Drown and P. W. Shimer, of Easton, Pa., an abstract of which we shall present at an early date. The rest of the session was given up to the discussion of the chemical methods for analyzing ores, iron, and steel, a subject which is deservedly attracting much attention. The first paper submitted, that of Mr. M. Troilius, chemist to Mr. C. P. Sandberg, of London, England, was not read, being submitted to the members in a printed pamphlet. Mr. Troilius's methods are the outgrowth of careful personal investigation and experience, and of the study of those practiced in the leading German and English works. His method for *carbon* is that of Professor Eggertz, of Sweden, as modified by him recently. A full translation of the paper embodying Eggertz's present method is appended by Mr. Troilius. We have in our issue for September 10th given an abstract of Professor Eggertz's paper, and must refer to that. For the estimation of *phosphorus*, Mr. Troilius describes what he calls the "brushing" method. Not less than 5 grams of steel are dissolved in equal volumes of nitric acid (1·42 specific gravity) and hydrochloric acid (1·195 specific gravity), and the solution evaporated to dryness and heated until all dark fumes have ceased to escape. The dry mass is then dissolved in strong hydrochloric acid, the excess of acid removed by evaporation, hot water added, and the silica filtered off. The filtrate is evaporated down to a small bulk, so that it is only just fluid; it is allowed to cool, and then about 4 c.c. of the strong nitric acid are added. A little rinsing water is introduced, so as to make the bulk about 20 c.c. The beaker is strongly shaken in the right hand, while from a pipette, which is held in the left hand, 20 c.c. of the solution of molybdate of ammonia are allowed to run into the beaker in a thin stream. The solution of molybdate is prepared by dissolving 100 grams of molybdate of ammonia in 1000 c.c. of water and 100 c.c. of ammonia, 0·88 specific gravity.

After pouring in the solution of molybdate, a few drops of ammonia (0·88) are added, and the beaker is shaken until the precipitate of iron has disappeared. The phospho-molybdate is then completely down, and you have only to leave the beaker on the less hot part of the plate at least for one hour; during that time allowing it to settle, and shaking it up again repeatedly.

After settling, pour the liquid on a good Swedish 4-inch filter; wash the filter with cold water, containing 1 per cent of nitric acid, until it is quite white; wash the precipitate in the beaker once by decanting with ordinary water, moderately hot; and finally, wash the precipitate down on the filter, and collect it at the center with as few washings as possible, with ordinary water, moderately hot. The filter should be quite white before the precipitate is washed on to it. If the washing is conducted in this way, no loss will be incurred in dissolving, neither will the fluid run through turbid.

After washing, unfold the filter containing the precipitate upon another filter, and put it on the edge of the plate to dry. As to the temperature for drying, this is by no means so essential a point as is often supposed, and the precipitate may be dried for hours at a temperature between 100° and 140° C. without changing its percentage of phosphorus in any noteworthy degree. When dry, the precipitate is shaken down into a weighed platinum or porcelain dish, the brush not being applied until nothing more can be loosened from the filter by mere shaking.

Having thus given the outlines of his mode of using the molybdic method, Mr. Troilius adds the following precautions, which are necessary for attaining accurate results: 1st. Removing excess of hydrochloric acid from the solution by evaporation. 2d. Adding the solution of molybdate in a very thin stream, shaking well. 3d. Great care in the washing and brushing off.

As for the weighing, it is advisable to dry in the vessel repeatedly, and weigh two or three times before deciding the weight finally.

For determining *silicon* in rail-steel, Mr. Troilius uses the aqua regia and sulphuric acid methods. The former has been sufficiently described in connection with the phosphorus determination, and he therefore only mentions the principal details of the latter. For each gram of steel he uses 14 c.c. of a mixture of sulphuric acid and water, in the proportion of 1 of sulphuric acid to 6 of water. If the silicon only is to be

estimated, no oxidizing of the solution is necessary, and he only boils (with exclusion of the air as far as possible) until all is dissolved, and then completely evaporates the water, so as to render the silica insoluble. The white salt is then taken up with hot water and a few drops of strong hydrochloric acid, and the silica filtered off and washed with hot water containing 5 per cent of nitric acid. If manganese is to be estimated in the solution obtained, the solution should be boiled with a few cubic centimeters of nitric acid for about one quarter of an hour before evaporating down. After dissolving the salt in water and hydrochloric acid, boiling should be continued for another quarter of an hour before filtering off the silica, so as to insure the manganese being converted to manganous oxide. The silica must in this case be washed, first with ordinary cold water, and then with the nitric acid water, which should flow into a separate beaker, and not into the first filtrate, where it might produce a higher state of oxidation of the manganese. The aqua regia and sulphuric acid methods yield results which are quite uniform and concordant.

For determining *manganese* in rail-steel, the acetate of ammonia and bromine process with *final addition of ammonia* is used, as usual in English and Welsh steel laboratories. Three grams of steel are dissolved in a flask of 1 liter capacity by aid of aqua regia; the solution is boiled down, and finally dried. The mass is then dissolved in hydrochloric acid by boiling; water is added to about 750 c.c. volume, and the solution neutralized with ammonia or carbonate of ammonia. When neutralizing is completed, add 20 to 30 c.c. of strongly concentrated, thick acetate of ammonia, and boil until you see the precipitate settle clear after lifting the flask off from the lamp. After settling, the clear liquid is passed through a filter of 10 inches diameter into a large flask, and finally the precipitate of basic acetate of oxide of iron is poured on to the filter, and the remainder of the fluid allowed to filter well off. When no more drops seem to come from the funnel, the basic acetate is washed down into the first flask by means of boiling water, and hydrochloric acid is added. The flask is well shaken and heated to boiling, in order to insure the remainder of the manganese being present only as manganous oxide. Neutralizing and precipitation are then repeated as before, and the filtrate added to the first one obtained. For rail-steel, two precipitations like these are quite sufficient, the manganese in such steels rarely exceeding 1 per cent. But for spiegeleisen, ferro-manganese, etc., it is certainly desirable to redissolve twice, as the more manganese there is in the substance, the more of it will be retained in the iron precipitate. The collected filtrates contained in the large flask are then allowed to cool (this takes only a short time, the first filtrate cooling the second, and so on), about 4 c.c. of bromine are added, and the flask well shaken, so that the fluid may be well saturated with bromine. It is the safest always to add so much bromine as to have quite a reddish color in the solution. Ammonia (0·88) is then added in excess, and the flask well shaken. At first, the solution generally becomes quite colorless; but after continued shaking, the brown color begins to be more and more evident, and soon the oxide of manganese separates in lumps. It is then boiled for a few minutes, the precipitate allowed to settle and then filtered off, washed with hot water, dried, ignited, and weighed. It is necessary to have the solution quite cold, and a large excess of bromine present, when precipitating the manganese in this way.

For *sulphur* determination, Mr. Troilius dissolves 5 grams of steel in aqua regia and separates the silica in the usual way. In the boiling solution, the sulphur is precipitated by means of 2 c.c. of a concentrated solution of chloride of barium. Boiling is continued for a short time, and the solution is then left to stand during one night. The sulphate of baryta, before being taken upon the filter, is decanted repeatedly with hot water. Some drops of hydrochloric acid must be added to prevent oxide of iron from being precipitated. By washing carefully in this way, accurate results are secured, always provided that the reagents are pure. There are chemists, however, particularly in Germany, who assert that even with pure reagents you will get too high results by the aqua regia method. They therefore use the bromine method, leading the gases from the steel dissolving in dilute hydrochloric acid through a solution of bromine in hydrochloric acid. The sulphureted hydrogen is thus oxidized, and can be precipitated in the usual way, by means of chloride of barium.

The first of the communications presented on this subject was that of Messrs. Austin Farrell and James Gayley, of the Missouri Furnace Company, whose method for the determination of *phosphorus in pig-iron* is as follows: 2·5 to 3 grams of borings are dissolved in nitric acid (1·2 specific gravity), using 10 cubic centimeters of acid for each gram of iron. After adding 5 c.c. of hydrochloric acid (specific gravity 1·12) for each gram of iron, they boil to dryness and heat in an air-bath for an hour, at a temperature of 120 degrees C. After taking up with the least possible amount of concentrated hydrochloric acid, nitric acid is added, and the hydrochloric acid is driven off by evaporation, adding a little ammonia from time to time; dilute, filter, nearly neutralize with ammonia, add molybdate solution, and allow to stand in a water-bath from twenty to thirty minutes, and then put the beaker in a warm place for from two to three hours. The yellow precipitate, after being thoroughly washed, is dissolved in ammonia, nearly neutralized with dilute hydrochloric acid, slightly warmed, and allowed to stand from one to two hours, in order to separate any silica which may be present. The solution is then filtered and precipitated with magnesia mixture. In the direct method of determining phosphorus by weighing the yellow precipitate, Messrs. Farrell and Gayley find that the results are too high.

For *sulphur*, Messrs. Farrell and Gayley use Dr. Drown's method. Recently they have found Elliot's method satisfactory for low sulphur pig-irons. This consists in treating 5 grams of borings with 80 c.c. of hydrochloric acid (1·2 specific gravity), and passing the gas evolved through caustic soda. The latter is titrated with iodine solution, standardized by means of hyposulphite and bichromate. A determination of sulphur by this method, it is stated, may be made in less than two hours. *Silicon* they estimate in from 1¼ to 1½ hours, by dissolving 0·5 to 1 gram of pig-iron borings in sulphuric acid, and heating till effervescence ceases, then adding some concentrated nitric acid, and evaporating to dryness. Moisten with hydrochloric acid, dilute, filter, wash, and ignite the filter without drying.

We must defer to our next issue the papers on this subject contributed by Messrs. J. B. Mackintosh, B. B. Wright, J. W. Cabot, and F. A. Emmerton.

OUR LEAD INDUSTRY AS VIEWED BY A FOREIGNER.

From the *résumé* of Léon Thonard's work on the Lead and Zinc Industries of the United States, we take the following, as illustrating well an intelligent foreigner's views of the present condition and the prospects of our lead industry:

The considerable growth of the production in the last few years is the result of a corresponding development in the extraction of the metal from argentiferous ores. They now furnish almost four fifths of the lead produced in the United States, and the greater part, if not the whole, comes from deposits of oxidized ores often of a special nature and composition, numerous and large and easily mined. But though the ores are abundant and vary considerably as far as the silver they contain is concerned, often being rich, still, as a general thing, they are poor in lead, and yield only small quantities of metal. Sulphides from true fissure-veins, though well known and worked for a longer period than the preceding class of deposits, constitute as yet only an insignificant source. The reason for this is, that the workings are but little developed as yet, because the veins, while carrying ores of great richness and often complex in their character, show limited pay-streaks; because, also, the claims are small; and because, finally, the extension of the workings requires much knowledge and considerable capital.

The principal States producing argentiferous lead are Colorado, Utah, and Nevada. In all the mining districts, labor is dear, materials, and particularly fuel, are high, and the cost of transportation considerable. The bulk of the ore is smelted near the mines; but with two exceptions the metal is sent East, for desilvering and refining, to locations where coal can be cheaply obtained. The ease with which lead furnaces can be erected has led to the establishment of a large number of smelting-works, which compete sharply in buying ores, and thus have led to rates which have become more and more favorable to the miner.

On the other hand, though the number of mines is very great, their production is generally so small that the smelting-works can easily gather up and absorb the ores. These circumstances will sufficiently explain why the miner, finding a market for his products near him, in which he can get quick returns without running any risks, does not export his ores to Europe as he did formerly.

Non-argentiferous lead is principally produced in the southwest and southeast of Missouri, being extracted from galena. The ore is found either in irregular masses in silurian or sub-carboniferous limestones, or in bunches of limestone impregnated with galena and pyrites containing nickel and cobalt. These deposits are easily worked, and are not deep. Labor is much cheaper than in the far West, and both materials and fuel are lower. Notwithstanding these favorable conditions, it is difficult to admit that, except in a few localities, this industry can be fairly prosperous below a certain limit of the price of lead, say about three cents per pound. The deposits which contain nickel and cobalt are naturally more advantageously situated; still, it should not be forgotten that by reason of the particular character of the ore great masses must be moved, treated by pretty difficult manipulations, and the concentrated product worked with more care and a greater cost than ordinary ore. The production of non-argentiferous lead has on the whole remained almost stationary, but its influence upon the markets has considerably diminished. Notwithstanding the strong competition on the part of the more favored mines of the Rocky Mountains, the miners of Missouri do not yet fear the wealth of the argentiferous lead, as some of them have not hesitated lately to increase and to improve their means of production.

The total quantity of lead made in the United States has grown very rapidly during the last decade, having increased from 16,000 tons in 1870, to 90,000 tons in 1880; and the question may be asked whether this rapid rate of increase will continue in the future. To judge from the present state of affairs, it seems difficult to admit that the output will continue to increase at such a rapid rate. It must not be forgotten that at the beginning of this period, that is, toward the close of 1869, the Atlantic and Pacific oceans were connected by the first trans-continental railroad. From that time on, a vast territory has become more accessible to the miner than formerly, and it is not astonishing that since then all the discoveries have been made which have so profoundly modified the course of the lead industry of the United States and its markets.

Naturally, it is not possible to predict what the future has in reserve in this respect, when territory little known and sparsely inhabited to-day has been penetrated. However, unless some exceptionally brilliant and important discoveries are made, it seems reasonable to admit that the production of lead has progressed during the last few years at the most rapid rate attainable. As the means of communication have developed and multiplied, the country has been more and more completely explored; and though much remains to be done in this direction, it must be noted that a great deal has been accomplished. Nothing is more natural and more probable than that, from time to time, new lead mines will be opened. But unless particular circumstances intervene, the belief is justified that in the future, while the industry settles down, the production of lead will increase more slowly. There are, besides, economical reasons which prevent too rapid a development. If lead were produced accessory to silver in such quantities as largely to surpass the consumption, the price would fall to such a point that the metal could not bear the cost of transportation by rail to consumers or to export ports. It is well known how great are the distances and how high are the freights in the United States. Under such circumstances, base bullion would probably be desilverized at the mines, and the poor litharge would be kept for a more favorable period, as is done in Montana, and elsewhere. But even admitting that matters would not reach that point, it will be conceded that when the miner would receive no returns for the lead, and the cost of smelting would be increased, he could not extract the comparatively poor ores which are now utilized. To compensate for the loss on the lead, which would not certainly be an

LIST OF PRODUCING MINES OF LEADVILLE AND VICINITY.*

Name of Mine.	Location.	Name of Manager.	Territory embraced.	Number of shares.	Par value.	Capital Stock.	Last Dividends. Date.	No.	Am't.	Total.	Total profits of mine since discovery.	Surplus on hand.	Indebtedness, bonded.	Date of maturity.	Weekly output of ore, tons.	Character of Ore.	No. men employed.	Month expense account.
Amie..	Fryer Hill.....	T.F. Van Wagenen	9 acres	500,000	$10	$5,000,000	May, '80	6	$10	$305,000	$350,000	$20,000	.....	.....	30	Hard Carb....	6	Leased.
Aetna.....	Carbonate Hill	J. R. Loker.....	10 "	2,200	100	220,000	Jan., '81	1	$30½	66,666	161,666	30,000	.....	.....	60	Lead Carb....	53	$4,500
Argentine....	Iron Hill.....	Franz Fohr.....	40 "	2,500	100	250,000	.....	...	...	.....	320,000	.....	.....	.....	150	" "	40	5,000
Agassiz.....	Carbonate Hill	Herbert A. Ford..	20 "	50,000	50	2,500,000	.....	...	...	.....	.....	.....	.....	.....	75	" "	32	4,800
Argent	Yankee & Rock	Henry Thompson.	35 "	500,000	10	5,000,000	.....	...	...	.....	.....	.....	35,000	.....	.....	" "	15	1,400
A. Y.....	Iron Hill.....	Samuel Harsh....	10 "	Graham	&	Co.	.....	...	...	.....	.....	.....	.....	.....	180	" "	30	6,000
Alleghany....	Yankee Hill....	John Marshall ...	5 "	80,000	10	800,000	.....	...	...	.....	.....	30,000	.....	.....	.....	.....	20	3,000
Am.M.&S.Co.	L.E.&Aft'rm...	F. H. Ketcham....	42 "	3,500	100	3,500,000	.....	...	...	.....	.....	.....	.....	.....	.....	.....	90	15,000
Black Prince	Breece Hill....	J. T. Briggs.....	10 "	.....	.....	.....	.....	...	...	.....	.....	.....	.....	.....	620	Lead Carb....	12	1,200
Breece Iron..	Breece Hill....	M. H. Slater.....	30 "	200,000	25	5,000,000	Feb., '80	1	01	2,000	12,000	.....	.....	.....	.....	" "	20	2,400
Big Chief....	Carbonate Hill	Nells Larsen.....	10 "	Larsen &	Mc-	Combe.	.....	...	...	.....	.....	.....	.....	.....	420	Iron Ore.....	20	2,400
Big Pittsb'rg	Yankee Hill...	Tingley S. Wood..	38 "	200,000	100	10,000,000	.....	...	...	.....	.....	.....	.....	.....	78	Lead Carb....	24	3,500
Brian Boru..	Printer Boy H'l	J. W. Wallace.....	9 "	C.		A. Manners.	.....	...	...	.....	.....	.....	150,000	Feb., '84	.....	.....	32	4,500
Belden.....	Battle Mt	C. H. Thompson..	27 "	50,000	10	500,000	.....	...	...	.....	.....	.....	.....	.....	60	S. G. and L....	10	1,400
Catalpa.....	Carbonate Hill	Charles L. Hill	10 "	300,000	10	3,000,000	July, '81	3	20	180,000	200,000	60,000	.....	.....	300	Lead Carb....	30	6,000
Carbonate Hl	Carbonate Hill	George Summers..	10 "	400,000	10	4,000,000	.....	...	...	.....	.....	.....	.....	.....	110	" "	30	4,000
Chrysolite....	Fryer Hill.....	C. M. Rolker.....	60 "	200,000	50	10,000,000	Nov., '81	10	50	1,500,000	3,050,000	250,000	.....	.....	7	" "	6	1,000
Crescent.....	Carbonate Hill	Charles L. Hill...	10 "	300,000	10	3,000,000	.....	...	...	.....	200,000	.....	.....	.....	510	" "	25	28,000
Climax.....	Fryer Hill.....	T.F. Van Wagenen	6 "	200,000	10	2,000,000	Aug., '80	5	30	180,000	220,000	.....	.....	.....	30	" "	15	2,000
Cal. & Col. T'l	Carbonate Hill	S. Ayres, Jr.....	30 "	500,000	10	5,000,000	.....	...	...	.....	.....	.....	.....	.....	10	" "	7	1,000
Columbia.. ..	Californ'a Gul.	C. C. Hoell.....	.....	.....	.....	.....	.....	...	...	.....	.....	.....	.....	.....	.....	.....	9	1,500
Clontarf.....	Carbonate Hill	St. Bernard M. Co.	18 "	300,000	10	3,000,000	.....	...	...	.....	.....	.....	.....	.....	15	Lead Carb....	20	3,000
Denver City..	Yankee Hill...	Robert Bunsen....	30 "	500,000	10	5,000,000	.....	...	...	.....	.....	.....	150,000	Feb., '83	60	" "	20	3,500
Dunkin.....	Fryer Hill..	Herbert A. Ford..	10 "	200,000	25	5,000,000	June, '81	15	7½	200,212	225,000	.....	.....	.....	.....	Iron and blo	60	6,000
Dyer.....	Dyer Mt.....	I. G. Warden.....	Fissure.	100,000	10	1,000,000	.....	...	...	.....	.....	.....	.....	.....	300	Hard Carb....	30	Leased.
Dauntless....	S. Evans Gulch	.....	10 acres	500,000	10	5,000,000	.....	...	...	.....	.....	.....	.....	.....	30	Galena.....	10	1,500
Dolphin.....	Fryer Hill....	Dennis Sullivan..	6 "	250,000	10	2,500,000	.....	...	...	.....	.....	.....	.....	.....	.....	.....	10	1,500
Evening Star	Carbonate Hill	W. S. Ward.....	7 "	50,000	10	500,000	Sept. '81	17	50	425,000	450,000	.....	.....	.....	75	Dry Sil. Ore...	30	4,500
Farwell Con.	Indep'd'ce Gul.	W. S. Ward	Fissure.	60,000	5	300,000	.....	...	...	.....	.....	.....	.....	.....	420	Lead Carb....	150	1,500
El Capitan...	Taylor Hill....	J. W. Jacque.....	18 acres	300,000	10	3,000,000	.....	...	...	.....	.....	.....	.....	.....	105	Gold Quartz..	40	5,000
Glass Pend'y	Carbonate Hill	J. W. Wallace....	16 "	250,000	20	5,000,000	May, '81	2	10	56,000	350,000	70,000	.....	.....	60	" "	30	5,000
Gold Park....	Holy Cross Dis.	J. W. Bailey.....	Fissure.	100,000	10	1,000,000	.....	...	...	.....	.....	.....	.....	.....	180	Lead Carb....	20	9,000
Hibernia.....	Fryer & Yank'e	Lou C. Leonard...	12 acres	300,000	25	7,500,000	July, '81	6	10	180,000	280,000	.....	25,000	Floating	350	Gold Quartz..	100	10,000
Highland C'f	Breece Hill	J. B. Grant.....	12 "	50,000	50	2,500,000	.....	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henriette....	Carbonate Hill	O. H. Harker.....	10 "	Moffit, Ta-		bor & Co.	August..	7	.....	70,000	70,000	.....	50,000	Oct., '81	150	Lead Carb....	58	5,000
Iron Silver...	Iron & R'k Hill	Anton Eilers.....	70 "	500,000	20	10,000,000	Oct. 15..	4	20	400,000	1,070,000	.....	.....	.....	1,100	" "	510	37,000
Iowa Gulch..	Yankee Hill....	N. H. Cone	8 "	500,000	10	5,000,000	.....	...	...	.....	.....	.....	25,000	Floating	30	Hard Carb....	20	3,000
London.....	Mosquito Mt..	J. T. Herrick.....	Fissure.	500,000	10	5,000,000	.....	...	...	.....	.....	.....	200,000	Sept., '83	12	Gold Quartz..	25	6,000
Leadv'le Con.	Carbonate Hill	O. H. Harker	33 acres	400,000	10	4,000,000	Jan., '80	...	15	150,000	300,000	40,000	.....	.....	75	Lead Carb....	50	6,000
Little Pitts'g	Fryer Hill	F. E. Canda.....	3 "	200,000	100	21,000,000	Mar., '80	7	30	1,350,000	2,450,021	25,000	.....	.....	110	" "	75	8,000
Little Chief..	Fryer Hill.....	Tingley S. Wood..	9 "	200,000	50	10,000,000	Aug., '80	7	50	700,000	2,200,000	120,000	.....	.....	125	" "	75	5,000
La Plata	California Gul.	M. E. Smith.....	20 "	200,000	10	2,000,000	Nov., '81	26	7½	390,000	.....	150,000	.....	.....	215	" "	60	5,000
Long & Derry	L. & D. Hill....	John T. Long.....	60 "	Long Bros	&	Derry.	.....	...	...	110,000	110,000	.....	.....	.....	50	" "	30	3,500
Lead & Gunn.	Rock Hill	O. S. Crowthers..	17 "	500,000	10	5,000,000	.....	...	...	.....	.....	40,000	.....	.....	60	" "	30	4,000
Little Corin'e	Mosquito Pass	J. H. Bartlett....	Fissure.	500,000	1	500,000	.....	...	...	.....	.....	.....	.....	.....	8	Gold Quartz..	7	1,000
Matchless....	Fryer Hill.....	Lou C. Leonard...	4½ acr's	Gov. H. A.	W.	Tabor.	Sept.	...	...	.....	500,000	.....	.....	.....	300	Dry Silver....	65	7,000
Miner Boy...	Breece Hill....	F. M. Brown.....	Fissure.	500,000	10	5,000,000	.....	...	...	.....	.....	.....	.....	.....	105	S. G. & C. Qtz.	25	3,500
Morning Star	Carbonate Hill	W. S. Ward.....	26 acres	100,000	10	1,000,000	June, '81	9	.....	650,000	.....	.....	.....	.....	180	Lead Carb....	100	10,000
Platsb'g Jun	Tennessee P'rk	J. Greenlaw	Fissure.	500,000	10	5,000,000	.....	...	...	.....	.....	.....	.....	.....	70	Gold Quartz..	15	2,000
Robert E. Lee	Fryer Hill.....	J. Y. Marshall....	12 acres	500,000	10	5,000,000	July, '81	1	10	50,000	1,200,000	.....	.....	.....	120	Dry Silver....	75	8,000
Robins'n Con	Ten Mile Dist..	Thomas Ewing....	Contact	200,000	50	10,000,000	Oct., '81	7	50	525,000	1,100,000	.....	.....	.....	700	Galena & Sul.	80	11,000
Silver Cord..	Iron Hill.....	Albert G. Buzby..	60 acres	500,000	10	5,000,000	.....	...	...	.....	.....	.....	50,000	100,000	May, '83	35	Lead Carb ..	125	18,000
Snuggl'r Con	Iron Hill.....	O. H. Harker.....	12 "	60,000	10	600,000	.....	...	...	.....	.....	.....	10,000	.....	.....	" "	20	3,000
Small Hopes.	Yankee Hill....	A. V. Bohn.....	35 "	250,000	20	5,000,000	.....	...	...	.....	.....	.....	.....	.....	75	Iron Ore	35	4,500
Shields.....	Colorado Gul..	— Seymour.....	Fissure.	10,000	10	100,000	.....	...	...	.....	.....	.....	.....	.....	70	S. G. & C. Qtz.	25	3,000
Tiger Con....	Ball Mt.....	Robert Bunsen....	45 acres	200,000	10	2,000,000	.....	...	...	.....	1,500	1,000	.....	.....	5	Galena.....	6	600
Terrible.....	Iron Hill.....	W. S. Ward.....	17 "	20,000	1.25	250,000	.....	...	...	.....	.....	.....	.....	.....	150	Lead Carb....	25	3,000
			1,058½	12,968,200		$201,520,000				$7,483,875	$14,147,481	$1,040,000	700,000		8,445		2,762	$3.6,400

* The above table is taken from the Leadville *Mining Index*, and is so complete as to require no comment.

unimportant one, the average grade of silver in the ores sold would have to be increased. For a certain number of mines, this result could only be reached by diminishing the output, which would lead to an increase of the cost. On the other hand, under these circumstances the Missouri mines would be forced to shut down, and as they furnish one fifth of the total production, there would be a margin of 20,000 tons before American lead would seriously menace European lead.

Some account should also be taken of the fact that the new lead districts which may be opened in the future will very probably have to contend, at the outset, against disadvantages in the way of transportation and labor, which, combined with a low price for the metal, will tend to retard, if not entirely stop, development in these new regions. If the production of argentiferous lead has increased rapidly during the last ten years, that is evidently due chiefly to the utilization of exceptionally favorably located deposits discovered during that period.

It is, however, to a certain degree, owing also to the fact that before that time the quantity of lead manufactured in the United States was much below the consumption. In reality, the value of the metal paid, in whole or in part, for the extraction and sometimes for the smelting of the ore, a fact which naturally much encouraged miners and smelters to extend their operations.

The imports of lead, which ten years ago were very considerable in spite of high duties, have diminished from year to year until they have become insignificant, while the production of argentiferous lead continued to increase. Now the output can fully meet the demand. The exports of lead have been very small except in 1874 and 1875. It is possible that the exports of American lead to China and Japan will increase, and a time more or less remote may increase the shipments which England makes to that quarter. At the present time, that result has not been attained. Besides, American smelters, unless forced by circumstances, will not be tempted to export a portion of the lead which they produce, protected as they are by a duty of two cents a pound. The exportation to Europe which might take place accidentally by some speculative movement need only be feared if a large and long-continued excess of production over consumption should carry the price of the metal downward. But it must not be forgotten that if the price were to fall below a certain limit, the existence of the non-argentiferous lead mines would be seriously threatened, and that at a certain number of silver-lead mines the grade of ore in silver to be smelted would have to be raised by closer mining and sorting, or the refining would have to be done on the spot in order to avoid the heavy freights on base bullion. It seems natural to admit, therefore, that the production of lead in America, while increasing steadily, will not for a certain time go beyond the consumption, which is large and is steadily growing at a considerable rate. This is due to several causes, of which the increase in population is the most striking. While in England the consumption of lead per million of inhabitants is from 3200 to 3500 tons, and in Belgium 1800 to 1900 tons, it is only 1680 tons for the United States.* Though these figures have a value as approximations only, they show that the Americans have a wide field before them ere they reach the rate of consumption of the English. There is little doubt, therefore, that it will develop both by reason of an extension of the uses for lead and of the growth of the population.

If the duty on lead were to be abolished, which does not enter into present calculations, the fluctuations in the quotations of the metal would be less and the price would go down; the mines and smelting-works of Missouri would be less advantageously situated than formerly; and the miners and smelters of argentiferous ores would lose a smaller or greater proportion of their profits, and would be obliged to pay greater attention to their working and to their methods.

* Now it seems nearer to 2000 tons.—Ed. E. and M. J.

MINERAL CLAIMS ON MILITARY RESERVATIONS.

In April last, an order was issued by President Garfield, setting apart from the public lands the military reservation of Fort Maginnis, in Montana Territory. Certain miners, alleging that mineral was discovered and a camp established by them on land included in the reservation several months previous to the location of the post, appealed to the Secretary of the Interior for information as to whether they could hold the mines and the surface ground connected therewith, though they were on the reservation, and whether mineral land could be patented on a military reservation after the establishment of the reservation. The matter was referred to the Secretary of War, who in turn referred it to the Attorney-General. The latter officer has decided that if the possessory right of the miners was full and complete previous to the establishment of the military reservation, the inclusion of their claim within the limits of the reservation was without authority of law, and could not legally divest them of such right to acquire title to the land.

Diamonds in South Africa.—According to the *Colonies and India*, the gross weight of diamonds contained in packages passed through Kimberley post-office in 1880 was 1440 pounds 12 ounces avoirdupois, the estimated value being $16,000,000. These figures compare with 1174 pounds and $14,000,000 in 1879; 1150 pounds and $13,000,000 in 1878; 903 pounds and $10,000,900 in 1877; and 773 pounds and $8,000,000 in 1876. At the end of last year, 22,000 black and 1700 white men were employed at these mines. From the Kimberley and Old de Beer's mines alone, diamonds to the extent of 3,200,000 carats are annually raised, while two other mines yielded 300,000 carats last year. At the diggings on the Vaal River, about 250 men were at work last year.

Seizure of an American Mine.—Advices from Altar, Sonora, say the Mexicans have taken possession of the San Feliato mine, which an American company was working, basing their claim on a technicality. The Americans have presented a protest to Governor Ortiz, who refused to notice it, and put the Mexicans in possession.

MINING-DITCHES IN CALIFORNIA.

In a paper contributed by Mr. Walter A. Skidmore to the Report of the Director of the Mint for 1880, that gentleman gives the following statement of the length and capacity of mining-ditches in California :

Name.	Length miles.	Capacity inches.	Grade. Ft. per mile	Cost. Dollars.	Top. Feet	Bottom. Feet	Depth. Feet.
North Bloomfield, including reservoirs	157	3,200	12 to 16	708,841	8½	5	3½
Milton, includi'g reservoirs	80	3,000	12 " 25	391,579	6	4	3½
Eureka Lake and Yuba	163	5,800	.....	723,342	.	.	...
South Yuba	123	7,000	8 to 13	.....	6	.	4 to 5
Smartsville	....	5,000	9	1,000.000	8	5	4
Hendricks	40½	.....	6 " 12	136,150	5	.	2
La Grange	20	2,700	7 " 8	500,000	9	6	4
Blue Tent	32	1,800	10	150,000	8	6	4
Spring Valley and Cherokee	52	2,000	....	.....	5	.	3½

The above embraces only the operations of great magnitude, combining the possession of large areas of hydraulic ground with the exclusive rights of water from great water-sheds. The sale of water is one of the principal sources of the profit of the larger hydraulic companies, their sales running from one to two million 10-hour inches per year. The water is sold to mines on the line of the ditches, at prices varying from 10 to 15 cents per inch of 10-hours' use, the cost of maintenance of the larger ditches being from 3 to 3½ cents per inch, not including interest on capital invested. The following tabular statement of the average yield of auriferous gravel worked on a large scale by the hydraulic method has been compiled by Mr. Skidmore from the returns of companies who have acquired extensive and exclusive water-rights and large areas of ground :

Name.	Average of hight of bank. Feet.	Yie'd per cubic yard. Cents.
Smartsville Claims, Yuba County	112	19·5
Blue Tent, Nevada County	180	15·0
North Bloomfield, Nevada County	180 to 260	4 to 6·5
Gold Run, Placer County	200	4·8
Columbia Hill, Milton County	100	4 3
La Grange, Stanislaus County	18 to 100	2·5 to 15·5
Patricksville, Stanislaus County	40 to 60	4·3 to 18·5
Dardanelles, Placer County	150	13

The profits of hydraulic mining do not, however depend so much upon the contents per cubic yard as upon the facility and economy with which the auriferous material may be removed, cost of water, means of outlet, etc.

PROGRESS IN SCIENCE AND THE ARTS.

Condition of the Blast-Furnaces of the United States.—The *Iron Age* for October 20th reports that on the 1st instant there were 435 furnaces in blast in the United States, and 293 out of blast. These figures differ but little from those for July 1st, when there were 437 furnaces in blast. On April 1st, there were 453 furnaces in blast ; and on January 1st, there were 473 in blast. On October 1st, 1880, there were only 424 furnaces in blast.

Underground Telegraphy in Philadelphia.—A test of the working of the new line on Market street of the National Underground Electric Company was made recently at Philadelphia with three telegraphic instruments, two telephones, and an electric lamp. Solenoid wires, consisting of a single insulated wire wound about a similar straight wire, connected them. It is reported by the Philadelphia journals that the experiment proved successful.

The Turkish Boracite Mines.—A British consul, Mr. Wrench, in a report to his government, gives some details on the boracite mines found near Yeldiz, about 43 miles to the southward of Panderma, a port of the Sea of Marmora, from which, it is reported, a considerable export trade of this mineral is done. In 1868, a Frenchman obtained a concession for working a quarry of gypsum, only eight acres in extent, from which he extracted annually from 3000 to 4000 tons of boracite, which he exported to France for many years as "plaster of Paris." The discovery of large quantities of borax in this country caused a fall in price, from which it partially recovered afterward. When it was discovered that the "plaster of Paris" from the quarry of Yeldiz was boracite, prospecting soon showed that that mineral occurs in nodules of large size in a stratum 50 feet thick in the lower part of a deposit of gypsum, the area of which "is believed to be fully 20 square miles."

Kroenkite.—In the *Anales de Construcciones Civiles y de Minas del Peru*, M. Raimondi gives the following analyses by Domeyko, of krönkite, which was first discovered in Bolivia by M. Haeflinger in 1874, and has been recently found also in Peru :

Oxide of copper	23·20
Soda	18·04
Sulphuric acid	46·56
Alumina	0·22
Subsulphate of copper (separated by boiling)	0·90
Water, by difference	11·08
Total	100·00

Its formula is : CuO,SO_3+NaO,SO_3+2HO.

Huantajaite, a new Silver Mineral.—The occurrence of an interesting deposit of an ore of silver that has never been found elsewhere is described by M. Domeyko in a recent issue of the *Annales des Mines*. Huantajaïte, as M. Domeyko has called this new mineral, is argentiferous salt found in the Huantajáya mines, province of Tarapacá, Chili. M. Raimondi was the first to describe and analyze this mineral, which sometimes crystallizes in cubes, but is generally found in an amorphous or crystalline state, is translucent or diaphanous, without color, and possess a strong vitreous luster. It is generally found in small fissures and cavities, irregularly distributed in an argillaceous gangue. Its chief characteristic, which has given rise to the miner's name "lechador" (from *leche*, milk), is that when wetted it immedintely loses its luster and its transparency, and becomes as white as milk. It is sometimes associated with green chloro-bromide and yellow iodide of silver. Mr. Domeyko gives the following as the result of a number of analyses :

Chloride of sodium	1·696	1·17	1·60	0·702	3·56	0·085
Chloride of silver	0·052	0·07	0·05	0·023	0·19	0·005
Percentage of AgCl	3·24	5·6	3·1	3·1	5·1	5·5

On the authority of M. Willams, who has examined the mines of Huantajáya, M. Domeyko gives the following description of the deposits : They are situated about 6 miles east of the port of Iquique in the coast Cordilleras at an altitude of about 3300 feet. There are three beds, belonging to the Jurassic period, which dip at about 25 degrees. The first is a series of argillaceous schists, 6 to 20 feet thick ; the second, a black fossil limestone ; and the third, a series of compact rocks, below which is a porphyry. The veins which traverse the three beds are generally rich in the second and become barren in the third. This whole system of beds is covered by a mass of *detritus* of varying thickness, composed of fragments of the three beds, cemented by lime and forming a sort of conglomerate, and penetrated by saline matter. In its upper portions is found this argentiferous salt, the "lechador." Domeyko, Raimondi, and Willams hold, therefore, that huantajaïte has been formed by the action of saline thermal springs, which are not rare in the Cordilleras, upon the sulphide of silver of the veins, and redepositing in the conglomerate. It may be added that both sulphide of silver and chloride of silver are found in the veins.

"Yellow Niter."—M. Domeyko, the well-known Chilian scientist, describes in a recent issue of the *Annales des Mines* a new mineral, "yellow niter," which occurs in almost all the great niter deposits of the Atacama Desert and the province of Tarapacá; nowhere, however, being found in as large quantities as the white niter which accompanies it. Its color is a clear yellow like that of sulphur, though occasionally it possesses a reddish tinge. Its structure is granular, never being lamellar or fibrous, and its fracture is even or conchoidal. The yellow mineral is never found in homogeneous masses, but unequally distributed through ordinary white niter. Heated in a tube closed at one end, the yellow niter gives off abundant vapors of iodine, and the residue on cooling becomes yellowish-white or yellow ; but when water is added, a solution is obtained the color of which is like that of the mineral before calcination. The mineral is very soluble, its solution being neutral. M. Domeyko gives the following analyses of yellow niter from the niter works of Sacramento, near Iquique, province of Tarapacá :

Iodine	3·18
Chlorine	10·03
Sulphuric acid	2·10
Nitric "	34·10
Potassa	8·45
Soda	27·60
Chloride of lithium	0·12
Lime, magnesia	0·14
Sesquioxide of chromium	0·18, 0·23, 0·30, 0·52

The mineral, as obtained by M. Domeyko, loses about 7·05 per cent of its weight in a water-bath, and 7·40 per cent at a higher temperature. It generally holds from 2 to 3·5 per cent of earthy materials. According to him, the probable chemical composition is :

Chromate of soda	0·90
Iodate of soda	4·95
Nitrate of soda	42·80
Nitrate of potassa	12·81
Sulphate of potassa	4·50
Chloride of sodium	16 63
Chloride of lithium	0·12

Opening of a New Railroad.—The Somerset & Cambria Branch, of the Baltimore & Ohio Railroad, between Somerset and Johnstown, Pa., 36 miles, connecting the Maryland and West Virginia coal-fields and ore-mines with the coal and iron centers of Pennsylvania, was formally opened on the 3d inst.

RAILROADS AND COAL-CARS.

Now that we have such frequent complaint of the scarcity of cars for coal transportation, a few figures on the number of cars which the various railroad companies own may be of some interest. The returns in most cases do not include the cars owned by individuals, nor those belonging to car trust and rolling-stock companies. It should not be forgotten, also, that when there is such a pressure as at the present time, many cars that are ordinarily not rated as coal-cars are used for that service. Still the following list gives some idea of the equipment of a number of our railroads at the close of 1880.

Albany & Susquehanna Railroad	2,316
New York, Lake Erie & Western Railroad	3,353
New York, Ontario & Western Railroad	436
Central Railroad of New Jersey	23,766
Morris & Essex Railroad	2,197
United New Jersey Railroad and Canal	1,609
Corning, Cowanesque & Antrim Railroad	801
Delaware & Hudson Canal Company's Railroad	4,162
Delaware, Lackawanna & Western Railroad	18,526
Lehigh & Susquehanna Railroad	22,022
Lehigh Valley Railroad	24,615
Northern Central Railroad	4,066
Pennsylvania Coal Company	2,800
Pennsylvania & New York Canal and Railroad	2,953
Philadelphia & Reading Railroad	14,976
Baltimore & Ohio Railroad	2,855
Chesapeake & Ohio Railroad	1,293
Cleveland, Columbus, Cincinnati & Indianapolis Railroad	810
Cleveland, Tuscarawas Valley & Wheeling Railroad	1,406
Columbus & Hocking Valley Railroad	2,010
Columbus & Toledo Railroad	1,251
Lake Shore & Michigan Southern Railroad	2,011
Ohio Central Railroad	2,900
Ohio Southern Railroad	631
Terre Haute & Indianapolis Railroad	1,021
Chicago & Eastern Railroad	1,252
Union Pacific Railroad	1,188
Atchison, Topeka & Santa Fé Railroad	902
Kansas City, Fort Scott & Gulf Railroad	744
Missouri Pacific Railroad	814

THE WASTE OF ANTHRACITE.

From detailed data published in the recent report of the Second Geological Survey of Pennsylvania on the waste of anthracite, we compile the following table, showing the quantities of coal shipped, dust made, and rock thrown over the dumps, together with a statement of the thickness of the vein and its pitch:

Collieries.	Vein Mined.	Thickness, feet.	Pitch.	Coal shipped, tons.	Dust.	Rock.	Coal shipped, per cent.
Hard white ash.							
North Mah'y...	3 beds below Mam..	Total, 18	25	83,302	44,427	1,133	65·8
Mahanoy City.	Mam. and Holmes.	15 and 8	25	95,535	47,366	5,220	67·0
Elmwood.....	Mam. and Seven Ft.	12 " 7	30	36,036	19,325	1,166	65·5
Ellangowan...	3 benches of Mam..	8, 12 " 15	30	107,381	29,026	7,853	78·8*
West Shenan'h	7 ft., M., Buck M....	7, 45 " 12	30	106,834	34,500	14,781	76·5*
Boston Run....	Mammoth.....	25	50	68,748	23,220	6,457	75
Conner.....	Buck Mountain	10 to 15	4 to 15	132,866	60,921	.. ..	68·6
Hammond.....	2 benches of Mam..	12 and 20	35 " 45	65,617	56,472	.....	53·9
Preston No 3..	Mammoth.....	18 to 20	75 " 80	13,661	14,495	.....	49·0
Girard.....	Mammoth.....	40	60	54,680	70,557	11,151	43·6
Free-burning white ash.							
Tunnel.....	Mammoth.....	25 with 17 coal	60 to 70	60,727	44,794	8,127	57·6
Potts	Mammoth	25 " 17 "	55	39,304	34,962	4,963	52·3
Keystone.....	Mammoth	20	60	31,215	32,569	6,292	49·0
Locust Spring.	Mammoth.....	25	25	53,888	30,106	2,082	64·2
Mount Carroll.	Mammoth, 2 benches.	14	12 to 30	190,208	106,243	.....	64·1
Shamokin coals.							
Burnside.....	Mammoth, 2 benches.	10 and 10	20 " 50	75,429	48,827	.....	61·0
North Franklin No. 2.....	Mam. Nos. 8 and 9..	10 " 10	45	77,234	70,697	.....	52·0
Pottsville and Lykens Valley free-burning white ash.							
Fine Forest....	7 ft., and top and bot. bench Mam.	7, 6 " 15	35	29,320	25,351	2,690	53·6
Wadesville shaft.....	Mam., 2 benches....	8 " 25	15	85,532	47,908	705	64·0
Beechwood. ..	Mam., top and bot..		45	10	26,879	10,461	4,160	72·0
Mine Hill Gap.	Mam., top and bot..	12 " 15	50	29,860	35,182	6,178	46·0
Pottsville mine.	Dim'd and Prim....	5 " 3	40	25,853	20,008	1,053	56·5
Thomaston.....	Holmes and 3 benches Mammoth...	10, 12, 4 " 7	.....	41,604	40,175	7,314	50·9
Glendower.....	Mammoth...	12	48	16,662	14,061	3,575	54·3
Red and white ash and red ash.							
Otto..... ..	Top B. Mam. and						abt.
Phœnix Park No. 2.....	Primrose. .. .... Primrose.....	8 " 9 / 9	33 / 36	45,095 / 16,289	42,236 / 10,135	20,467 / 4,028	58·0 / 61·7
Lykens Valley coal.							
West Brookside.....	Lykens Valley.....	9	10	221,514	100,659	.....	68·8

* Considered erroneous by Mr. Platt, though working favorable to high returns.

THE AVAILABLE TONNAGE OF THE BITUMINOUS COAL-FIELDS OF PENNSYLVANIA.*

By Dr. H. M. Chance, Assistant-Geolo ist Pennsylvania Geological Survey.

The actual coal contents of this coal area are of little present importance. Calculations, including all seams and areas, whether thick enough to mine or not, whether pure enough to furnish a marketable fuel or not, whether accessible at reasonable depth or not, are of no practical value. As coal producers, we are interested, not in the total contents, but in the amount of easily accessible coal of good quality contained in beds thick enough for remunerative mining. The estimates contained in this article refer exclusively to workable and accessible coal of commercial value—we may call it "available" coal.

The bituminous coal measures in Pennsylvania contain sixteen important workable seams (besides several beds of minor importance); but no one of these is of workable thickness and quality over all of the area over which it spreads, and many of them—notably the thickest and best—extend into but a few of the thirty-one coal counties, while ten or twelve of these counties contain only the lowest coals of the series.

The estimates are based upon the county geological maps, published on a scale of two miles to an inch. The area of every seam in each county was calculated separately, and its average thickness obtained from the data found in the county reports, supplemented by material from other sources. Coals less than two feet thick have been ignored. The areas of beds from two to three feet thick were calculated down to water-level; their areas beneath water-level have been ignored. Seams from three to five feet thick were estimated to a depth of one hundred and fifty feet beneath water-level. The areas of seams more than five feet thick were computed to a depth of four hundred feet when their quality and thickness were known. Large deductions were made in some cases for areas over which the seams were known to be variable in thickness and quality. The coal tonnages are computed on a basis of 1500 tons to the acre for each foot of bed measurement.

The total amount of available coal, as shown by the table, is 33,547,200,000 tons.† If seventy-five per cent of this can be won in mining, we have, 25,160,400,000 tons as the possible product; sufficient to supply the whole world with fuel for eighty or ninety years, at the present rate of consumption. The statistics of production show a yearly increase (in Pennsylvania) of about six per cent. If this rate of increase is maintained, the production in 1940 will be more than 500 million tons. If the percentage of yearly increase decreases one per cent every ten years, the output in 1940 will very nearly reach 123 million tons. But it seems that the yearly increase will probably diminish more rapidly, say one per cent every five years, and that the maximum output from Pennsylvania will be reached between 1900 and 1920, and will not exceed fifty million tons per annum. At this rate of production, more than five centuries will be required to exhaust the coal from the areas included in these estimates.

The available tonnage is distributed among the different beds as follows:

Upper Barren Measures:		
Washington bed, 3 feet to 3 feet 6 inches.....	787,200,000—	787,200,000
Upper Productive Measures:		
Waynesburg bed, 3 feet to 5 feet.....	2,126,400,000	
Uniontown bed, 2 feet to 3 feet.....	312,000,000	
Sewickley bed, 3 feet.....	432,000,000	
Redstone bed, 2 feet to 3 feet.....	326,400,000	
Pittsburg bed, 6 feet to 12 feet.....	10,438,800,000—	13,635,600,000
Lower Barren Measures:		
Brush Creek, Coleman, etc., beds.....	878,400,000—	878,400,000
Upper Productive Measures:		
In Westmoreland, Fayette, and Allegheny counties	2,064,000,000	
Millerstown bed, 3 feet.....	28,800,000	
Freeport upper bed, 3 feet to 5 feet.....	3,764,800,000	
Freeport lower bed, 2 feet to 6 feet.....	2,385,600,000	
Kittanning upper bed, 2 feet to 4 feet.....	1,596,000,000	
Kittanning middle bed, 2 feet to 3 feet.....	829,800,000	
Kittanning lower bed, 2 feet to 6 feet.....	4,225,200,000	
Clarion coals, 2 feet to 3 feet	696,000,000	
Brookville bed, 2 feet to 4 feet.....	1,627,200,000—	17,217,400,000
Conglomerate Series:		
Mercer coals, 2 feet to 3 feet.....	932,600,000	
Quakertown bed, 2 feet.....	57,600,000	
Sharon horizon, 2 feet to 3 feet.....	38,400,000—	1,028,600,000
Total.....		33,547,200,000

The available tonnage may be divided thus:

Beds over 6 feet thick.....	10,957,200,000
Beds from 3 to 6 feet thick.....	19,586,800,000
Beds from 2 to 3 feet thick.....	3,003,200,000
	33,547,200,000

showing that nine tenths of the available tonnage will be furnished by beds over three feet thick, and probably two thirds of this lies favorably situated for mining above water-level, and can be mined and placed on the cars at an average cost not exceeding one dollar per ton.

The tables showing the county tonnages develop the fact that each county contains an average of but four or five workable seams, some containing as many as nine important beds, while others have but one workable seam. If the counties are tabulated according to their available tonnage, we find Fayette standing at the head, followed by Washington, Greene, Allegheny, Westmoreland, Indiana, Jefferson, Armstrong, Somerset, Cambria, Butler, Clearfield, etc.; but we must not lose sight of the fact that this may not be the order in which they stand in reference to their present value and importance as coal-producing areas. Those areas so situated that their development can be economically prosecuted at present or in the near future possess a much greater relative present value than areas not so favorably situated; thus, some of the counties forming the northern rim of the bituminous coal area are, because of their proximity to the northern markets and their present development, of much greater present importance as coal producers than centrally located areas containing many times as much available coal.

County.	Tonnage.	County.	Tonnage.
Allegheny.....	2,496,000,000	Greene.....	2,664,000,000
Armstrong.....	1,872,000,000	Indiana..	2,184,000,000
Beaver.....	652,800,000	Jefferson.....	1,992,000,000
Blair.....	92,400,000	Lawrence.....	398,400,000
Bradford.....	46,100,000	Lycoming.....	52,800,000
Butler.....	1,704,000,000	Mercer.....	492,000,000
Cambria.....	1,756,800,000	McKean.....	43,200,000
Cameron.....	129,600,000	Potter.....	24,000,000
Centre.....	748,800,000	Somerset.....	1,770,000,000
Clarion.....	688,800,000	Sullivan.....	11,500,000
Clearfield.....	1,410,400,000	Tioga.....	129,600,000
Clinton.....	62,400,000	Venango.....	52,800,000
Crawford.....	14,400,000	Washington.....	4,128,000,000
Elk.....	913,800,000	Warren.....	9,600,000
Forest.....	3,800,000	Westmoreland.....	2,428,800,000
Fayette.....	4,574,400,000		
Total.....			33,547,200,000

The amount of coal excluded from these estimates on account of poor quality, depth beneath water-level or beneath a thick covering of overlying rocks is very great. As the estimates prove the existence of an amount of easily accessible coal of good quality sufficient to supply the demand for several centuries, estimates of the tonnage of the impure seams or inaccessible areas would be of no practical value to the present generation.

* Abstract of a paper read at the Harrisburg Meeting of the American Institute of Mining Engineers, October 26th, 1881.

†Estimates do not include the Brookd Top coal-field.

THE REUSS SYSTEM OF BLASTING WITH COMPRESSED AIR.

Experiments have been made in a number of English collieries with the Reuss system of bringing down coal by means of cartridges exploded by compressed air. From a report made on the subject to the North Staffordshire Institute of Mining and Mechanical Engineers, by Mr. Ernest Craig, we take the following data:

The cartridge is simply a hollow cast-iron cylinder, varying in strength to suit the class of coal. It is estimated that to burst a cartridge half an inch in thickness, a pressure of 6700 pounds per square inch is necessary, and for every additional 16th of an inch in thickness an increase of 1000 pounds to 1500 per square inch is required. The air-compressor pumps the air into the cartridge, the machine being worked by two men. It is made to run on rails, and stands about 3 feet 6 inches in hight. The connection between the machine and the cartridge is made by means of hydraulic tubing, which has an internal diameter $\frac{1}{16}$ part of an inch, the whole machine and connections being made capable of standing a pressure of 20,000 pounds per square inch. With the air a small quantity of water is also pumped into the cartridge, to act as a slight check upon the violence of the expansion at the bursting of the cartridge. When the pressure reaches about 6700 pounds, the cartridge explodes and the coal is brought down. The explosion is not accompanied by any great noise, and pieces of coal are not thrown any distance.

WASTE OF FUEL IN PUDDLING AND REHEATING.

Much talk has been indulged in about the waste of fuel in the various industries, and time and again we have been favored with elaborate calculations as to what heat coal ought, theoretically, to develop, and how little is actually utilized. Such investigations undoubtedly have had great value in calling attention to a subject long neglected; but the time has long passed by when words would do any good, and still little progress has been made in this country when compared with what has been accomplished abroad. Generalities have little force, and it is with pleasure, therefore, that we welcome a recent contribution on the subject by Mr. William Metcalf, C.E., the well-known steel manufacturer of Pittsburg, who has read a paper on "Some Wastes of Heat" before the Engineers' Society of Western Pennsylvania, in which he has given specific facts in regard to the waste of fuel in puddling and reheating. When it is considered that the rolling-mills of the country consumed nearly 4,500,000 net tons of bituminous coal and more than 500,000 tons of anthracite during the census year, the importance of the subject to the coal trade will become apparent. It is necessary to add that the iron trade is but a small branch of those industries in which reforms in the direction of fuel consumption must and will come within the next decade, and that the economy realized by the introduction of gas-furnaces in puddling and reheating is less important than that which will prospectively be attained by their more general use in making steam. The steel and iron trades are merely the pioneers in a movement which, if once fully understood, will become a powerful one. We may be allowed to call attention, in a general way, to one fact which seems to us suggestive. In making nearly a million net tons of finished product, our Bessemer and open-hearth steel-works used a little over seven hundred thousand tons of coal, coke, and anthracite, or, making allowance for the coke, 8½ tons of coal for 10 tons of product. Our iron rolling-mills, which turned out 2,350,000 tons of finished product, upon which, it is true, there was often more work, used almost 4,500,000 tons, allowance being made for coke, or 19 tons of coal for 10 tons of product, more than double that of the steel mills. This is largely due to the fact that the latter, as a rule, burn their fuel in a much more rational manner.

Mr. Metcalf, in the paper already referred to, has compared the work of the old style puddling and reheating furnaces, in which the coal is burnt on a grate, and the new style of regenerative gas-furnaces. In stating that 40 bushels of coal are used in puddling a ton of iron, Mr. Metcalf has the indorsement of experienced men; while in placing the quantity of slack used in the gas-furnaces per ton of iron at 20 bushels, he has taken the maximum; and he gives it as his conviction that there are gas-furnaces now building which will produce regularly a ton of muck bar with 10 bushels of slack. For Pittsburg he gives the following comparison for the difference of cost of fuel:

PUDDLING.

Old Style—Coal, 40 bushels, at 6c	$2.40
New " Slack, 20 " at 3c	.60
Difference in fuel	$1.80
Deduct for gas making	.42
Saving in fuel in puddling 1 ton	$1.38

REHEATING.

Old Style—Coal, 18 bushels, at 6c	$1.08
New " Slack, 18 " at 3c	.54
Difference in fuel	$0.54
Deduct for gas making	.21
Saving in fuel per ton	$0.33

In addition to this, there is a loss by scaling in reheating, and Mr. Metcalf, taking the production of Allegheny County in 1878, 252,083 gross tons, as a basis, estimates the annual price for the bonfires kept at the top of the furnace-stacks of that county at $1,063,537.37.

NAKED LIGHTS IN NON-FIERY MINES.

A significant discussion as to the use of naked lights in non-fiery mines took place at an inquest at Dowlais at the close of last week. It has been customary, says the *Colliery Guardian*, to refer with pride to the excellent ventilating system carried out at the Dowlais Company's collieries, permitting the safe use of naked lights. Although certainly very free from accidents of this kind for many years, three minor explosions have occurred during the present year, in each of which life has been lost and several persons have been injured. This circumstance gave occasion to Mr. T. E. Wales, Inspector of Mines of South Wales, to repeat what he has frequently maintained, that safety-lamps should be used in every colliery without exception, if simply as a matter of pure precaution. It was shown that the danger from falls of roof and sides—the most fatal source of accidents in mines—was greatly increased through the diminished light of the safety-lamp. On the other hand, Mr. Wales asserted that the only explosions that had occurred in mines during the present year—and there had been several—had been in collieries where naked lights were used.

MEXICAN COAL.

In a report to the Secretary of the Interior of Mexico, by Santiago Ramirez, on the coal-fields of the Matamoros Izúcar, Chiantla, and Acatlan districts in the State of Puebla, that gentleman gives some analyses of coal which are curious and do not speak well for the greater number of the deposits. We summarize them below:

Mine.	Fixed carbon.	Volatile matter.	Ash.
La Espectativa	8·00	1·00	91·00
Corazon de María	43·00	16·40	40·60
Guadalupe	40·78	15·25	43·97
San Francisco	42·25	13·63	44·12
Limontla	81·00	2·00	17·00
Tecomatlan	66·00	19·00	15·00
Olomatlan	50·00	9·00	41·00
Chiltepin	62·00	31·00	7·00
La Peña de Ayuquila	76·00	14·00	10·00
La Llave	60·70	21·50	17·80

GAS PRESSURE IN THE SOLID COAL.

An elaborate series of experiments on a subject upon which little that is definite is known has been conducted by Mr. Lindsay Wood, who has published them through the Transactions of the North of England Institute of Mining and Mechanical Engineers. With a view to ascertain the pressure of gas in the solid coal under varying conditions, Mr. Wood has bored holes at different depths into the coal in various seams at the Hetton, Elemore, Eppleton, Boldon, and Harton collieries, plugged the holes, applied gauges, and taken readings at regular intervals during long periods of time. The greatest pressure recorded is 461 pounds at the Boldon colliery, in a bore-hole 32 feet deep. In the same colliery, other observed pressures at various points were 176, 298, 381, and 425 pounds, thus showing considerable variations in the same seam. In the Elemore colliery, only 28 pounds were noted; while the figures were in the Hetton, 45 pounds; in the Eppleton, 31, 55, 104, 125, 204, 221, 223, and 235 pounds; and in the Harton colliery, 197, 231, and 295 pounds. The time elapsing before a maximum pressure was reached varied from 1 minute 14 seconds to attain 55 pounds in one of the holes of the Eppleton colliery, to 16 days 5 hours to come up to 235 pounds in the same vein of the same colliery. There does not seem to be any fixed relation between the pressure and the thickness of cover, as the highest of 461 pounds at the Boldon equaled 84 per cent of that due to a column of water of the same hight as the thickness of cover; in most cases, it scarcely reached 50 per cent of the pressure due to the column, and in one instance it was only 8·75 per cent, the lowest pressures being obtained in the collieries that had been the longest opened out. The pressures were not, however, found to be the same in all cases where the thickness of cover is the same, the variations which were apparent appearing to bear some relation to the distance from the face of the coal in the workings in which it was ascertained. Mr. Wood believes that he has found that, under similar circumstances of cover, the pressure varies as the square root of the depth of the hole, and he gives a series of figures to substantiate his belief. His experiments seem to indicate that the direction of the hole with reference to the cleat has no influence on the pressure; nor does there appear to be any direct relation between the latter and the quantities of gas given off, nor does there seem to be any connection between them and the length of the hole. The maximum quantity of gas coming from one of the bore-holes was 5·927 cubic feet per hour per square foot of hole surface; and the minimum, 0·057 cubic feet. The results of Mr. Wood's experiments show also that the variations of the barometrical column and the temperature have no observable effect upon the quantities of gas evolved.

A NEW FRENCH COAL-WASHING MACHINE.

According to *Comptes Rendus Mensuels*, MM. Laporte and Jourjou have introduced in a coal-washing establishment of the Nord Department, France, and are experimenting at St. Etienne, with a washer that has certainly the merit of novelty. Its construction is based upon the following principle: When impure coal is introduced at the periphery of a circular tank filled with water, and a vertical bar provided with horizontal rakes is rotated in it, the pure coal may be gathered in the center, while at a greater distance from it impure stuff will be found, and the slate will go to the circumference. By providing suitable openings, separation may be effected by this means. The number of revolutions of the rakes varies, according to the size of the coal, from 2 to 8. By experiment with 0·58-inch stuff, holding 10 per cent of ash, the percentage was brought down to 8·5; and with 0·16-inch dust with 23 per cent of ash, a product holding only 7·5 per cent. of ash was obtained.

THE COPPEE COKE OVEN IN VIRGINIA.

An enterprise which possesses more than ordinary interest has been started in Virginia, and its success or failure will largely determine whether progress in a certain direction will be realized at an early date or be deferred. Our iron manufacturers believe that they have convincing proof that coke made in bee-hive ovens is superior for blast-furnace use to that made in more modern appliances. Aside from the question whether dense or open coke is best adapted for that purpose—a question which is, to say the least, contested—it does by no means follow that because Connellsville coke-makers condemn Belgian ovens, their experience ought necessarily to lay down the rule for the rest of the country. The Iron and Steel Association of Virginia has resolved to test the matter, and it is now putting down a plant of eighty of Soldenhoff's modification of the Coppee coke oven, of which a large number are in operation abroad. Hawk's Nest coal from Gauley's Mountain is to be coked, the builder guaranteeing that 95 per cent of the carbon in the coal is to be converted into coke. It is stated that the cost of the plant is only 35 per cent greater than that of a line of bee-hive ovens of equal capacity.

THE COLORADO FREIGHT TRAFFIC.

The Colorado freight traffic, says the *Railroad Gazette*, is apportioned by agreement among the three lines west of the Missouri which reach Colorado—the Union Division of the Union Pacific, the Kansas Division of the same company, and the Atchison, Topeka & Santa Fé. A statement of the earnings from this traffic has recently been made, which shows that the total earnings from West-bound freight, from January 1st to October 15th last, were $4,370,597, and from East-bound only $479,467, the West-bound being *nine times* as great as the East-bound. The character of this traffic is radically different from that of the Western agricultural States. It consists chiefly of supplies for the mining regions, and there is returned little except ores and base bullion, the small amount of agricultural produce raised in Colorado being consumed chiefly at home. However, the pool, we believe, does not cover the live-stock shipments, or only a small part of them, these being regarded as local traffic, and forming, probably, by far the larger part of the Eastward shipments. The total earnings for the 9½ months are at the rate of $6,125,000 a year—a very considerable sum, considering that

the country contributing it but a few years ago was an almost unknown and uninhabited wilderness, and that even now it is very thinly peopled. There can not be many communities as large as this which depend so much on transportation or have to pay so large a proportion of their gross earnings for it, as not only must their freight be hauled immense distances, but a comparatively small amount of it must support a large mileage of railroad, the traffic being very thin on most of the Colorado lines, and the rates necessarily high in proportion. A little more than a year ago, the total population of the State was less than 200,000, and it has to support a whole system of railroads, besides paying the freight earnings quoted above.

COAL TRADE REPORTS.

We print the following special reports from our correspondents, on the coal trade of the various sections of the country:

Baltimore. Oct. 31.

Trade for the month under review has been without any material change from our previous report from this quarter. With the exception of a few cool days, which bought a spurt of business, the month has been unseasonably warm, and the demand only moderate. There is no doubt much coal to be sold yet; but buyers are holding off, and will continue to do so until a cold snap admonishes them that fires will be required, and they can not have fires without fuel. The scarcity of cars still continues, and there is a great outcry for coal by those dealers whose only source of supply is the railroad. The short supply of cars, and consequent short receipts of coal, apply to all the regions shipping to this market: but probably it is most marked with the Wilkes-Barre region. We see no ground for encouragement in the near future, and trade would be virtually at a stand-still were it not for the supply by water, which, from South Wilkes-Barre, Schuylkill Haven, via Columbia, and from Philadelphia enables us to supply immediate wants. The stocks by water, are, however, not heavy, while there is no stock at all in any of the railyards. The anxious inquirers for coal were told, some time since, that the Pennsylvania Company was building 1000 coal-cars, and that would relieve the pressure; but it is now said that deficient motive power is another obstacle to filling the demand, and there is no promise of larger receipts. Prices will be unchanged in this market for November.

ANTHROS.

Buffalo. Nov. 3.

[Specially reported by MESSRS. LEE & LOOMIS.]

Our trade for the past month has been brisk in both anthracite and bituminous coals, both being especially crippled by the lack of cars for transportation. The action of the companies in not advancing prices November 1st seems to be generally commended.

Lake freights remain steady at $1.40, Buffalo to Chicago, with vessels fairly plenty. The demand seems to be especially active for the chestnut size, which can not be supplied as fast as needed by customers. The trouble seems to be the old one—indisposition on the part of purchasers to take their stock in the summer when cars are plenty; and when cold weather comes, all want their coal at once. Probably a number of those holding off were in the hope that a break in the prices of the coal would be made, and thus another coal fight be inaugurated.

In bituminous coals from the A. V. region, and, in fact, in all sections, there has been a general advance of the price paid to the miners, and a consequent advance in the cost of the coal. The advance has been twenty-five cents upon the Brier Hill and fifteen cents upon the coal from the A. V. RR., and our prices to consumers are advanced correspondingly.

Coke prices remain the same, though the demand has been brisk, as all the foundries are running full blast, many being unable to keep up with their orders.

To sum up for the season, the trade here for the dealers has been satisfactory. There was some cutting in prices in the early summer, to induce parties to take their supply then, and relieve the pressure of accumulated coal; but those that did lay in their stock are now reaping their reward.

Cincinnati. Oct. 31.

[Specially reported by THE CONSOLIDATED COAL MINING CO.]

The coal trade for October has been dull at this point. The long-continued drought has prevented the transportation of coal by river, and the stocks on hand have been reduced to small proportions. Two million bushels would probably cover the entire stock on hand at this date. This quantity would ordinarily be used up in two weeks' time at this season of the year. The high prices, however, serve to reduce the consumption to a minimum, and consumers only buy from hand to mouth.

The rainy season now seems to have set in, and coal men look for an early resumption of navigation. The stock of coal in barges at Pittsburg is large; and when it does come, it should make lively business here and at all points on the river. The anthracite trade is quiet and steady at circular prices. The dealers are generally well stocked, and prices are likely to continue about as they are, for the winter. The following are the ruling prices to-day:

	In barges.	At elevators.	To consumers.
Youghiogheny	15 cts. per bush.	16 cts.	18 cts.
Coalmont and Kanawha River	14 " "	15 to 16	17 to 18
Ohio River	10 to 11 " "	13	15
Anthracite on car		$7.25 to $7.50 per ton of 2000 lbs.	
" delivered to consumers		$8.50 " " "	

Chicago. Oct 21.

[Specially reported by Mr. G. MERRIWEATHER.]

The market during the past month has been very unsettled, owing to the uncertainty of transportation. The weather has fortunately continued mild, and heavy rain-storms throughout the West have made the roads impassable, so that the farmers have drawn but lightly on the dealers' stocks, thus giving more time for deliveries. Owing to scarcity of cars, all shippers are behind on country deliveries. There have, however been free receipts by lake, so that dock-yards here have ample stocks to meet city requirements. At the same time, should cars continue scarce, the extent to which these stocks will be drawn upon to meet country demands remains to be seen. Should we have a severe winter, and cars continue scarce as at present, there will be not only a great scarcity of anthracite in the West, but also the bituminous mines will be unable to meet the demand.

Chicago. Nov. 1.

[Specially reported by Messrs. RENO & LITTLE.]

The month of October has been unusually wet; and the deep mud of the many unpaved streets, the "pink-eye" disease among the horses, and the many rainy days—these all combined, have seriously interfered with the deliveries of coal to the consumers. The receipts of anthracite by rail are light; by lake liberal; the stocks on the docks are large, much larger than one year ago; and should the receipts from now on till the close of lake navigation continue upon the same ample scale, we may expect to have coal on hand next spring to carry over into the summer. We look, therefore, for no coal famine, nor any advance in prices. Of bituminous coal, the stock of Brier Hill and Erie on the docks is small, and likely to remain so. The cheaper soft coals from Indiana and Illinois are in fair supply. The demand for these grades of soft coal by manufacturers is excellent. Dealers generally are satisfied with the condition of the trade, past and prospective. There is no change in prices to report. We quote:

Stove, Chestnut, and Egg	$7.50 @ $7.75
Grate	@ 7.50
Erie and Brier Hill	7.00 @ 7.50
Wilmington and Illinois	@ 5.00

Cleveland. Nov. 1.

[Specially reported by Mr. F. A. BATES.]

As predicted in my last report, the operators have conceded the demands of the miners, and advanced the price of digging. An advance of 10c. per ton for digging has been made, and the usual advance for the outside labor in the Mahoning, Shenango, and Tuscarawas valleys; also, in the Straitsville and Hocking coal-fields. This has been covered by an advance of 20c. per ton on shipping and domestic coal. The demand is sharp, and supply unequal to demand. This is due to a want of transportation, the mines having ample facilities to meet the demand if they could get regular supply of cars. The railroad companies all seem to be short of stock, and no more able to get full supply than the dealers.

Hamilton, Ont. Nov. 1.

[Specially reported by Mr. H. BARNARD.]

Present quotations shows an advance of 25c. over those of September. There is a large demand, and dealers are pushed to their full capacity to deliver coal. Business in every branch is in a prosperous condition; manufacturers particularly finding it difficult to keep pace with their orders. Skilled labor is in demand, and mechanics are receiving good wages. Consumers of coal come forward, and pay the price per ton asked without grumbling or referring in any way to the duty imposed by the present government. Still a controversy has of late been going on between the leading political organs as to "who pays the duty," this impost being variously assigned to the consumer, the wholesale dealer, the miner, and nobody; and the question now remains in the shape of a conundrum, the solution of which would certainly puzzle the brains of a proverbial Philadelphia lawyer. It is not my intention, however, to decide finally the duty question; that will doubtless be done by the Toronto papers, at least to their own satisfaction, if not to the enlightment of the general public. But it does seem that if there is no complaint throughout the country about the price of coal, the duty of 50 cents a ton on that article is little or no burden; and no matter by whom it is paid, it will certainly not tend to give us cheap coal here in Toronto, if the producer becomes convinced that the duty is paid by him. Present prices are:

PER TON OF 2000 LBS.

Grate	$5.50	Lehigh lump	$8.00
Egg	5.50	Brier Hill	6.75
Stove	5.75	Reynoldsville lump	5.25
Nut	5.75	Blossburg	5.50

Indianapolis. Nov. 1.

[Specially reported by Messrs. COBB & BRANHAM.]

Anthracite coal is becoming quite scarce in this market, owing to the failure of Eastern shippers to make shipments. The retail prices have been changed to the following figures:

	Per ton.		Per ton.
Block	$4.00	Highland	$3.50
Pittsburg	5.50	Coke, per bushel	0.15
Raymond City	5.25	Crushed coke " "	0.17
Piedmont	6.50	Oven coke " "	0.15
Blossburg	6.50	Connellsville coke " "	0.17
Anthracite	8.00		

Louisville.

[Specially reported by Messrs. BYRNE & SPEED.]

The market here continues extremely dull. Stocks are very light and consumers are not disposed to buy their supplies for the winter until we have "a run" from Pittsburg. Below we append prices:

Pittsburg (afloat)	15c	Kentucky, retail	16c
" retail	20c	Anthracite, " (per ton of 2000 lbs.)	$8.75
Kentucky, wholesale	13c		

New Orleans. Oct. 31.

[Specially reported by Messrs. C. A. MILTENBERGER & CO.]

We have no change to report in quotations of coal since our last, the market being in the same position as on October 1st, with no better prospects for an addition to the supply, the upper rivers in the Pittsburg district remaining very low. Prices are firmer, and still tend to higher figures, fortified by the short stock of coal on hand. The demand for the

early part of October was rather light, but within the past two weeks the consumption, principally for steam purposes, has been on the increase. An active market may be anticipated the ensuing month.

Richmond. Nov. 1.

[Specially reported by Mr. S. H. HAWES.]

No change in quotations has taken place yet, but there is every indication of an advance in prices of West Virginia coals. A number of the gas and splint mines are on a strike. Stocks in this market are light, with exception of anthracite, of which there seems to be a good supply.

Sandusky. Oct. 31.

[Specially reported by Messrs. BLACK & CLARKE.]

The business here for the past two months has been very unsatisfactory to our dealers, not enough coal being received by rail to supply local trade. Stocks are very low and the demands from the interior are urgent, but shippers here are unable to supply them. We are compelled to rely on a very uncertain supply by vessel, which has been forwarded by rail immediately on arrival. The delays in shipment, scarcity of cars and vessels East have affected our business this season more seriously than for several years past. The following are current prices:

PER TON OF 2000 LBS.

Anthracite.	On cars.	Retail delivered.
Grate	$5.40	$6.75
Egg	5.80	7.00
Stove and chestnut	6.03	7.25
Bituminous.		
Massillon lump	3.00	4.50
Hocking "	2.75	4.00
Jackson "	2.75	4.00
Shawnee "	2.75	4.00
Piedmont	4.00	6.00

Toledo. Nov. 1

[Specially reported by Messrs. GOSLINE & BARBOUR.]

The difficulty in obtaining line cars in which to transport hard coal, which set in unusually early this season, still continues, with no immediate prospect of relief. The demand is far ahead of the means of transportation, and the entire West is calling in chorus for coal, "to be shipped immediately." Prices are fully maintained, the only question asked being, "When can we get our coal?" We quote anthracite, wholesale, on cars at Toledo:

	Net ton.		Net ton.
Grate	$5.27	Chestnut and stove	$5.80
Egg	5.50	No. 4	6.25
Retail, delivered, all sizes			7.50

The demand for bituminous coal continues active, and the supply short, especially for all rail coal. We quote, wholesale, per net ton, f.o.b, vessel at Sandusky, O.:

	Lump.	Nut.
Shawnee and Straitsville	$2.75	$2.15
ON CARS AT TOLEDO.		
Shawnee, Straitsville, and Hocking	2.85	2.20
Massillon	3.35	2.35
RETAIL, DELIVERED.		
Shawnee and Hocking	4.50	4.00
Massillon	4.75	4.00

COAL TRADE NOTES.

PENNSYLVANIA.

ANTHRACITE.

At Tomhicken, the explorations with the diamond drill have been successful. At a depth of 78 feet, two seams of coal were cut through, the lower one being 9½ feet in thickness. The Hazleton *Sentinel* says that this is evidently the Buck Mountain vein, and now that it is found in good condition, the new breaker at Tomhicken, which is already well under way, will be pushed forward vigorously before the cold weather sets in. The tracks have been graded from the main line of the L. V. Railroad, so that as soon as the shaft is down a distance of 78 feet, the new colliery of Coxe Brothers & Co., at Tomhicken, will be about ready to commence shipping coal. At Gowen, the company has been driving a tunnel into the mountain, just north of the railroad station, which has already gone a distance of 230 feet through the rock from the mammoth vein, and it will be continued until the Buck Mountain vein is cut at that point. By next spring, the works at Gowen, Derringer, and Tomhicken may be expected to add very materially to the output of coal from the Lehigh region.

The Pottsville *Miner's Journal* states that the Alliance Coal Company is engaged in making some extensive improvements on its property at New Philadelphia. The company is preparing to sink a new slope, and is also enlarging the capacity of the Alliance breaker.

BITUMINOUS.

CONNELLSVILLE REGION.—The Keystone *Courier* has the following items:

Soxman & Company are sinking a shaft and building coke ovens near Latrobe. Their works are on the line of the proposed Mount Pleasant & Latrobe Railroad.

The Cleveland Rolling-Mill Company will put one hundred of its individual ore-cars into the coke trade this fall, and keep them there until company cars become more plentiful.

The two works on the Opossum Run branch are both shipping East, and were not affected by the blockade of West-bound freight at Pittsburg. The Connellsville Gas, Coal, and Coke Company is shipping eleven cars per day on the average, and the Connellsville Coke and Iron Company but three. The latter has not yet got in working order, and its shipments are as yet irregular.

The forty-two new ovens of the Pittsburg & Connellsville Gas, Coal, and Coke Company are now complete; but they will not be fired before cold weather unless cars become more plentiful in the mean time. The new tract of coal recently purchased by this company, lying just across Mount's Creek from the west end of its long line of ovens, is opening up. These works now embrace 295 ovens, and the daily shipments at the present time average thirty cars.

Eighteen new ovens are in course of construction at the Moyer Works. The one hundred recently built on the north side of the ravine are all in active operation. The eighteen spoken of are at the upper end of the old row. When completed, this row will contain 124 ovens. The new row contains 101, making a total of 225 ovens.

The air-shaft of the Connellsville Gas-Coal Company is rapidly nearing completion. The workmen passed through the four-foot vein of coal last Saturday at a depth of 244 feet. They have sixty feet farther to go before the large vein is reached and the work is complete.

OHIO.

HOCKING VALLEY DISTRICT.—At Happy Hollow, a mile from Buchtel, they sank during the year a shaft forty-five feet deep, striking the big vein of coal, which averages six feet eight inches. A fine tipple, with the very best of hoisting and dumping-machinery, has been erected, and every thing is in readiness for doing big work here, but unfortunately they have struck a bad fault under the creek, which required some time to get through. They hope to be through at an early day, and will at once extend the underground work as fast as the entries can be driven.

A new opening is making alongside of the old Carbon Hill mine, and another one is developing in the hill opposite—a new mine back of Sand Run.

The Central Mining Company is using the Lechner coal-cutting machine. The Shawnee Valley Coal and Iron Company's Smith mine has done well this summer. About 200 men are employed. The coal will average from 9 to 10 feet. Extensive improvements are going forward. Machinery for putting in and operating an endless wire rope is going up. They are also building air-compressors for running coal-cutting machines, which will be placed in the mine.

MARYLAND.

The Cumberland *News* says that the Consolidation Coal Company has just begun a work at Ocean mine, which will very greatly increase its capacity. Nearly all the coal that can be reached through the present opening has been taken out. In consequence of this, it has been decided to make a new opening in order to get out the coal lying in a different direction. The new opening will be near to, but below the old one, and will strike off almost at right angles with the line taken by the present opening. It will give access to a large acreage of coal lying on the left-hand side of George's Creek, and increase the company's production.

VIRGINIA.

The Hawk's Nest Coal Company is now shipping 380 tons of coal daily; 75 miners, who get 40 cents per ton for mining, are now at work. The *Virginias* states that a double track has been laid on the siding, and new tipples have been erected recently. The drift in the 11-foot bed mined by this company will next year have gone through Gauley Mountain to its Rich Creek side, as it is now within 1000 feet of that outcrop.

WEST VIRGINIA.

The *Virginias* prints the following: The four leading coal mines of Mason County are the Camden mine, at Camden, owned by J. N. Camden & Company, and operated by the Consolidated Coal Mining Company; the Clifton mine, at Clifton, owned and operated by the Ohio & West Virginia Mining and Manufacturing Company; the Sterling mine, near Clifton, owned and operated by the Sterling Coal Company; and the Hartford City Coal and Salt Company's mine, near Hartford City, operated by G. W. Moredock. These mines are in the "Pomeroy" or "Pittsburg" coal-bed of the Upper Coal Measures, mining from 4 to 4·5 feet of thickness. During the census year, these mines furnished about 89,000 tons of coal, valued at nearly $111,000, or about $1.25 a short ton. Some 300 persons were employed at these mines. Part of the coal from these mines is shipped, by the Ohio, to Cincinnati and Aberdeen, O.; Maysville, Augusta, and Vanceburg, Ky., and to other towns on the Ohio; the remainder is consumed by the local salt furnaces, nail works like those of the flourishing Standard Company, at Clifton, and other manufacturing establishments. The capacity of the mines named is about 140,000 tons a year.

The first shipment of coal over the new West Virginia Central & Pittsburg Railroad was made on the 20th ult. It was shipped at Elk Garden to Shaw Brothers, Baltimore.

KENTUCKY.

Coal shipments via Elizabethtown, Lexington & Big Sandy Railroad to the Blue Grass region are to be commenced at an early date. The Straight Creek Coal Company will be among the first shippers. Joseph S. Woolfolk expects to make the first shipment of coal from his Mount Savage property.

The Straight Creek Coal Mining Company has received the machinery and outfit for its incline.

IOWA.

A four-foot vein of coal was recently discovered near Indianola.

ALABAMA.

It is reported that the Pratt coal mines have been sold to a company of Northern capitalists for the sum of one million dollars.

MICHIGAN.

The new shaft sinking by the coal company at Corunna has entered 3 feet 6 inches of first-class coal at a depth of 75 feet. Large works are building, and Corunna will soon furnish Michigan with hundreds of tons of coal daily.

KANSAS.

The La Cygne Coal and Mining Company, of La Cygne, has recently struck vein of coal on its property there, 116 feet from the surface. The deposit is three feet thick, and is a continuation of the seam the company has been working for some time past.

MONTANA.

The *Inter-Mountain* states that Messrs. Weller & Alderman are working what promises to develop into a productive coal-bed on Lost Creek, about thirty miles from Butte in the Deer Lodge valley. The coal-seam is now three feet wide, and is rapidly improving in width and quality as depth is attained. The owners of the mine expect to ship a supply into Butte during the coming winter, and state that it can be delivered for $12 per ton.

CANADA: NOVA SCOTIA.

The output of coal from Cape Breton mines this year will be the largest on record. Nine collieries are now in active operation, giving employment to about 1000 cutters.

The Intercolonial Coal Company, at New Glasgow, is making arrangements to increase its output one third.

LABOR NOTES.

THE newspapers in the German coal districts of Westphalia are making a great outcry against the emigration of miners to this country, saying that they will be kept here in a condition little better than slavery. Probably their lot here will be very much better than it has been in their old home; and if it is, no such practices as the German papers resort to will check the movement, as those now here will surely keep their friends on the other side of the ocean well posted.

JUDGE Hunter, of Westmoreland, has rendered judgment in the case of D. R. Jones and Hugh Anderson, charged by the Waverly Coal Company with conspiracy. The fine was $100, cost of prosecution and twenty-four hours in jail. Secretary Jones and Mr. Anderson appealed to the Supreme Court, and its decision will have to be forthcoming before the farmer law of Westmoreland is confirmed.

THERE are now 400 German miners at Corning, O.

AT Peoria, Ill., miners are paid 4 cents per bushel, 83 pounds to the bushel. For entry work, $2 per yard is added.

THE strike at the Sandy Run colliery has ended.

AT Cambridge, O., some of the miners were out on a strike for 3 cents per bushel. A compromise on the basis of $2.80 per hundred has been made.

THE coal miners at Coal Valley, West Va., have struck for an advance of 13 cents per ton.

ALL the miners on the Low Grade road, near Reynoldsville, Pa., have received an advance of 5 cents per ton.

THE Brookfield, O., miners demanded an advance of 15 cents per ton on mining, and were conceded 10 cents.

AT Steubenville, O., the Steubenville Coal and Mining Company gave its miners the advance demanded, and the men returned to their work on the 20th. The Rolling Mill Company also has acceded to the demand of its men and has started up. Allicaner pit is working at the advance; also, the Grave Shaft Company and the Averick shaft.

AT Salineville, O., a few days before the close of September, the committees notified the operators that they would demand an advance on and after the 1st of October of 10 cents per ton for big vein and 15 cents per ton for strip vein. After a few meetings, a compromise was effected on the following scale: For 5 feet or over, big vein, 75 cents per ton; big vein down to 3 feet 9 inches, one cent advance for every inch decrease in thickness; 3 feet 9 inches coal and under, 90 cents; strip vein, 90 cents; outside men, 15 cents per day. This scale was satisfactory to all parties, and the men went to work; there is talk, however, of the miners demanding a further increase of 15 cents per ton.

GENERAL MINING NEWS.

ARIZONA.

PECK DISTRICT.

BLACK WARRIOR.—Under date of October 21st, the manager writes, urging the erection of steam-hoisting works, adding that with improved hoisting facilities the mine can be opened very rapidly and a large quantity of ore be extracted. The rich stopes heretofore reported remain untouched. Two recent shipments of ore averaged respectively $190 and $153.92 assay value.

TOMBSTONE DISTRICT.

TOMBSTONE.—We take the following abstracts from Prof. J. A. Church's semi-annual report dated October 12th, 1881: Recalling to your attention the fact that out of the company's properties—eleven in number—there were only two worked a year ago, the Good Enough and Toughnut, and that each of these had two mines opened on it, but not connected, I will first explain the condition of those old works. The eastern end of both claims is occupied by what are called the Main works. In the Good Enough main works, ore has been followed down for a distance of 100 feet farther than in March last, and extended on the strike of the vein about 60 feet, exhibiting an ore-body 120 feet long on the course of the vein and 130 feet on its dip, but narrower than this on the average. Throughout the whole of this ground, the grade of the ore has been remarkably high. Work has been done in the old abandoned parts of the mine, and always with good success, though the ore necessarily suffers in quality from the previous removal of its richest portions. Extraction is still going on, and is likely to continue for a year to come in the old works. In Toughnut main works, an important body of ore has been found about 27 feet below the old 130-foot body that yielded probably 5000 tons. What the new find will supply is unknown, as we have hardly opened into it. It was found by following a seam that supplied us steadily with ore for two months. The total amount extracted since April 1st, from the Good Enough and Toughnut main works, was 5963·44 tons. On the western end of the Toughnut claim lies the Northwest mine, which has yielded 1108 tons of ore since April 1st. All this has been obtained by breaking down the walls of the old ore-body, and the same source will yield at least nine months' supply at the same or at a higher rate of extraction. Number 6 mine occupies the west end of the Good Enough claim, and has supplied 1364 tons of ore, mostly of very high grade. The work is quite shallow, being only 80 feet deep in its lowest point. Its continuation in depth is probably to be found in the next described work. Near No. 6, and immediately in the northwest corner of the Good Enough claim, lies a new opening, which has the greatest importance, both from the large amount of ore which it has supplied, and from the fact that it opens entirely new ground to this company and to the district of Tombstone. It is known as the Combination shaft. The shaft was sunk, and very small but rich pockets of ore found previous to April; but the great ore-body was opened in May. Since then, it has equaled that of the main Good Enough works in production; the yield for six months being 3668·54 tons. This ore-body is not only not exhausted, but its limits are not even known. The daily work of drifting is carrying the levels farther in ore, and probably this single ore-body shows twice as much ore in sight as has been taken from it. Even more gratifying than the amount of ore in this place is its position in the extreme end of the Good Enough claim, and the fact that it occupies a peculiarly rich stratum, which gives every sign possible of being a regular member of the formation. During the past three months, the west side vein has been opened and 124 tons of ore sent to the mill. Two shafts have been worked, one of which shows ore for a continuous depth of 120 feet, presenting a vertical vein in quartzite. The ore has not been quite as rich as the average from our other mines, though still of good grade. I think its comparatively low grade is due to surface drainage, and expect to see it improve substantially in depth. It is a white quartz carrying free horn-silver, and its perfect adaptation to milling probably makes it nearly as profitable an ore as one of richer content but baser quality. There has been an increase of 30 per cent in the output of the last six months over the yield of the mines during the previous six months, and in their present condition the mines are perfectly capable of sustaining this increased production. They can send 100 tons daily to the mills with great ease. An extensive system of surface improvements has been carried out, which will be completed this month, the last step in the work being now nearly finished. By the end of the month, every ton of ore mined will be hoisted by steam-power, except at the west side, where the work done is still elementary. All the second-class ore will be screened mechanically, and all loading except at one point will be from automatic bins. Reconstruction and improvement have been urgently pressed at the mills as well as at the mines. Five stamps and a steam-engine have been added to the Gird mill, and all the remaining dry stamps in the Corbin mill altered to wet crushing. Consequently the mills are now in the best order, and their capacity has been increased about 60 per cent. The addition of five new stamps, and changing of ten from dry to wet crushing, accounts for 40 per cent increase, while improvements in the mode of working the pans have increased their capacity so much that the stamps are now free to do their full duty. Four new pans have been added, the old number being ten. The remaining 20 per cent is due to improvement in methods of work. It would now be easy to treat 100 tons daily, but the amount actually sent to the mills is about 90 tons.

The following telegrams have been received from Mr. Church since the date of the report:

"Struck ore at depth of 220 feet in Good Enough. It seems to be the expected ore-body, but it is not yet developed." "Mines looking extremely well, with ore improving in grade." "I expect $125,000 net for October, equal to $145,000 gross." "This has been a month of decided improvement in mines, and repeated ore discoveries; the latest is in No. 6, and entirely unexpected." "Combination still discovers new and unexpected stores of ore, and the extent of the ore-body increases every week."

But two suits are now pending in the courts of Arizona in which this company is interested. A company, called the Republic, is located on the side-line of the Good Enough near its northwestern corner, and a company, known as the Way Up, is located with its end-line on the Good Enough northeastern side-line. Both of these companies commenced taking ore from the Good Enough veins belonging to us. A restraining order in each case was obtained by us from the court, forbidding the further removal of ore until the question of ownership can be definitely settled.

WARREN DISTRICT.

The Tombstone *Epitaph* says: The developments on prospects throughout the district are of a very satisfactory nature. On the Golden Gate, they are down 14 feet, with an ore-vein 12 inches wide, and several smaller ones, all improving with every foot in depth. Black Jack is also improving, and gives promise of making a good mine. Work is about to be started up on the Broad Gauge and Silver Spray, both splendid prospects. The superintendent is expected every day to start up work on the Atlanta, which recently sold for $40,000.

COPPER QUEEN.—It is stated that this company is erecting a third smelter, which will give them a capacity of 600 tons of copper per month.

NEPTUNE.—It is reported that this company has made a strike on the Neptune, between numbers one and two, that is looked upon as of decided importance. Ore is hauled to the smelter at Hereford.

CALIFORNIA.

SPRING VALLEY.—The new tunnel was advanced 102 feet for the week ending October 22d, leaving 1100 feet still to be completed.

BODIE DISTRICT.

Superintendents report operations for the week ending October 23d as follows:

BECHTEL CONSOLIDATED.—There is no special change to report in the mine. The usual quantity of ore is stoped from the 318 and 412-foot levels, new shaft, and the 200 and 400-foot levels of the old shaft. The mill is running steadily.

BULWER CONSOLIDATED.—The west cross-cut from the south drift on the 500-foot level of the Standard mine is in 178 feet; progress, 8 feet. The ground is very hard. Work has been resumed in the west cross-cut on the 1000-foot level of the Standard.

LENT SHAFT.—Letter of the 18th says: The shaft is now 755 feet in depth, having been sunk 10 feet since last report. At the 705-foot level, the east cross-cut was driven nine feet, and is now 129 feet long. The north drift from this cross-cut has been driven 34 feet—its present length—throughout the greater part of which the vein has been three feet wide, and is rather stronger than that in the face to-day. The south drift, same level, was driven 31 feet, in which distance the quartz has averaged about two feet in width and the quality has been good. The station at the 740-foot level has been completed, and a drift has been run south upon the vein 19 feet. The average width of this vein has been about 20 inches, of an excellent quality of ore. There has been no increase in the flow of water, nor any lessening, and the pumps are running at 7½ strokes per minute.

STANDARD CONSOLIDATED.—Sinking the main shaft has been resumed, the water having been pumped out. There is no change to note in the east and west cross-cuts on the 1000-foot level. Twelve feet have been added to the length of the east cross-cut from the 700-foot level. The south drift on the 500-foot level is now in 367 feet; progress for the week, 10 feet. The stopes are all looking well. The ledge on the 385-foot level is from 15 to 25 feet wide, and on the 550-foot level (incline) it is from 12 to 20 feet wide, of good ore. There was extracted and shipped to the mills during the week the usual amount of ore. The amount of bullion sent to San Francisco was $42,861.47.

GREENVILLE DISTRICT.

GREEN MOUNTAIN.—The superintendent reports having run ahead in the sulphuret ledge about 100 feet, the ore holding strong in the face. An uprise is pushed as rapidly as possible through ore, and has advanced 55 feet. The ledge at the head of uprise is 16 feet wide. The work in the main mine is progressing uninterruptedly.

CANADA.

CANADA CONSOLIDATED GOLD MINING COMPANY.—A party of miners from Italy arrived at Belleville, November 1st, and proceeded to the Canada Consolidated Company's gold mine at Marmora, where they have been engaged.

GATINEAU MINING COMPANY.—This company has commenced the shipment of iron ore from the Lawless mine to Cleveland.

MARTINS'S MANGANESE MINING COMPANY.—Work is pushed vigorously at the mines. The shipments for the past week were about 200 tons. The location of the mine is near Quaco Head, on what was once the Old Mining and Manufacturing Company's grounds.

CAPE BRETON.

The Coxheath, Sydney, C. B., copper property has been sold to Boston capitalists represented by Mr. I. P. Gragg, of the Victoria Coal and Oil Company, who are preparing to sink three shafts to put the lode in workable shape.

The Rose Gold Company, of Montagu, has struck good ore in its west shaft, milling 3 ounces to the ton.

The Salmon River mine is keeping 15 stamps running, the last clean-up giving 300 ounces from a month's work.

A lot of silver-lead ore of 50 tons from Salmon River, Cape Breton, has been sent to New York for mill test, assay values being from $40 to $50.

NOVA SCOTIA.

A Halifax correspondent in the Montreal *Herald* says that operations in Montague Gold District are not so brisk as formerly. One shaft, however, is being sunk through hard rock to a lower level than any hitherto reached, and the prospect is very encouraging that a lead quite as rich as the former will be found near the main shaft. Another has been sunk to a considerable depth. A gin is erected, and considerable quartz of very rich quality is raised.

COLORADO.

CLEAR CREEK COUNTY.

DUNDERBERG.—There are about 120 men employed on the mine, 80 of whom are lessees. The Georgetown *Courier* reports the September product of the mine as being about 100 tons of ore, of an average grade of $125 per ton. The grade of the ore was better than the preceding month, but the quantity was less. It is expected that the product for October will be about the same as the previous month.

CUSTER COUNTY.

SILVER CLIFF.—The mine is reported as looking well, and the mill is running steadily. The superintendent reports good ore in cut No. 1.

PLATA VERDE.—The Colorado *Chieftain* calls for an investigation of the Plata Verde mine and mill, in which the Colorado papers say gross frauds have been perpetrated. The mill is good, but there is said to be no ore worth milling.

GILPIN COUNTY.

NEW YORK & COLORADO.—The *Register-Call* announces that after twenty-two years' operation the 40-stamp mill and the Gregory mine, belonging to the New York & Colorado Mining Company, have been closed down, and the machinery is advertised for sale. This proceeding has not been brought about by encountering cap-rock or for the lack of paying ore, but is due to the physical condition of the agent, who is also one of the principal owners. Finding that he will never re-

cover from the injury sustained last December, the closing down of the mill and mine was determined upon. The New York & Colorado Mining Company is solvent.

GUNNISON COUNTY.

IRON BONNET.—Iron Bonnet manager reports, October 20th: Am putting the mine in order for winter, and covering incline to the ore-house. In No. 1 incline, the vein continues to widen and the ore improves. The Hillerton smelter is now ready to buy ore. I shall try it with ten tons. Am quite sure our ore is free-milling, and if so, we can save $15 a ton. A mill is to be started here next spring. Every thing looks very favorable.

LAKE COUNTY.

Although the output from the mines has not been unusually large for the last few weeks, the grade of the ore generally holds good, and it is expected that the product for October will equal if not exceed that of September. The Leadville *Circular* approximates the daily output of the leading mines of the camp as follows:

Mines.	Tons.	Mines.	Tons.
Miner Boy	15	Evening Star	50
Little Pittsburg	15	Robert E. Lee	30
Chrysolite	50	Log & Derry	10
Little Chief	15	Crescent	8
Iron Mine	225	Big Chief	30
Silver Cord-Wave	45	Matchless	40
Catalpa	17	Hibernia	12
Little Ella	20	Others, say altogether	76
Oro La Plata	33	Etna	10
Glass-Pendry	20	Agassiz	15
Morning Star	50	Leadville	10
Argentine	50	A. Y	20
Shields	8		
Brian Boru	10	Total tons	934
Henriette	50		

ADLAIDE.—The superintendent is driving two or three prospecting-drifts.

BREECE IRON.—A Leadville *Herald* reporter paid a visit to the Breece Iron mine. The Breece development in the past has been a large output of rich iron ore, and the future of the property would seem to be that of an iron mine for some time to come. At the present writing, it is estimated that some three thousand tons are in sight and broken down by the recent cave from the roof of the mine This iron is easily removed, as it lies at the bottom of the incline. The Breece has a deep shaft, over three hundred feet, and the material from the bottom of this shaft shows heavily-stained porphyry. When the work of cleaning out the iron, caused by the cave, shall have been accomplished, it is the intention of the management to sink the deep shaft to the carbonates which are believed to exist below the porphyry.

CLIMAX.—But little work is doing on this property at present. The lessees are at work on the workings contiguous to the north shaft. The company is driving the new No. 7 shaft. To the northward, a drift is driving from this shaft, which is now 120 feet long.

IRON.—The mines of this company continue to make large outputs of mineral. A *Democrat* representative made some inquiries as to the condition of the property, with the following satisfactory results: The mines are now taking out 200 tons of ore per day. This is exclusive of the large body recently discovered in the old workings, as no mineral has yet been taken from that body; so that when the company begins shipping from this, the output of the mines will be greatly increased. It is somewhat difficult to arrive at the value of the ore, but the Grant smelter last week received about a hundred tons that ran sixty-eight ounces in silver, with a large per cent of lead, to the ton, out of which the smelter cleared about $8000. According to correct estimates, the expenses of the mines are about $35,000 per month, and the receipts $100,000 per month, leaving a net profit of $65,600 per month.

LA PLATA.—A tunnel has recently been driven in from the bottom of the hill a distance of 650 feet. The main shaft is 160 feet deep to the incline, and is sunk 250 feet below the incline. Five furnaces are in blast at the smelter.

LEADVILLE CONSOLIDATED.—The main incline is showing up some good bodies of mineral.

SAN JUAN COUNTRY.

A dispatch from Denver dated November 2d says: Considerable excitement has been created in mining circles here by the publication of results obtained from working the recently discovered gold-bearing lode in the Summit District. Mining experts and capitalists interested in the "find" claim that it will prove the largest and most valuable gold mine in the United States. It is claimed that the result of actual working for one month with a 15-stamp mill is $100,000, and that the tailings are worth $360 per ton. The assays, it is said, run as high as $20,000 per ton.

DAKOTA.

ROYAL ARCH MINING COMPANY.—Over 400 tons of ore are on the dump, ready for crushing.

FATHER DE SMET.—The last two semi-monthly clean-ups of the Father de Smet mine yielded $35,406 and $32,303, respectively, making for one month $67,709. The superintendent's drafts for the month's expenses were $24,000, leaving a surplus, after paying the dividend (25,000), of $18,709 for the month. The superintendent reports for the week ending October 22d, that 1000 tons of ore were extracted from first level, 1200 tons from second level, and 75 tons from third level. During the week, 2275 tons of ore were milled. The north-end tunnel is in 237, and the south header, second level, is in 42 feet.

MEXICO.

LAS PRIETAS.—This mine, owned by New York men, is now a regular bullion producer. The owners have erected a 40-stamp mill and have also put up hoisting-works. The shaft is down 260 feet. About 100 persons are employed. Miners receive the same wages as they are paid in Arizona—$4 per day. Most companies employ cheap Mexican labor. The mine furnishes a flow of excellent water, sufficient for power and also for domestic purposes, both at the mine and in town. The mill has been running three months. First months' product, $25,000; second, $35,000; and during September the output was $60,000. This property is situated 45 miles southeast of Hermosillo and 15 miles from the Sonora Railroad.

MICHIGAN.

IRON ORE SHIPMENTS.—The following table, from the Marquette *Mining Journal*, exhibits, in gross tons, the total lake shipments of iron ore the present season, up to and including October 25th, together with the amount shipped during the corresponding period last year:

Where from.	1880.	1881.
Escanaba	1,054,540	1,287,379
Marquette	594,910	642,868
L'Anse	50,171	50,734
Total	1,699,621	1,980,981

An increase of 281,360 gross tons.

MONTANA.

A dispatch to the N. Y. *Tribune*, dated Helena, October 29th, says: Prof. William P. Blake, of New Haven, Conn., who has been at Wickes for several days examining the property of the Alta-Montana Company, left here yesterday for the East. He was assisted in his examination by Prof. S. M. Pittman, of Boston.

ALICE.—The mine has been closed awaiting the completion of the repairs to the hoisting-works boilers, which latter have been in continuous operation for thirty-three months. Mining operations will be resumed in about three days, and in the mean time the mills are running on ore-reserves, of which about 7000 tons are on hand. There has been no sinking below the 700-foot level, and work for the past two weeks has been steadily progressing on every level.

BELL.—The *Inter-Mountain*, in speaking of the developments of this mine, says: The developments consist of two shafts, each 300 feet deep, and four levels run on the vein at the various depths of 60, 100, 200, and 300 feet, having an average length of 500 feet, each proving beyond a doubt the continuity of the vein and showing one of the longest pay-ore chutes in the district. The lowest grade of ore in the mine contains about the same proportion of copper as the bulk of that at present so successfully worked by the Montana Copper Company, in addition to which it assays enough in silver to pay all expenses of reduction. It is the intention of the company in the near future to begin the sinking of a shaft to a depth of 1000 feet for the purpose of working the north and south veins, and while this work is being conducted the smelter will be supplied from the present workings.

LEGAL TENDER.—It is reported that the pump has been running for the past few days, and easily handles the water. The shaft has been retimbered 110 feet, and rapid progress is making toward getting this property in good working shape.

LEXINGTON.—The *Inter-Mountain* says that at the bottom of the main shaft, and in the face of the 200-foot north cross-cut, within the past few days, heavy bodies of water have been encountered, which so rapidly increased in volume that operations were temporarily suspended. From reliable sources we learn that the developments in this mine have been very favorable of late, a new and unexpected strike of rich ore having been made. The new mill is to contain two Stetefeldt roasting-furnaces of the largest size, and the Stetefeldt shelf drying-kiln will also be used. Mr. Stetefeldt is engaged to supervise the construction of the furnaces, and will put the mill into operation.

MAGNA CHARTA.—A station is cutting out at the 300 foot level, and sinking will be resumed in a few days. The machinery has been giving some trouble lately, but the necessary repairs have been successfully made.

PARROT SMELTER.—Important and extensive improvements are now going on at this smelter. It has been decided to increase the smelting capacity of the works from 12 tons to 50 tons daily.

STEVENS.—The Butte *Miner* says: The great point of interest about the Stevens at present is the discovery of wire gold recently on the 100-foot level. It seems that such specimens, when found heretofore, were supposed to be the not uncommon tarnished silver, but were never tested for gold. The test of boiling nitric acid was applied; and the wire gold, in almost a pure state, was accurately demonstrated, mixed with some silver. In the main shaft, at the 200-foot level, the east drift is in 100 feet and the west drift about 110 feet. On the east level, the ore varies from 15 to 30 inches, and assays about 80 ounces in silver and 20 ounces in gold. On the west, the ore continues about 12 or 15 inches wide, gradually increasing.

NEVADA.

THE COMSTOCK LODE.

In its summary of operations for the week ending October 26th, the Gold Hill *News* says that people are discouraged at the absence of favorable reports from the north end mines. True, there is nothing unfavorable—prospecting is carried forward in every direction, but that is all that can be learned. Not a few are selling their stock in Sierra Nevada and Union Consolidated, and seeking investments elsewhere. To those the middle mines appear to offer opportunities for favorable investments. The hydraulic pumps at the Chollar-Norcross-Savage shaft are an assured success. That fact allows of the opening of the drift to the Savage, and connection will be made between the drift and Savage incline in about six weeks. In addition to this, forty tons of ore are now taken from the Savage daily; and as progress is made in the ore-bodies, the assays are higher and the prospects look better. The connecting of the drift with the incline will give a good circulation of air and cool off Potosi ground, in which mine work is to be resumed as soon as the above connection is made. There is nothing else new along the lead until Silver Hill is reached. That mine has been repaired, and preparations are now making to extract the low-grade ores on the upper levels. The Crown Point and Belcher mines continue the extraction of low-grade ore. The repairs to the Consolidated Imperial machinery will be finished Saturday, as will the V-bob for the Utah. Below will be found reports of mines named, showing the situation in each up to October 26th:

CALIFORNIA.—The upper levels are still opened for ventilating purposes. Work has been resumed in the winze joint with Consolidated Virginia. The east drift joint with Ophir 2700 level was extended 23 feet last week.

CONSOLIDATED VIRGINIA.—The upper levels are still opened out and the drifts repaired to secure good ventilation. The suction-fan continues to do excellent work. The winze joint with California was sunk 10 feet last week.

OPHIR.—The main south shaft, 2700 level, has been extended 30 feet since last report, and the joint California drift 23 feet. A drain is being cut on the 2900 level and the sump cleaned out. A drill-hole was run from the winze 200 feet without finding any metal of value.

POTOSI.—All work has been suspended for the present, owing to the intense heat. The blowers heretofore furnishing air for the miners on the 2400 level are now assisting in the opening of the Savage drift from the Combination shaft.

SAVAGE.—Ore, amounting to 40 tons daily, is being extracted from the 400 and 1640 levels. At the latter point, breasting both north and south, and rising on the ore.

SIERRA NEVADA.—A new cross-cut, No. 5, has been started since last report on the 2500 level and within 30 feet of the north line of the main drift. Cross-cut No. 2 was extended 30 feet last week; No. 3, 25 feet. The main lateral drift was advanced 30 feet. The winze joint with Union Consolidated is sunk about eight feet per week. The joint east drift from the Union shaft was extended 24 feet, and the west drift from the joint winze 20 feet, last week. It will take considerable time to connect the two. There is no change to report in the material passed through in any of the workings.

UNION CONSOLIDATED.—The east winze joint with Mexican 2500 level has been sunk six feet since last report. The other work, joint with Sierra Nevada, progresses as usual, there being no change to mention.

EUREKA DISTRICT.

EUREKA CONSOLIDATED.—The annual report of the superintendent states that during the past year 32,988·7 tons of ore have been reduced at the company's furnaces, including 2069·4 tons of custom ore; 5777 feet of drifts have been run, and 1081 feet of rises and winzes. The principal portion of the ore extracted from the mine was taken from the 8th and 10th chambers. About 85 men on an average have been at work on tribute, taking out ore and prospecting from the surface to the 12th level. Owing to the water, no work has been done in the mine deeper than the 12th level.

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Nov. 4.

The week under review has been quite an active one, and prices in many instances have shown enough variation to meet the views of speculators, although too much for investors, as the changes have at times been on the wrong side. The sales for the week aggregate 904,309 shares. The bears still continue to have control of the market, although there is no chance of their being able to do much more at present.

The Tuscarora stocks have been quiet at prices all below a half-dollar.

The California stocks have been very quiet this week as compared with previous weeks. California records sales of 5600 shares at 74@80c. Consolidated Virginia has been dealt in to the extent of 10,800 shares at $2.15@$2.40. Sierra Nevada records sales of 2190 shares at $15⅝@$13⅝. The remaining transactions in the Comstocks are of but little importance.

The Bodies have had a moderate business. Bodie Consolidated records sales of 1900 shares at $6½@$7⅞. Standard is a little more active; the sales amounting to 1110 shares at $22½@$23.

Under a moderate business, Alice has ranged between $5¾@$5½. Chrysolite has been quite active; the sales amounting to 12,130 shares at $6⅛@$6. Father de Smet records sales of 1000 shares at $9@$9½. Green Mountain has attracted attention by its weakness; the sales amount to 3850 shares at $5@$3¼. We have been unable to discover any special cause for the decline at the present time beyond a raid having been made upon the stock. Hibernia, under a moderate business, has been weak at 34@28c. Horn-Silver has ranged between $16½@$17¼, with sales of 1050 shares. Iron Silver has been fairly active and strong, the sales aggregating 13,800 shares at $1.95@$2.15. Northern Belle, with sales of 1900 shares, recovered from $11⅝@$15. Robinson Consolidated has been quite active, and at times somewhat weak. The sales amount to 29,455 shares at $14@$12½. Stormont has ranged between $2.30@$2.10, with sales of 5100 shares.

Barcelona declined from 88@77c., with a fair business. Big Pittsburg has been weak under small sales, declining from 90@68c. Bradshaw has been quite active and stronger; the sales amount to 25,900 shares at 55@85c. The Mariposas have been weak, Preferred declining from $5@$3@$3.75, and Common from $4.75@$2.90@$3.25. Oriental & Miller has been very active and stronger; the sales aggregate 82,500 shares at 64@80c. Silver Cliff, under a moderate business, has declined to $3. The State Lines have been quite active and irregular, Nos. 1 and 4 selling between 61@73c., with transactions of 39,650, and Nos. 2 and 3 between $3.15@$3.70, with sales of 185,350 shares. South Pacific has been suddenly sprung on the public, and announces sales of 53,700 shares at $3.15@$9½@$6¼. The insiders have probably done most of the buying from themselves.

The *Register-Call* says:

The property of the Boulder Consolidated Mining Company is advertised at sheriff's sale on the 10th day of November next. The amount of the judgment is not named.

We are advised that there is to be forthcoming a deal in the Caborca mines of Sonora, Mexico. The leading spirits will be George D. Roberts, of State Line notoriety, and Charles McDermot, of Bradshaw notoriety. There is supposed to be in store for the public the same treatment that it met with in the mines mentioned above.

The Gunnison Improvement Company has this week closed a contract with strong New York parties, connected with the Denver & South Park Railroad, for the sale of its coal lands. It is said that the terms of the agreement are such that the Gunnison Company will receive a dividend in cash and stock in the new coal company, amounting to from five to seven dollars per share.

At the annual meeting of the Chrysolite Silver Mining Company, held at the company's office in this city on the 22d ult., the old management was re-elected. The following are the directors: R. W. Raymond, H. A. V. Post, Abram S. Hewitt, Walter S. Gurnée, S. V. White, Edwin F. Bedell, Daniel S. Appleton, William Borden, Charles Francis Adams, Jr., James H. Banker, R. H. Thurston.

DIVIDEND-PAYING MINES.

NAME AND LOCATION OF COMPANY.	SHARES. No. in 1000's	SHARES. Par Value.	ASSESSMENTS. Paid to date in 1000's.	ASSESSMENTS. Date and amount per share of last.	DIVIDENDS. Total paid to date in 1000's.	DIVIDENDS. Date and amount per share.	HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. Oct. 29. H.	Oct. 29. L.	Oct. 31. H.	Oct. 31. L.	Nov. 1. H.	Nov. 1. H.	Nov. 2. H.	Nov. 2. L.	Nov. 3. H.	Nov. 3. L.	Nov. 4. H.	Nov. 4. L.
Alice, Mon..	400	25	*		320	Oc 81 10	5.75	5.50							5.63	5.50	5.75	5.50
Amie Con., Co.	500	10	*		305	My 80 10	.27	.26	.27	.25	.25		.26		.25		.26	
Argenta, Ne.	100	100	140	Se 81 10	40	Fe 80 20												
Bar & Walker, Ut.	100	10	*		60	No 80 10									1.60	1.50		
Bassick, Co.	100	100	*		25	Fe 80 25												
Belle Isle, Ne.	100	100	55	Se 81 10	300	De 79 25	.20											
Black Bear, Ca.	90	100	15	Se 79 50	832	Se 81												
Be cher, Ne.	104	100	2380	Se 81 50	15397	Ap 78 75												
Bodie Cons., Ca.	100	100	75	My 79 1 00	1200	Mr 80 25	7.00	6.50	7.25	6.25	7.38		7.00				7.00	6.88
Breece, Co.	200	25	*		2	Fe 80 1			.72	.70								
California, Ne.	540	100	162	Je 81 30	31320	De 79 50	.76	.74	.76	.74			.77	.66	.77	.75	.80	.75
Cal. & Hecla, Mch.	100	25			19350	Au 81 5 00												
Caribou Con., Co.	100	10	*		50	Mr 80 10												
Catalpa, Co.	300	10	*		180	My 81 20												
Chrysolite, Co.	200	50	*		1500	No 81 50	6.13	6.00	6.38	6.13	6.50	6.13	6.50	6.25	6.50	6.13	6.13	
Climax, Co.	200	10	*		180	Au 80 30					.31		.30					
Cons. Va., Ne.	540	100	573	Au 81 30	42030	Au 80 30	2.35	2.15	2.35	2.25	2.40	2.30	2.40	2.30	2.35	2.30	2.30	2.25
Copper K'b, N.C.	1000	1	*		15	No 80 02	.06	.05	.06		.06	.05	.07	.06	.08	.06	.08	.07
Copper Queen, Ar.	250	10	*		100	Oc 81 10												
Crown Point, Ne.	100	100	2573	Se 81 75	11588	Ja 75 2 00												
D'dw'd-Terra, Dk	200	25			4510	Oc 81 15	7.00											
Dunkin, Co.	200	25	*		200	Ju 81 7½	.40	.38	.39				.37					
Eureka Cons., Ne.	50	100	100	My 76 1 00	4730	Se 81 50			17.50	17.00	17.00	16.75	17.75	17.00	17.50	17.00	16.63	16.38
Excelsior Co., Ca.	100	100	100	Je 81 1 00	850	Se 80 25	1.25						1.00					
Exchange, Ne.	100	10	*		6000	Au 81 03												
Evening Star, Co.	50	10	*		490	Se 81 50												
Fa. de Smet, Dk.	100	100			340	Jy 81 50							9.00		9.50	9.25		
Findley, Ga.	200	1	*		8	My 79 1c									.20			
Freeland, Co.	200	25	*		50	My 80 25												
Gem																		
Glass-Pend., Co.	250	20	*		50	My 81 10	1.75	1.70										
Gold Stripe, Ca.	150	10	*		90	Jy 81 15												
G'ld & Curry, Ne.	108	100	3314	Jy 81 50	3826	Oc 70 $10												
G and Prize, Ne.	100	100	315	Jy 81 25	450	Se 80 25												
Great Eastern, Dk	300	1	*		16	Jy 80 01					.12				.12		.13	
Gr. Mountain, Ca.	125	10	*		201	Oc 81 7½			5.00				4.75	4.50	4.00	3.50	3.75	3.25
Hale & Nor., Ne.	112	100	3698	Jy 81 50	1598	Ap 71 5 00												
Hibernia, Co.	300	25	*		180	Jy 81 10	.34	.32	.33	.28	.31	.30	.32	.29	.31	.30	.32	.30
Homestake Dk.	100	100	200	Ap 78 1 00	1140	Oc 81 30			17.00		19.50							
Horn-Silver, Ut.	400	25	*		200	Ja 80 25			17.25	16.50	16.88	16.63	16.63		17.75		16.88	
Hukill, Co.	200	5	*		210	De 78 10	.67	.62	.65						.62			
Idaho																		
Indep., Ne.	100	100	170	Au 81 15	225	Se 79 25			.15		.15		.15		.15			
In. Queen, Ne.	120	2		Fe 80 15	294	Se 81 05												
Inyo, Ca.	100	5	*		25	Oc 81 10												
Iron Silver, Co.	500	20	*		400	Oc 81 20	2.00	1.90	2.05	1.95	2.05	2.00	2.05		2.15	2.05	2.15	2.10
Jonnittica																		
La Plata, Co.	200	10	*		360	Se 81 7½												
Leadville C., Co.	400	10	*		150	Ja 80 15	1.50	1.45			1.45							
Leeds, Ut.	60	100	51	Je 81 25	78	Oc 78 15												
Little Chief, Co.	200	50	*		700	Au 80 50	1.10	1.05	1.00		1.00		1.05				1.05	
Little Pitts., Co.	200	100	*		1350	Mr 80 50							2.50		2.50		2.50	
Martin White, Ne	100	100	875	Je 81 25	90	Jy 79 50												
Moose, Co.	200	10	4		550	Mr 78 25	1.00				1.05	.98	1.00	.95	.96	.95	1.00	
Navajo, Ne.	100	100	200	Au 81 25	25	Mr 81 25									.40	.34		
N. Y. & Colo., Col.	50	20	*		25	Jy 79 10												
N'h'n Belle, Ne.	50	100			2025	Oc 81 75	11.75	11.63	12.00	11.75	12.00		12.63	12.00	13.00	12.50	15.00	13.75
N. Belle Isle, Ne.	100	100	25	Fe 80 15	15	Se 80 15			.30									
Ontario, Ut.	150	100			3800	Oc 81 50												
Ophir, Ne.	100	100	3392	Mr 81 1 00	1603	Ja 80 1 00							7.13				7.25	
Osceola																		
Plumas, Ca.	100	10	*		151	Jy 79 8												
Quicks. Pref., Ca.	43	100			356	Au 81 9 25	62.00	61.00	61.50		61.50	60.50						
Com., Ca.	57	100			128	Au 81 2 25	14.75	14.50	14.25	14.00	13.50							
Quincy																		
Rising Sun, Ca.	150	5	*		101	My 81 7½			1.65	1.50								
Robinson C., Co.	200	50	*		525	Oc 81 50	13.88	13.50	14.00	13.38	13.75	13.25	13.50	12.50	13.50	12.75	13.00	12.50
Robt. E. Lee.	500	500			50	Jy 81 10												
Savage, Ne.	112	100	3384	Se 81 50	4460	Ju 69 3 00	4.00								3.75			
Sierra Nev., Ne.	100	100	4650	Jy 81 1 00	102	Ja 71 1 00	15.13	13.75	15.63	15.38	16.00		15.75	15.63	14.38	14.00	15.25	13.63
Silver King, Ar.	100	100			725	Au 81 25	19.00								20.00			
Silver King																		
Spr'g Valley, Ca.	200	1	*		50	Ja 81 5												
Standard, Ca.	100	100	50	Jy 78 1 00	3075	Oc 81 75			22.63		22.88		22.75		23.00	22.50		
Starr-Grove, Ne.	200	10	*		160	Ju 81 10												
Stormont, Ut.	200	1	*		145	Oc 80 05	2.30		2.25	2.10	2.15		2.15	2.10	2.15			
St. Joseph, Mo.	100	10	*		200	Se 81 20												
Tip Top, Ar.	100	100	120	Mr 80	80	Oc 81 20			6.00		5.88		5.75					
Tombstone, Ar.	500	25	*		950	Oc 81 10												
Western																		
Yel. Jacket, Ne.	120	100	4098	My 81 1 00	2184	Au 71 2 50												

* Non-assessable. † The Deadwood mine paid in dividends, previous to the consolidation, $275,000, and the Golden Terra paid $75,000.

SALES.—Alice, 3500; Amie Consolidated, 7925; Barbee & Walker, 1100; Belle Isle, 150; Bodie Consolidated, 1900; Breece 1500; California, 5600; Chrysolite, 12,130; Climax, 1000; Consolidated Virginia, 10,10); Copper Knob, 101,100, Deadwood, 50; Dunkin, 1100; Eureka, 975; Excelsior, 700; Father de Smet, 1000; Findley, 1600; Glass-Pendery, 700; Great Eastern, 1900; Green Mountain, 3850; Hibernia, 54,200; Homestake, 125; Horn-Silver, 1050; Hukill, 1100; Independence, 900; Iron Silver, 13,800; Leadville, 60; Little Chief, 900; Little Pittsburg, 800; Moose, 5500; Navajo, 600; Northern Belle, 1900; North Belle Isle, 775; Ophir, 335; Quicksilver, Preferred, 1300; Common, 600; Rising Sun, 200; Robinson Consolidated, 29,455; Savage, 350; Sierra Nevada, 2190; Silver King, 145; Standard, 1110; Stormont, 5100; Tip Top, 525. Dividend shares sold, 286,440.

The president's report says: "According to present appearances, the sum of $200,000 will constitute a sufficient reserve. With the mine still producing and good prospects ahead, and an estimated cash surplus of $426,000 on October 31st, dividends may be kept up for several months, and in the mean time it is not improbable that new and important discoveries may be made that will enable the management to declare dividends which its conservatism will not permit it to predict." The General Manager, Mr. Charles M. Rolker, in his report says: "I feel confident that several dividends still lie east of the ground opened by drifts last year. There is considerable ground yet to be cleared up within this area. Ore will be found under the old stopes in the burned district (we have found it already in two places 250 feet apart). Adjoining the Vulture stopes, which yielded the rich chloride ore, is unopened ground. We are now undermining it, and I shall feel disappointed if it does not prove valuable, particularly in sections G and H, 25 and 26. To the west and northwest, indications and prospects are good, so far, for more ore, and we shall continue to follow them in that direction. Many faces are showing ore now."

The President, Dr. R. W. Raymond, in his report, offers still further encouragement to the stockholders. He says: "There are strong indications of a second layer of iron-bearing and probably ore-bearing material, underlying that in which the operations of the company have thus far been carried on. Whether this layer will prove to underlie the whole of the present workings, and to what degree it can be profitably worked, are questions not yet settled, and dependent upon the explorations now in progress and in preparation." This is a very important question to many of the Leadville mines; and if this company should meet with success, the mines of the camp will meet with a genuine "boom." The report of the manager states that the machinery, buildings, etc., have been put in excellent condition for economical work, and the record of the past year gives confidence that the promises made by the present management upon entering into power will be made good throughout the coming year.

The total linear feet of drifts, winzes, rises, and shafts in the mines is 26,403. Of this work, 10,669 feet were driven during the past year, as against 8901 feet the previous year. The area of ground stoped and producing is but 1·9 acres; area of ground opened, 2·8 acres; and area of ground within extreme limits of openings, 13·4 acres. The regular force of men employed has been about 275.

The treasurer makes the following financial statement—October 17th, 1879, to October 8th, 1881:

Cash received:		
Ore from smelters as per statement corrected to Oct. 6th, 1880, 34,043 114/2000 tons		$2,202,371.74
Year ended Oct. 8th, 1881, 12,095 789/2000 tons		976,031.06
Year ended Oct. 8th, 1881, assorted from waste dumps, 761 1660/2000 tons		15,301.37
Interest, claims settled, etc		29,303.14
		$3,223,007.31
General expense accounts, Leadville:		
As per last statement corrected to Oct. 6th, 1880	$37,461.16	
Permanent improvements, extraordinary expense, legal expense to Oct. 6th, 1880	68,563.32	
Year ended Oct. 8th, 1881:		
Salaries	$13,534.96	
Tax, $940.65; insurance, $421.90	1,362.55	
Stationery, telegraph, postage, etc	1,968.33	
Freight and supplies	1,949.27	
Legal expense	4,834.70	
Contribution to illegal tax fund	1,925.00—	25,574.81
Permanent improvements:		
Machinery, $1,894; iron and steel, $604.38	$2,498.38	
Lumber, $475.08; bricks and paint, $73.25	548.33	
Labor	13,947.23	
Patent for framing timber	500.00—	17,493.94— $149,093.23
Mining expense account:		
As per last statement corrected to Oct. 6th, 1880	$610,307.84	
Year ended Oct. 8th, 1881:		
Labor	$225,050.35	
Salaries	4,043.67	
Ore hauling	10,078.67	
Timber and lumber	27,213.20	
Wood, coke, and coal	4,439.09	
Teams and feed	1,782.84	
Iron, steel, hardware, powder, fuse, etc	26,528.20—	$299,136.02— $909,443.86
Hospital fund, Leadville		140.00
General expense account, New York:		
As per last statement corrected to Oct 6th, 1880	$48,185.22	
Legal expenses, advertising account, expense of incorporation to Oct. 6th, 1880	10,571.94	
Year ending Oct. 8th, 1881:		
Salaries, rent, stationery, etc	$10,908.03	
Mutual Trust Co.	250.00	
Taxes	3,000.00	
Legal expenses	952.00	
Advertising	638.20—	15,748.23— 74,505.39
Purchased property		294,209.99
Dividends		1,300,000.00
Unpaid subscriptions		100.00
Cash in New York		490,056.12
" Leadville		5,458.72
		$3,223,007.51

ASSETS.

Cash	$490,056 12
Property	9,999,500.00
Purchased property	294,209.99
Unpaid subscriptions	100.00
	$10,783,863.11

LIABILITIES.

Capital stock	$10,000,000.00
Leadville office	526.34
Suspense account	486.50
Unsettled claims	15,000.00
Profit and loss	767,853.27
	$10,783,866.11

DIVIDENDS.

The Robinson Consolidated Mining Company has declared the regular dividend of 25c. per share, and an extra dividend of 25c. per share, payable November 15th. Transfer-books close on the 5th inst.

The Standard Consolidated Mining Company has declared its regular monthly dividend of 75c. per share, payable November 12th. Transfer-books close on the 5th inst.

The Morning Star Consolidated Mining Company has declared its first dividend of two and one half per cent on the capital stock of the company as organized, payable November 4th. Transfer-books closed on the 31st ult.

The Alice Gold and Silver Mining Company has declared its ninth monthly dividend of 10c. per share, payable on the 15th inst. Transfer-books close on the 10th.

The Tombstone Mill and Mining Company has declared its regular monthly dividend of 10c. per share, payable on the 15th inst. Transfer-books close on the 10th.

NON-DIVIDEND PAYING MINES.

Name and Location of Company.		Number of Shares.	Par.	Assessments. Total levied to date.	Assessments. Date and amount of last.	Highest and Lowest Prices per Share at which Sales were Made. Oct. 29. H.	Oct. 29. L.	Oct. 31. H.	Oct. 31. L.	Nov. 1. H.	Nov. 1. L.	Nov. 2. H.	Nov. 2. L.	Nov. 3. H.	Nov. 3. L.	Nov. 4. H.	Nov. 4. L.
Albion, s. L.	Nev.	150,000	100	.....	Aug. 81	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allouez																	
Alta-Montana, G.	Mon.	500,000	10	*			1.80	1.75	.....	.....	.....	1.75	.....	.....	.....	1.75	.....
Am. Flag, s		125,000	10	*			.....	.....	8c	.....	.....	.....	.....	.....	.....	.....	.....
Bud Mountain, G.	Colo	1,000,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barcelona, G.	Nev	200,000	25	*			88c	82c	85c	84c	86c	85c	85c	82c	.....	.....	75c 77c
Battle Creek.	Dak.	200,000	25	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bear Creek	Colo	3 0,000	1				.....	.....	65c	62c	63c	62c	.....	.....	.....	.....	64c 63c
Bechtel Con., G.	Cal.	100,000	10	162.750	Dec. 81	15	65c	.....	61c	.....	.....	.....	60c	58c	.....	.....	65c .....
Best & Belcher, G.	Nev.	100,800	10	1,043,330	Jly. 81	50	.....	.....	.....	.....	.....	12.38	.....	.....	.....	.....	.....
Big Pittsburg, s. L.	Colo	200,000	100	*			90c	88c	90c	.....	.....	.....	.....	86c	84c	90c	68c
Black Jack, G.	Cal.	1 0, 00	2½	.....	.....		60c	55c	.....	.....	.....	.....	.....	.....	.....	65c	60c
Bonanza Chief	Mon	1,000,000	1	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bondholder	Colo	200,000	2½				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boston Con., G.	Cal.	100,000	100	50,000	Sept. 81	20	25c	.....	21c	19c	.....	.....	.....	.....	.....	.....	.....
Boulder Con., s.	Colo	200,000	10				14c	13c	.....	.....	11c	10c	10c	.....	11c	.....	.....
Bradshaw, s.	Ariz	225,000	10				60c	55c	67c	57c	84c	70c	81c	72c	70c	85c	80c
Buckeye	Colo	100,000	5	*			5c	.....	5c	.....	6c	5c	.....	.....	5c	.....	.....
Bull-Domingo, s. L	Colo	200,000	50	*			70c	60c	68c	.....	.....	.....	.....	.....	70c	.....	.....
Bullion, G. s.	Nev.	100,000	100	3,862,000	Sept. 81	$1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bulwer G.	Cal.	100,000	100	30,000	Dec. 77	50	.....	.....	.....	.....	.....	2.20	2.00	.....	.....	2.25	2.10
Bye and Bye	Ariz	100,000	10	*			17c	16c	16c	.....	.....	.....	.....	.....	14c	13c	.....
Calaveras, G.	Cal..	500,000	1	*			12c	.....	.....	.....	11c	8c	11c	10c	11c	.....	11c .....
Clay's W. & M. Co							49c	.....	50c	.....	.....	.....	50c	.....	.....	.....	.....
Cal., B. H., G.	Dak.	100,000	100	400,000	Mar. 81	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carbonate Hill, s. L	Colo	400,000	10				.....	.....	16c	.....	.....	.....	.....	.....	.....	.....	.....
Catskill, s.	Nev.	3 0,000	5				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Central Ariz'na, s	Ariz	100,000	100				1.75	1.70	1.75	1.50	.....	.....	.....	.....	.....	1.60	1.55
Cherokee, G.	Cal.	150,000	10				1.20	.....	.....	.....	.....	.....	1.20	.....	1.20	1.20	.....
Cheyenne Con., G	Dak.	300,000	1				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clarence							1.80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colorado Cent'l, s	Colo	300,000	10				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columb'a Con., G. s	Nev.	100,000	50				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cons. Imp'r'l, G. s	Nev.	500,000	100	1,375,000	Aug. 81	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	21c	.....
Con. Pacific, G.	Cal.	60,000	100	114,000	Jly 81	40	18c	.....	20c	16c	18c	.....	.....	.....	.....	.....	.....
Con. Pay Rock, s.	Colo	250,000	1				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crescent, s. L.	Colo	3 0,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crowell, G.	N. C.	50 ,000	1				10c	9c	10c	.....	10c	9c	10c	9c	.....	.....	10c 9c
Dahlonega, G.	Ga.	250,000	1	*			5c	.....	.....	.....	.....	.....	.....	.....	5c	.....	.....
Dardanelles, G.	Cal.	100,000	10				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dunderberg, s.	Colo	150,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Durango, G.	Dak.	500,000	1	*			14c	.....	.....	.....	11c	.....	.....	.....	.....	.....	9c .....
Empire, s.	Utah	100,000	100				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enterprise	Colo						.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Exchequer	Nev.	100,000	100	630,000	Sept. 81	25	66c	64c	64c	62c	63c	62c	64c	63c	64c	63c	62c
Globe Copper							.....	.....	.....	.....	1.45	.....	.....	.....	.....	.....	.....
Glyan Dale Con. G	Cal..	100,000	100	75,000	Jan. 81	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gold Placer, G.	Colo	200,000	25	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goodshaw, G.	Cal.	100,000	100	145,000	Feb. 81	15	.....	.....	22c	.....	.....	.....	49c	45c	45c	.....	45c .....
Granville,	N. C.	300,000	1	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harshaw, s.	Ariz	100,500	100				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Head Center, s	Ariz	100,000	100	55,000	May 81	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hortense, s	Colo	200,000	10				1.10	1.05	1.15	1.10	1.10	1.05	1.10	1.05	1.10	1.10	.....
Index							.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Julia, G. s	Nev.	110,000	100		Sept. 81		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kossuth, G. s	Nev.	108,000	100				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lacrosse, G	Colo	100,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Legal Tender, s. L.	Colo	200,0 0	5				1.20	1.10	93c	.....	25c	.....	1.10	.....	1.15	1.10	1.15 1.10
Leviathan, s	Nev	100,000	100	350,000	Mar. 81	25	.....	.....	23c	20c	.....	.....	19c	18c	.....	.....	.....
Lucerne, s.	Colo	500,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Malachite	Nev.	200,000	5				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mariposa Pref., G	Cal.	50,000	100	1,425,000	Dec. 80		5.00	4.65	.....	.....	3.25	3.00	.....	.....	3 50	3 75	.....
Com., G.	Cal.	100,000	100	1,425,000	Dec. 80		4.75	4.25	4.70	4.25	3.25	2 90	3.50	3.00	3.25	3.25	.....
May Belle, G	Cal.	100,000	100	100,000	Sept. 81	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayflower, s	Colo	100,000	100	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mexican, G. s	Nev.	100,800	100	1,600,800	Sept. 81	$1	9.50	8.25	.....	.....	.....	.....	.....	.....	.....	.....	.....
Michoacan Synd.							.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mineral Creek, s.	Ariz	200,000	10	*			12c	11c	13c	11c	13c	11c	13c	12c	12c	13c	.....
Miner Boy, G. s L.	Colo	5 0,000	10	*			49c	.....	50c	49c	51c	49c	50c	48c	50c	48c	55c 49c
Miller	Nev.	200,000	25				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Modoc, G.	Cal.	50,000	100	375,000	Aug. 81	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moose Silver, s.	Colo	3 0,000	10				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nevada Syndi.							.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Standard, G	Cal.	100,000	100				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. Horn-Silv'r, s. L	Utah	400,000	10				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Noonday	Cal..	60,000	100		Jne 81	50	.....	.....	.....	.....	.....	.....	55c	51c	.....	.....	.....
Old Dominion, C.	Ariz	200,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oriental	Nev.	200,000	25				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ori'nt'l & Miller, s	Nev.	400,000	25				72c	64c	71c	63c	71c	64c	80c	68c	82c	75c	80c 73c
Overman, G. s	Nev.	115,20	100	3,460,700	July 81	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rappahannock, G	Va..	250,000	1	*			.....	.....	15c	14c	15c	13c	15c	.....	15c	13c	.....
Red Elephant, s.	Colo	500,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Pedro, G. s L.	N. M	400,000	25				.....	.....	.....	.....	.....	.....	.....	.....	.....	1 25	.....
Silver Cliff, s.	Colo	200,000	50	*			.....	.....	3.30	3.25	3.25	3.20	3.25	3.15	3.20	3.00	3.20 3.00
Silver Islet							.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver Nugget, s.	Ariz	200,000	10	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silv'N. new stk, s	Ariz	250,0 0	10				24c	20c	23c	22c	23c	22c	27c	23c	28c	26c	27c 25c
Sonora Con.							1.00	.....	1.00	.....	.....	.....	.....	.....	.....	.....	.....
South Bodie, G.	Cal.	100,000	100	85,000	Nov. 80	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Bulwer, G.	Cal.	100,000	100	195,000	May 81	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Hite	Cal..	100,000	5				30c	28c	29c	27c	.....	.....	28c	.....	.....	27c	25c
South Pacific							4 0	3.15	5.25	4.25	7.25	5.00	9 50	6.75	9.25	8.00	7.50 6 25
State Line No. 1, s	Nev.	200,000	25				55c	.....	50c	.....	.....	.....	.....	.....	.....	.....	.....
" No. 2, s	Nev.	20 ,000	25				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" No. 3, s	Nev.	200,0 0	25				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" No. 4, s	Nev.	200,000	25				.....	.....	.....	.....	.....	.....	80c	.....	.....	.....	.....
" Nos. 1 & 4, s	Nev.	.....					71c	61c	70c	63c	65c	57c	72c	61c	73c	68c	71c 65c
" Nos. 2 & 3, s	Nev.	.....					3.40	3.15	3.55	3.30	3.40	3.10	3.55	3.35	3.60	3.40	3.70 3.40
Sutro Tunnel	Nev.	2,000,000	10	*			1.40	1.35	1.35	1.25	1.35	1.25	1 40	1.30	1.30	.....	1.35 .....
Tabor Mine Co	Colo	250,000	20				.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Taylor Plumas							25c	2 c	2 c	19c	19c	.....	.....	.....	.....	18c	18c .....
Tioga, G.	Cal.	100,000	100	261,000	Aug. 81	20	.....	.....	25c	.....	.....	.....	25c	.....	.....	.....	25c .....
Tuscarora, s	Nev.	100,000	100	95,000	Apr. 81	15	.....	.....	3c	.....	4c	.....	.....	.....	3c	.....	3c .....
Unadilla, s.	Colo	500,000	1	*			.....	.....	.....	.....	.....	.....	.....	.....	7c	.....	.....
Union Cons, G. s.	Nev.	100,000	100	1,160,000	Jly 81	$1	14.00	13.75	15.00	14.0	15.13	.....	.....	.....	.....	.....	.....
Vandewater, s.	Nev.	200,000	10	*			29c	26c	27c	.....	28c	26c	37c	30c	35c	32c	33c 31c
Washington, s.	Ariz.	200,000	5	*			20c	.....	21c	.....	.....	.....	.....	.....	.....	.....	23c .....
Willshire, G.	Cal.	50,000	1	*			.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
							.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
							.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

SALES.—Alta-Montana, 1400; American Flag, 1000; Barcelona, 7100; Bear Creek, 2500; Bechtel Cons., 700; Best & Belcher, 300; Big Pittsburg, 2900; Black Jack, 5300; Boston Cons., 1007; Boulder Consolidated, 4100; Bradshaw, 25,900; Buckeye, 3300; Bull-Domingo, 500; Bulwer, 700; Bye and Bye, 4000; Calaveras, 2800; Calaveras W. & M. Co., 400; Carbonate Hill, 100; Central Arizona, 3100; Cherokee, 1800; Clarence, 500; Consolidated Imperial, 200; Consolidated Pacific, 2800; Crowell, 5500; Dahlonega, 300; Durango, 2300; Enterprise 4100; Globe Copper, 100; Goodshaw, 2600; Index 16,100; Legal Tender, 400; Leviathan, 2500; Mariposa, Preferred, 900; Common, 4846; Mexican, 270; Mineral Creek, 54,000; Miner Boy, 31,200; North Horn-Silver, 3200; Oriental & Miller, 82,500; Rappahannock, 5000; San Pedro, 100; Silver Cliff, 450; Silver Nugget (new), 15,200; Sonora Consolidated, 600; South Hite, 3600; South Pacific, 33,700 State Line No. 1, 200; State Line No. 4, 100; Nos. 1 and 4, 39,65?; State Line Nos. 2 and 3, 185,350; Sutro Tunnel, 7000 Taylor-Plumas, 3400; Tioga, 1500; Tuscarora, 1300; Unadilla, 2000; Union Consolidated, 250; Vandewater, 20,600 Washington, 2000. Non-dividend shares sold, 617,866. Total shares sold at all the exchanges, 904,306.

UNLISTED QUOTATIONS.

Mr. L. V. Deforeest, No. 70 Broadway, under date of November 4th, 3 P.M., reports the current quotations of unlisted stocks as follows:

	Bid.	Off'd.		Bid.	Off'd.
Colum. & Beaver.	$1.00	$1.25	Menlo	....	$1.25
Highland Chief	1.60	....	Satemo	....	1.25

REVIEW OF THE SAN FRANCISCO MARKET.

With the exception of a slight decline in Union Consolidated and Gould & Curry, the principal stocks in the San Francisco list show an improvement. The principal features are Northern Belle and Ophir. The latter stock has advanced to $7⅛ from $5⅝, as quoted a week ago. Savage is somewhat lower. This influenced, no doubt, through the assessment of 50c. per share levied on the 3d inst. Exchequer is unchanged. The annual report of this mine shows the receipts from assessments for the year to have been $64,800, and the expenses $63,600. No ore was produced, nor is there any in the mine at present.

The following dispatch has been received, dated San Francisco, November 1st:

The north lateral drift in Overman has been completed from the shaft to the north line. The south lateral is being run. It is reported that cross-cuts will be run from the 2300 level before the south lateral is completed. The price

of the stock is hardening in anticipation of the results of cross-cutting.

Low-grade ore is to be extracted from Silver Hill.

The Alta east cross-cut is out 250 feet, but it still has a long distance to run to reach the point where high assays were reported to have been obtained by the diamond-drill ore a year ago.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

Name of Company	Closing Quotations. Oct. 28.	Oct. 29.	Oct. 31.	Nov. 1.	Nov. 2.	Opening. Nov. 3.	Opening. Nov. 4.
Alpha	3¾	3⅞	4	4	.....	4	.....
Alta	4	4⅛	4⅛	4¼	.....	4¼	.....
Bechtel	7- 2	½	.....	19-32	9-16	19-32	.....
Belcher	1¾	1¾	2¾	2⅞	2¾	2¾	.....
Belvidere	.....	.....	.....	.....	.....	.....	.....
Best & Bel	11½	11¾	12	12⅜	11⅞	11¾	.....
Bodie	6½	6⅞	6¾	6⅞	6¼	6¾	.....
Bullion	1¾	1¾	1¾	2	1⅞	1¾	.....
Bulwer	.....	.....	.....	2	2¼	.....	.....
California	¾	¾	13-16	¾	13-16	13-16	.....
Chollar	2	2¼	.....	2¼	2⅛	2	.....
Con. Va	2¼	2⅜	2⅜	2⅜	2⅜	2¼	.....
Crown P'int	2	2	2⅛	2⅜	2⅛	2	.....
Eureka Con	18	17½	.....	18¼	16½	.....	.....
Exchequer	1⅜	1⅜	1⅜	1½	1⅜	1⅜	.....
Goodshaw	.....	.....	.....	.....	.....	.....	.....
Gould & Cur	7	7¼	7⅛	7⅛	7	6⅞	.....
Grand Prize	.....	.....	.....	.....	.....	.....	.....
Hale & Nor	3	3	3⅛	3⅛	3⅛	3	.....
Manhattan	1½	.....	.....	.....	.....	.....	.....
Mar. White	.....	.....	.....	3	.....	3½	.....
Mexican	8½	8½	8⅜	8⅜	8¼	8⅜	.....
Mono	1¼	1½	.....	1½	1½	1½	.....
Mt. Diablo	7½	7½	6¾	6¾	6½	6	.....
Navajo	.....	.....	.....	.....	13-22	.....	.....
North. Belle	11¾	11½	11¾	12⅜	12⅝	14⅜	.....
Noonday	13-32	7-16	.....	½	7-16	.....	.....
Ophir	6⅝	6⅞	7	7	7⅛	7¼	.....
Oro	5-16	.....	.....	5-16	11-32	11-32	.....
Overman	2⅜	2½	2½	2½	2⅜	2¼	.....
Potosi	2½	2⅝	2¾	2⅝	2½	2⅝	.....
Savage	3⅞	4	4	3⅞	3⅝	3⅝	.....
Scorpion	1½	1½	1⅝	1⅝	1½	1½	.....
Sierra Nev.	13⅞	14⅜	14⅜	14½	14¼	14	.....
Silver King	19¼	19½	.....	19¾	.....	.....	.....
So. Bodie	.....	.....	.....	.....	.....	.....	.....
So. Bulwer	.....	.....	.....	.....	.....	.....	.....
Tioga	.....	.....	.....	.....	.....	.....	.....
Tip Top	.....	5¾	.....	5½	.....	.....	.....
Tuscarora	.....	.....	.....	.....	.....	.....	.....
Union Con.	13⅞	14	14⅛	14	13¾	13½	.....
Wales Con.	.....	.....	.....	½	.....	.....	.....
Yel. Jacket	3¾	3¾	4¼	4⅜	4⅛	4⅛	.....

Gas Stocks.

The following list of companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 17 Wall street, New York. Quotations are based on the equivalent of $100.

Companies in New York and Vicinity.	Capital Stock.	Par.	Dividends. Rate per ann.	Am. of last.	Date of last.	Quotations. Bid.	As'd.
	$		P. ct.				
Mutual, N. Y.	5,000,000	$100	6	1½	Oct. '81	74	77
" Bonds	900,000	1,000	6	3½	July '81	104	135
N. York "	4 000,000	.....	8	4	Nov., '81	103	104½
Metrop. "	2,500,000	100	10	6	Feb., '81	147	152
" Bonds	700,000	.....	3	.....	.....	108	110
Harlem "	1,850,000	50	.....	3	Feb., '78	92	93½
Manhat. "	4,000,000	50	.....	5	Aug., '81	210	214
Brooklyn, Bkln.	2,000,000	50	.....	5	April, '81	187	190
Nassau	1,000,000	25	.....	2½	Jan., '81	65	70
" Certfs	700,000	1,000	7	3½	May, '81	100	103
People's	1,000,000	10	.....	3½	Jan., '76	34	37
" 1st m. Bonds	400,000	.....	7	3½	May, '81	103	106
Bonds	100,000	.....	6	3	Jan. '81	60	90
Metrop. "	1,000,000	100	5	2½	July' 81	65	70
W'msb'g "	1,000,000	50	.....	2	Jan.. '81	68	75
" Bonds	1,000,000	1,000	6	3	April '81	101	104
Citizens'	1,200,000	20	.....	3½	April '81	55	60
" Bonds	315,000	1,000	.....	3½	April '81	105	110
J. C., N. J	750,000	20	.....	7½	July, '81	160	170
Municipal, N. Y.	2,000,000	100	.....	5	June '81	170	176
" Bonds	750,000	100	7	3½	May, '81	105	110
Fult'n M'nicipal	1,500,000	100	.....	.....	.....	60	70

Copper and Silver Stocks.

Reported by C. H. Smith, 15 Congress street, Boston, Stock Broker and Member of the Boston Mining and Stock Exchanges.

BOSTON, Nov. 3.

The market for copper stocks the past week, with the exception of Calumet & Hecla, and Quincy, has ruled extremely dull, and the prospect for a boom in this class of securities this fall is not very promising. In silver stocks, the only feature of interest was Silver Islet, which opened strong at $40, advanced to $41, and again declined to $35. The rest of the list at the regular Board was dull and inactive. At the Boston Mining Exchange, there has been at times a good degree of activity in a few leading stocks, but the market generally has a declining tendency. Calumet & Hecla opened at $218½, and steadily advanced to $225, closing at $224. Quincy has been in active demand, and has advanced from $39½@$41¼, closing at $41. Osceola was steady at $39½@$29¾. Pewabic ranged from $13@$13¾. In Atlantic there was a small sale at $14. There was nothing doing in the balance of the list.

In silver stocks, the demand for Silver Islet caused the market to be very firm at the closing price of last week, with an advance to $41. As soon as the orders were filled, the market drooped, and finally declined to $35; closing, $35¾.

At the Boston Mining Exchange, the feature of the week was the decline in Twin Lead, which closed at last week's report at about $1, and under the pressure of forced sales declined rapidly at one session of the board to 58c., and still later to 51c., since which it has ruled comparatively steady at 48@50c.; the sales of this stock alone aggregating over 100,000 shares.

Deer Isle has been fairly active, and the market was well sustained, prices ranging from 90c.@$1.04 as extremes. Milton continues to be a leading stock, and steadily advances on strong buying from 10@15c. Closing prices to-day are $1.06@$1.07 regular, and $1.25 buyer 60, showing a good margin for turns. Empire, which declined to 23c., advanced to 31c., and has been fairly active. The remainder of the list requires no special comment.

3 P. M.—The market this afternoon shows no special change at either Board, and prices are fairly steady. We give some of the closing quotations: Calumet & Hecla offered at $224; Franklin offered at $12½; Pewabic, $13 bid, $13½ asked; Osceola, $29 asked; Quincy, $41 bid, $42 asked; Silver Islet, $37 asked; Harshaw, $5¾ bid, $6 asked; Twin Lead, 50c. bid, 51c. asked; Deer Isle, $88 bid, $90 asked; Milton, $1.06 bid, $1.07 asked; Empire, $28 bid, $30 asked.

Coal Stocks.

NEW YORK, Friday Evening, Nov. 4.

There has been a comparatively light business transacted in these stocks the past week, and the quotations show but little change. The sales include 106,516 shares of Delaware, Lackawanna & Western at $128@$126½, 8200 shares of Delaware & Hudson Canal at $109½@$108¾, 37,650 shares of New Jersey Central at $96¾@$94¼, 33,700 shares of Reading at $69@$67⅞, 2300 shares of Colorado Coal and Iron at $51⅞@$50, 6700 shares of Cameron at $36½@$38¾, 200 shares of Cumberland at $34, and 400 shares of New Central at $26¾@$26.

BOSTON MINING STOCKS.

	Oct. 27. H.	Oct. 27. L.	Oct. 28. H.	Oct. 28. L.	Oct. 29. H.	Oct. 29. L.	Oct. 31. H.	Oct. 31. L.	Nov. 1. H.	Nov. 1. L.	Nov. 2. H.	Nov. 2. L.	Sales.
Adrie Con	1.02	.....	1.02	.....	1.03	.....	1.02	.....	1.08	.....	.....	.....	1,400
Allouez	3⅜	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	350
Ariz. Queen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlantic	.....	.....	.....	.....	14.00	.....	.....	.....	.....	.....	.....	.....	20
Beacon Hill	1.02	.....	1.04	1.03	1.03	.....	1.05	1.04	1.05	.....	1.03	.....	2,250
Blue Hill	.....	.....	1 50	.....	1.50	1.37½	1.50	1.25	1.50	.....	.....	.....	1,050
Bonanza Devel	.....	.....	.....	.....	5⅛	.....	5⅛	.....	.....	.....	5⅛	.....	3,100
Brunswick Ant'y	.....	.....	8.00	.....	.....	.....	.....	.....	.....	.....	6.50	6.00	105
Cal. & Hecla	218.00	.....	218.50	218.00	221.00	220.00	225.00	223.00	225.00	.....	224.00	.....	177
Catalpa	.....	.....	.....	.....	.....	.....	1.00	.....	.....	.....	1.00	.....	450
Cedar Springs	.89	.81	.89	.....	.90	.81	.82	.....	.....	.....	.90	.82	10,750
Central Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Commonwealth Mica	1.25	1.18	1.33	1.25	1.35	1.30	.....	.....	1.40	.....	.....	.....	3,300
Columbus Gold	1.25	.....	1.25	.....	.....	.....	1.25	1.18	1.18	1.15	1.15	.....	1,300
Copper Falls	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copperopolis	2.12	2.11	2.15	2.14	2.25	2.10	2.15	2.14	2.15	.....	2.15	2.12	3,050
Crescent	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crystal Mica	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	98.00	.....	5
"Cusi"	.....	.....	2.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	300
Dana	.....	.....	.....	.....	.....	.....	.....	.....	.30	.....	.....	.....	100
Deer Isle	1.05	.89	1.00	.92	1.04	.93	1.02	.93	1.10	.88	1.00	.90	42,300
Douglass	.....	.....	1.50	1.37½	1½	.....	1.37½	1.25	1.75	1.37½	1.25	.....	1,300
Duncan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.25	..	500
Dunkin	.....	.....	.40	.....	.40	.....	.....	.....	.....	.....	.....	.....	300
Edgemoggin	.50	.....	.....	.....	.....	.....	.50	.....	.50	.42	.50	.....	5,500
Empire	.30	.25	.28	.23	.....	.....	.29	.....	.32	.30	.31	.....	24,160
Eureka Tunnel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.50	.....	100
Franklin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galena Hill, pref	.....	.....	.....	.....	.....	.....	.....	.....	.51	.....	.53	.....	300
Gem	.51	.....	.....	.....	.....	.....	.53	.....	.53	.....	.....	.....	550
Golden Development	2.30	.....	.....	.....	.....	.....	.....	.....	2.31	.....	.....	.....	200
Granger	.03	.....	.04	.....	.05	.....	.....	.....	.05	.....	.....	.....	2,700
Harshaw	5.50	5.25	6.50	6.00	6.50	6.00	5.75	.....	.....	.....	.....	.....	445
Hopewell Mang	.71	.63	.71	.64	.75	.66	.75	.66	.75	.64	.75	.57	33,500
Huron	.....	.....	.....	.....	.....	.....	.....	.....	3.75	.....	.....	.....	50
Indian Queen	.....	.....	3.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	100
Mammoth Copper	.67	.65	.64	.63	.64	.63	.63	.62	.55	.....	.....	.....	4,000
Mascot	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mass. & N. Mex	.22	.....	.23	.22	.23	.....	.23	.21	.22	.....	.23	.22	10,000
Mendocino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mesnard	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milton	1.20	1.02	1.22	1.06	1.22	1.05	1.22	1.03	1 22	1.04	1.25	1.05	41,600
Napa	7.00	.....	.....	.....	7.00	.....	6⅞	.....	7.00	.....	7.00	.....	825
National	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. Castine	.....	.....	.....	.....	.....	.....	.....	.....	.06	.....	.....	.....	200
Osceola	.....	.....	29¾	.....	.....	.....	29½	.....	.....	.....	29½	.....	34
Peabody	.62	.....	.62	.....	.....	.....	.63	.62	.63	.....	.68	.60	8,800
Pewabic	.....	.....	13.00	.....	13.00	.....	.....	.....	13.00	.....	.....	.....	275
Pine Tree	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1¼	.....	100
Port & Sullivan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy	39½	.....	39⅞	39½	39½	.....	39⅝	39½	39½	.....	41¼	40	1,357
Ridge	.....	.....	.....	.....	.....	.....	.....	.....	3.00	.....	.....	.....	25
San Pedro	1½	1 7-16	1½	.....	1½	.....	1½	.....	1½	.....	1 9-16	1½	4,800
Silver Hill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver Islet	40.00	35.00	41.00	39.50	39.00	.....	39¼	.....	38.00	35.00	.....	.....	2,323
Silver Lake	.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	100
Simpson Gold	.06	.....	.10	.07	.10	.08	.....	.....	.....	.....	.....	.....	14,800
Sullivan	.....	.....	3.25	.....	.....	.....	3.00	.....	.....	.....	.....	.....	300
Sycamore	.....	.....	.....	.....	.90	.....	.96	.....	.....	.....	.95	.90	1,025
Tremont Silver	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Twin Lead	1.05	.90	.96	.91	.98	.92	.91	.50	.56	51	.56	.49	93,700
Young Hecla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COAL STOCKS.

Name of Company.	Capital Stock.	Shares. No.	Shares. Par Val.	Last Dividend. Mo.	Last Dividend. Y.	Last Dividend. R't.	Rate per Ann.	Quotations of New York stocks are based on the equivalent of $100. Philadelphia prices are quoted so much per share. Oct. 29. H.	Oct. 29. L.	Oct. 31. H.	Oct. 31. L.	Nov. 1. H.	Nov. 1. L.	Nov. 2. H.	Nov. 2. L.	Nov. 3. H.	Nov. 3. L.	Nov. 4. H.	Nov. 4. L.	Sales from Oct. 27th to Nov. 3d Inclusive.
	$		$				Per c'nt													
Am. Coal Co.	1,500,000	60,000	25	.....	..	.....	...	37¾	36⅞	38⅝	38	38¾	38¼	37⅝	.....	38	37⅝	.....	.....	6,700
Cameron C'l.	2,500,000	50,000	50	.....	..	.....	...	51⅞	51⅜	51	.....	50½	.....	50⅝	50¼	.....	.....	.....	.....	2,300
Col. C. & I.	10,000,000	100,000	10	.....	..	.....	...	28⅝	.....	29	28⅝	29	.....	28¾	.....	28¾	.....	.....	.....	2,037
Ches. & O. RR	15,000,000	150,000	100	.....	..	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Consol. Coal.	10,250,000	102,500	100	Jan.	77	2½	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumb. C. & I.	500,000	5,000	100	.....	..	.....	...	.....	.....	34	.....	.....	.....	34	.....	.....	.....	.....	.....	200
Del. & H. C.	20,000,000	200,000	100	Sept	81	1½	6	+	109¼	109¾	109	109¼	108¾	109¾	108¾	109¾	109¾	109¾	109¾	8,200
D., L. & W. RR	26 000 000	524,000	50	Sept	81	1¾	7	‡	127⅛	127⅝	126⅛	127⅛	126¼	127⅛	126¼	127¾	126¼	126¾	.....	106,516
Lehigh C. & N	10,448,550	208,971	50	Sept	..	1½	5½	47	.....	47	46¾	46¾	46½	46¾	46¾	46¾	46¾	.....	.....	6,112
Leh. V. y R. R	27,042,900	540,858	50	Oct.	81	.....	6	62	61⅜	62	.....	61⅜	61½	62	61½	62	61½	.....	.....	1,687
Mary'd Coal	4,400,000	44,000	100	.....	76	1½	1½	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montauk C'l.	2,500 000	25,000	100	.....	..	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morris & Es'x	15,000,000	300 000	50	July	81	.....	7	§	.....	.....	.....	125½	.....	124¾	.....	.....	.....	.....	.....	320
New Cen. C'l	5,000,000	50,000	100	Apr	80	2	...	.....	.....	26	.....	26¾	26	26¼	26	.....	.....	.....	.....	400
N. J. C. RR.	20,000,000	200,000	100	Oct.	76	2½	2½	96⅜	96	96¾	95⅜	96	94¾	93	94⅛	96⅜	95⅜	.....	.....	37,650
Penn. Coal	5,000,000	100,000	50	May	79	3	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn. R. R.	68,870,200	1,337,404	50	July	81	4	...	66¾	66¼	66¼	65⅝	65⅞	65⅝	63¾	63½	64	63⅝	.....	.....	14,226
Ph. & R. RR*	34,278,150	685,563	50	.....	76	2¼	10	69	68⅝	69	67¾	68	67⅛	68¾	67¾	68¾	.....	.....	.....	57,642
Spring Mt. C'l	1,500,000	30,000	50	.....	..	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

† 109½. ‡ 128. § 125¼. Total Sales.. 273,999.

*Of the sales of this stock, 23,942 shares were in Philadelphia and 33,700 in New York.

BULLION MARKET.

Friday Evening, Nov. 4.

The market looked firmer about the middle of the present week, but the award of an extra amount of bills by the Indian Council on Wednesday had the effect to lower and weaken the market, and it is now rather nominal at the rate given in annexed table.

Date.	London Pence.	N. Y. Cents.	Date.	London Pence.	N. Y. Cents.
Oct. 29	51⅛	112⅜	Nov. 2	51 15-16	*
Oct. 31	52	*	Nov. 3	51 15-16	112⅜
Nov. 1	52	112⅜	Nov. 4	51 15-16	112⅜

* 112⅜@113⅝

BULLION PRODUCTION FOR 1881.

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

The shipments of silver bullion are valued at $1.29·29 per ounce, Troy; gold at the standard $20.67 per ounce, Troy. The actual value of the silver in the following table is therefore subject to a discount, depending on the market price of silver. If the price of silver be counted at $1.12 per ounce, which has for some months been about its average value, the following figures, where they relate to silver bullion, should be diminished by about 13⅓ per cent to arrive at actual value.

Mines.	States.	For the week.	Month of October.	Year from Jan. 1st, 1881.
Alice, G. S.	Mont.			$538,360
Barbee & Walker, S.	Utah.	$4,169	$17,375	171,438
*Belle Isle, G. S.	Nev.			12,060
*†Big Pittsburg, S.	Colo.			57,949
*Black Bear, G.	Cal.			84,976
Bodie, G.	"	7,000	20,970	364,807
*Caledonia, G.				101,974
California, G. S.	Nev.		8,030	118,694
Caribou, S.	Colo.			115,804
*Castle Dome	Ariz.			197,259
*Christy, S.	Utah.			227,250
*†Chrysolite, S.	Jolo.			736,451
Concordia, G.	Cal.			2,234
Connor, S.	Utah.		10,362	96,083
Con. Virginia, G. S.	Nev.			148,960
Crismon-Mammoth, G.	Utah.		2,698	56,602
*Custer, G. S.	Idaho.		22,677	677,248
*Deadwood-Terra, S.	Dak.		19,784	509,720
*Derbec, Blue Grav., G	Cal.			78,622
*Eureka Con., G. S. L.	Nev.			852,022
Exchange Silver	"			44,400
Fresno Enterprise, G.	Cal			9,600
Grand Central	Ariz.			505,854
*Grand Prize, S.	Nev.			51,658
Hale & Norcross, G. S.	"			33,090
Harshaw, S.	Ariz.			297,006
*Head Center	"			80,231
*Homestake, G.	Dak.		47,209	910,327
Horn-Silver, S. L.	Utah.	72,500	179,500	1,220,999
Idaho, G.	Cal.			314,100
*Independence, S.	Nev.			17,108
*Indian Queen, S.	"			162,410
Iron Silver	Colo.			327,600
Jocuista, S.	Mex.			314,388
*†Little Chief, S. L.	Colo.			169,645
Mack Morris	Ariz.		5,140	152,178
*Modoc	Cal.			34,704
Morning Star	Colo.			15,200
*Mount Potosi, G. S.	Nev.			74,319
*Navajo	"			128,124
New York & Arizona.	Ariz.			2,755
Noonday, G.	Cal.			197,343
Northern Belle, S.	Nev.	21,000	60,160	1,041,766
*Oneida, G.	Cal.			46,045
*Ontario, S.	Utah.		149,028	1,914,043
*Ophir, G. S.	Nev.			5,170
Pascoe, S.	Utah.			29,950
Rebellion	"			10,512
Richmond, S. L.	Nev.		19,884	672,135
Robinson Con., S.	Colo.			129,000
*Sierra Nevada, G. S.	Nev.			179,001
*Silver Bow, G. S.	Nev.			384,406
Silver Cliff	Colo.			26,925
Silver King, S.	Ariz.		52,000	462,358
Sonora Con. M. & M. Co	"			3,000
Standard, G.	Cal.	39,660	140,947	1,673,359
*Star, G.	Nev.			233,755
Stormont, S.	Utah.	10,657	36,840	207,911
Sullivan, S. L.	Maine.			5,340
Syndicate, G.	Cal.			78,587
Tintic M. and M. Co.	Utah.			92,650
*Tip Top, S.	Ariz.			255,029
*Tombstone	"			1,126,413
*Union Con., G. S.	Nev.			43,100
Vandewater	"			1,700
*Vizina	Ariz.			328,045
*Western	"			1,079,212
Total amount of shipments to date				$20,251,564

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

United States Assay Office.—The following is the business statement of this office at New York for the month ending October 31st, 1881:

Deposits of gold:		
Foreign coin	$5,000,000	
Foreign bullion	2,000,000	
United States bullion	700,000	
United States bullion (re-deposits)	9,000	
Jeweler's bars	105,000	$7,814,000
Deposits of silver:		
American coin defaced	2,400	
Jeweler's bars	20,000	
Foreign coin	19,000	
Foreign bullion	15,600	
United States bullion (contained in gold)	11,000	
United States bullion (re-deposits)	8,000	
United States bullion, Colorado	68,000	
United States bullion, Idaho	2,000	
United States bullion, Lake Superior	600	
United States bullion, Montana	25,000	
United States bullion, Nevada	5,000	
United States bullion, New Mexico	20,300	
United States bullion, Utah	200,000	
United States bullion, Arizona	23,000	
United States bullion, Dakota	100	
United States refunded bars	120,000	540,000
Total deposits		$8,354,000
Gold bars stamped	$2,464,901	
Silver bars stamped	592,161	3,057,063

Bullion Receipts at New York.—The bullion received from the mines at the various offices in this city during the week ended October 27th, as compiled from various sources, amounted to $322,319.41, as against $276,659.50 reported for the previous week. The receipts from January 1st to date are $14,272,386.74.

Exports of Gold and Silver from New York.

Week ending October 29th	$176,619
Corresponding week last year	210,450
Since January 1st	9,282,210
Corresponding period last year	6,872,121

Imports of Gold and Silver Coin and Bullion.—The excess of imports of gold and silver coin and bullion was as follows:

Twelve months ended September 30th, 1881	$77,321,563
" " " " 30th, 1880	71,432,893
	$5,888,670

Foreign Bank Statements.—In London, the weekly statement of the Bank of England showed a loss of £386,000 gold. In Paris, the weekly statement of the Bank of France showed a specie increase of 7,475,000 francs gold, and a decrease of 10,475,000 francs silver. In Berlin, the weekly statement of the Imperial Bank showed a specie increase of 1,660,000 marks.

METALS.

NEW YORK, Friday Evening, Nov. 4.

The week under review has been a quiet one, with more inclination to weakness than strength. Consumption, however, continues without the least abatement; and the prospects are generally very flattering, although periods of quietness may bring temporary declines.

Copper.—The business in this article has been very small, but prices are a shade firmer. The consumption is enormous. Outside copper is well contracted ahead, while the contractors for Lake copper have been taking it much more rapidly than was anticipated, and leaving the market practically in the hands of the Lake companies. We quote at 18⅛@18¼c.

The monthly returns of the Bureau of Statistics for the period ended August 31st contain the following data on the exports and imports of copper, in pounds, for the first eight months of 1881 and 1880:

	August, 1881.	Eight months, 1881.	Eight months, 1880.
Imports	42,181	430,227	4,318,849
Re-exports	22,019	165,405	233,457
Net imports.	20,162	264,822	4,085,392
Exports	260,152	6,588,105	274,471

Our London advices by mail include October 21st, from which we take the following:

Oct. 15th and 17th. Sales about 750 tons, at £62¾@£63 cash for g. o. bs., and £64 three months. Charters for the first fortnight of the month advised as 2000 tons, as follows: 750 tons Bars and Ingots, 550 tons pure in furnace material for England, 700 tons Bars for orders here or France:

		1881. Tons.	1880. Tons.
Charters.	Jan. 1st to Sept. 30th	27,583	31,788
	Oct. 1st to 15th	2,000	2,264
Shipments.	Jan. 1st to Sept. 30th	25,484	32,881
	September only	2,500	2,709
		1879. Tons.	1878. Tons.
Charters.	Jan. 1st to Sept. 30th	40,280	36,202
	Oct. 1st to 15th	2,066	1,187
Shipments.	Jan. 1st to Sept 30th	38,869	35,563
	September only	5,050	4,915

Price of Bars at Valparaiso on 14th inst. was $18.50; exchange, 33¼d., which, with steamer freight of 60s., is equal to £63 Liverpool, without commission to merchants either side.

The sale reported was a small lot to arrive at £64.

Oct. 19th. A small business at £63 cash.

Oct. 20th. Sales only about 100 tons, at £63 cash for g. o. bs., and £63¾ forward delivery.

Oct. 21st. Market quiet and prices nominal at £63 for g. o. bs. Wallsroo is quoted at £69@£70, and Burra, £68½@£69; English Tough is quoted at £66½, and Select at £69@£71.

Tin.—The sales for the week aggregate about 500 tons, the purchases having been made mostly for London speculators at 20¾@20⅞c. At the close, the market is weak at 21c. London cables £97 5s. spot cash, and £98 10s. futures. Singapore quotes $30¾; Penang, $30.45, with exchange at 3s. 9⅛d. L. & F. is quoted at 22⅛@22¼c., and Banca at $24@$25.

The import movement in tin for the first eight months of the year is given as follows in the recent monthly publication of the Bureau of Statistics, the figures being in cwts.:

	August, 1881.	Eight months, 1881.	Eight months, 1880.
Imports	12,208	100,353	204,134
Re-exports	127	4,526	4,180
Net imports.	12,081	95,827	199,956

Our London advices by mail include October 21st, from which we take the following:

Oct. 15th and 17th. Sales about 200 tons at 97@97⅝s. sharp cash; 97½@98s. fourteen days and one month; and 98¼@98¾s. three months.

Oct. 18th. Sales about 250 tons at 97⅝s. sharp cash; 97⅞s. prompt payment; 98s. fourteen days; 98¼@98⅜s. one month; and 98¾@99s. three months.

Oct. 19th. Sales about 200 tons at 97⅝@97⅞s. sharp cash; 98@98⅛s. early prompts; 98¼s. fourteen days; 98⅛s. one month; 98⅞@99⅛s. three months.

Oct. 20th. Sales about 150 tons at 97⅝@97½s. sharp cash; 98⅛@97¾s. fourteen days; and 98⅞@98½s three months.

Oct. 21st. The market irregular but active. Sales about 350 tons at 97½@97⅝s. sharp cash; 97¼@97¾s. fourteen days; 97½@98s. one month; and 98¾s. three months.

Mr. E. P. White, in his circular, says:

	Oct. 1, 1881.	Tons
Stock in all hands, New York, Boston, and Philadelphia		1,490
Imported during October, Straits and Malacca, into Boston	50	
Imported during October, Straits and Malacca, into New York	995	
Imported during October, Australian, into New York	140	
Imported during October, Billiton and Banca, into New York	45	
Imported during October, L. & F., into New York	20	1,250
		2,740
Consumption during October		700
Total spot stock		2,040
Afloat to date, Straits and Malacca, Aug., Sept., and Oct. shipments, per sail	80	
Afloat to date, Straits and Malacca, Aug., Sept., and Oct. shipments, per steamers	1,735	1,815
Total in all hands, spot and afloat		3,855

The deliveries from stocks in Great Britain and Holland continue upon an increased scale, having reached the unprecedented figure of 2425 tons during the past month thus reducing Europe's available supplies another 10 per cent, and to the lowest point reached during the last five or six years, and from all appearances this increased consumption is likely to continue. This will explain in part the eagerness displayed of late by European operators of securing supplies in this market.

Tin Plates.—These have been very quiet in a large way, although there is an increase of jobbing business. The foreign market is quiet and steady. We quote per box as follows: Charcoal tins, Melyn grade, ⅛ cross, $6¼; Allaway grade, $5⅞@$6. Charcoal Roofing, Dean grade, $5½ for 14 × 20, and $11½ for 20 × 28; Allaway grade, $5¼ for 14 × 20, and $11@$11¼ for 20 × 28. Coke Roofing, B. V. grade, $5.15@$5⅛ for 14×20, and $10¼ for 20×28. Coke tins, B. V. grade, IC, $5.20, and ICW, $4⅞@$5.

Messrs. Robert Crooks & Co., of Liverpool, under date of October 20th, says of tin and terne plates: At the quarterly meeting at Birmingham on the 13th, few of the makers would listen to less than 17s. for B. V. grade coke tin, and there would have been no difficulty in selling any brand at 16s. 6d., and favorite brands at 16s. 9d. Buyers would not advance to manufacturers' views, and the result has been, as frequently of late, that the weak holders have given way, and pressed sales at what buyers were willing to pay, and now buyers hold back. The continued advance in material makes it most probable that the relapse is temporary. In ternes there is little demand, and except for favorite brands no advance of consequence from bottom. Charcoal tins, especially those suitable for stamping, have been sold in quantity at prices varying from 6d. to 1s. 6d. above lowest figures, and are now firm. The advance in tin tells most on this grade.

Lead.—The sales amount to only about 500 tons at 5c. Stocks are very small, but consumers are only purchasing for pressing necessities.

The monthly returns of the Bureau of Statistics for the period ended August 31st contain the following data on the exports and imports of lead, in pounds, for the first eight months of 1881 and 1880:

	August, 1881.	Eight months, 1881.	Eight months, 1880.
Imports	301,030	4,787,606	6,420,532
Re-exports	204,352	710,310	30,875
Net imports.	96,678	4,077,296	6,389,657

Spelter and Zinc.—There is but very little doing, and both are very scarce. We quote Spelter at 5½@5¾c., and Sheet Zinc at 7½c.

According to the returns of the Bureau of Statistics for the month of August, the movement in spelter and zinc was as follows, all figures being given in pounds:

	August, 1881.	8 months, 1881.	8 months, 1880.
Imports	121,253	1,297,199	5,854,173

For sheet zinc, the following figures are given, the exports of domestic, however, including metallic zinc :

	August, 1881.	Eight months, 1881.	Eight months, 1880.
Imports	83,230	1,458,727	3,366,012
Re-exports	.....	16,586	49,113
Net imports.	83,230	1,442,141	3,317,799
Exports	503,413	795,413	1,479,452

Antimony.—There has been no business worthy of note. We quote Cookson's at 14c. and Hallett's at 13¼c.

Quicksilver.—The San Francisco *Commercial Herald* of October 27th says :

Under the influence of a rise to £7 per flask in the London market, many holders here now ask 42c., but the demand is extremely light. Joseph Bennett Brothers, of London, make the following market report under date of October 8th:

JANUARY TO SEPTEMBER (INCLUSIVE).

	Exports. Pounds.	Exports. Flasks, about.	Imports. Pounds.	Imports. Flasks, about.
1880	848,906	11,243	3,453,696	45,744
1881	1,297,350	17,183	3,483,467	46,138

The imports are without change, while the exports continue to improve. London quotations to-day, £6 9s.@£6 10s. per flask, since advanced to £7, as we learn by cable.

The exports for the week by sea were as follows :

To Dunedin, N. Z., per Australia, hence 22d inst.:

	Flasks.	Value.
Hugh Craig	10	$325
Previously since January 1st, 1881	28,801	836,445
Totals	28,811	$836,770
Totals same period, 1880	27,672	835.001
Increase in 1881	1,139	$1,769

Receipts since January 1st, 1881, 44,138 flasks.

The exports by rail for the first nine months aggregate 9090 flasks, of which 5430 flasks were shipped from this city.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Nov. 4.

The business reported has been very small. The business done, however, we are satisfied, is very much larger, but kept quiet. The consumption is without abatement, and will increase. The outlook could not be more satisfactory for 1882. There is but little speculation, although the position could not be more favorable for a speculative movement.

The imports of iron and steel during the first eight months of the year were as follows, according to the August returns of the Bureau of Statistics, all the figures being given in net tons of 2000 lbs. :

	August, 1881.	8 months, 1881.	8 months, 1880.
Pig-iron	61,856	352,897	674,063
Bar-iron	4,138	18,835	109,525
Band, hoop, and scroll-iron	22	148	24,282
Sheet-iron	665	2,456	8,020
Old and scrap	11,198	90,238	525,998
Anchors, chains, and cables	253	963	1.145
Iron rails	11,886	109,262	110,965
Steel rails	28,868	150,282	93,752

American Pig.—The sales reported are small, although it is believed that large transactions have taken place. We only note a sale of 2000 tons of Forge on private terms. There has been a very large inquiry for next year's delivery, but most makers are unwilling to contract far ahead. The cost of producing will probably be increased, and higher prices appear to be a certainty. The demand is already greater than the supply of good brands, and it is probable that some additional furnaces will be put in blast. This, however, will not weaken prices, if the present consumption holds out. We quote No. 1 Foundry at $25@$26 ; No. 2, $22½@$23 ; and Forge, $20@$21.

Scotch Pig.—The arrivals are small and purchased before they reach here. The stocks are very light. The sales during the week have amounted to about 1000 tons. The Glasgow market is a shade weak ; but freights continue very strong and scarce, December shipments being quoted at 15s We quote Eglinton at $23½@$24 ; Gartsherrie, $25@$25½ ; Glengarnock, $24½@$25 ; Summerlee, $25½ ; and Coltness out of stock. A sale of 500 tons of No. 3 red car is reported at $21. Bessemer is easier and without business.

Messrs. John E. Swan & Brothers, of Glasgow, under date of October 21st, report 105 furnaces in blast, as against 116 at the same time last year. The quantity of iron in Connal & Co.'s stores was 602,342 tons, an increase of 3882 tons for the week. The shipments show a decrease since Christmas of 100,056 tons, as compared with the shipments to the same date in 1880. The imports of Middlesbrough pig-iron for the same period show an increase of 42,529 tons. The following were the quotations of the leading brands of No. 1 pig-iron : Gartsherrie, 59s. 6d. ; Coltness, 61s. ; Langloan, 61s. 6d. ; Summerlee, 60s. ; Carnbroe, 54s. ; Glengarnock, 53s. ; Eglinton, 51s. Middlesbrough pig-iron was quoted as follows, f. o. b. : No. 1 Foundry, 46s. 6d. ; No. 2, 44s. 6d. ; No. 3, 42s. 6d. ; No. 4, 42s. ; No. 4 Forge, 41s. 6d.

Messrs. J. Berger Spence & Co., of Manchester, under date of October 22d, say : The reports to hand during the week show that the unfavorable reaction in the value of pig-iron continues for the present. In values, there is an unmistakable tendency to droop ; and this seems caused in a great measure by nervous holders, who have only lately become purchasers. Possibly, however, when the full influence of the decreased output begins to be experienced, another and perhaps stronger advance will be initiated. During the week, Glasgow Warrants have led the van in the downward course, and as we write are quoted at 50s. 2d., closing weak. At Middlesbrough, there has been a decreasing business, and nominally prices are unchanged. Practically, however, sellers are numerous under 42s. 6d. for No. 3, sales having been made down to 42s. 3d. With an increased shipment and decreased output, this weakness can only be temporary. Prices may be reported at 46s. 6d , No. 1 ; 42s. 4½d., No. 3 ; and 41s. 10½d., No. 4 Foundry. Bessemer iron is more active, particularly for export. No. 3 Bessemer is firm at 57s. 6d., some makers quoting 60s.

Rails.—There is no business worthy of note reported. There is, however, a very large inquiry, and negotiations are under way which will probably absorb considerable foreign Bessemer rails as well as foreign and domestic iron rails. Domestic steel rails are hardly offering for sale. Foreign are worth about $62 here. Foreign iron rails are quoted at $48@$50 here, and domestic at $48@$50 at mills, according to location.

Old Rails.—These are quiet, not plenty, and very firm. Ts. are quoted at $28½, and D. Hs. at $31.

Wrought Scrap.—This article is scarce and quiet. Selected lots from store and yard are held at $31.

We publish the following letters from our regular correspondents :

Baltimore. Oct. 31.

[Specially reported by R. C. HOFFMAN & Co.]

The month closes with but little change in the iron market. The demand continues heavy, and prices are firm. We quote as follows :

Balt. Char.	$36.00@$38.00	Anth. No. 3.	$21.00@$22.00
Va. "	36.00@ 38.00	Mot. and Wh.	19.00@ 20.00
Anth. No. 1.	25.00@ 27.00	Cl.C.B.Bl'om	70.00@ 72.00
" " 2.	23.00@ 24.00	Refined Bl'm	57.00@ 62.00

Richmond. Oct. 31.

[Specially reported by ASA SNYDER.]

The business for the closing month has been very satisfactory to all branches of the iron interest. Ruling prices are very firm, and leading brands of pig-iron command a ready advance for future deliveries. Quotations as follows :

Scotch Pig-Iron		$25.00@$28.00
Anthracite Pig-Iron	No. 1	25.00@ 27.00
" "	No. 2	23.00@ 25.50
" "	No. 3	22.00@ 23.00
Virginia Coke Pig-Iron,	No. 1	23 00@ 24.00
" "	No. 2	22.00@ 23.00
" "	No. 3	20.00@ 22.00
Va. Charcoal C. B. Wheel Iron		32.00@ 34.00
Old Rails		27.00@ 29.00
Wrought Scrap No. 1		22.50@ 24.00
Cast Machinery Scrap		20.00@ 21.00
Richmond Refined Bar-Iron		@ 03
Horse-Shoes (Tredegar)		@ 4.25
Mule " "		@ 5.25

St. Louis. Nov. 1.

[Specially reported by HOFFER, PLUMB & Co.]

The demand is very good. Prices are firm at the following cash quotations :

HOT BLAST CHARCOAL.

Missouri	$27.00@$28.00
Southern	27.00@ 28.00
Ohio	29.00@ 30.00

COKE AND COAL.

Missouri	$27.00@$28.00
Southern	26.00@ 27.00
Ohio	27.50@ 28.50

MILL IRONS.

Cold short	$23.00@$24.00
Red short	25.00@ 26.00

CAR-WHEEL AND MALLEABLE IRONS.

Missouri	$28.00@$34.00
Southern	35.00@ 38.00
Ohio	32.00@ 40.00

Philadelphia. Nov. 4.

Iron and steel quotations are as follows: No. 1 Foundry, $24.50@$26.50; No. 2, $22.50@$23; Gray Forge, at furnace, $21. Large sales of Forge iron were made this week, and other negotiations will be closed before the end of the week. The market is active. The action of leading consumers in buying largely of next year's output induced some who were willing to risk delay to come in. Furnace-men have taken advantage of the firmness, and are not offering stocks, but are willing to take orders subject to future prices. Foundry is quiet but firm. The activity at the mills makes Forge iron a good investment. No. 1 sold to-day at $25@$25.50. Holders of some special brands offered small lots at $26.50. Bessemer was cabled slightly weaker, and in view of this possibility offers have been made. Large requirements exist ; but consumers are in a condition where they can wait. English is high and none selling. Scotch is unchanged at $23@$25.50. Imports for a week, 830 tons. Muck is quiet ; $45.50 was paid for a few small lots. Charcoal blooms are quoted at $70, and the market is easier.

Merchant iron is active, and buyers are unable to place orders. Old customers are first provided for, and they have secured themselves for the rest of the year at 2·7c. The stores are selling in a small way at 3c. Structural shapes continue active at 3c. for Angles, 3·7c. for Beams, 3·9c. for Channels and Beams. To-day's inquiries were for several hundred tons for December. Such orders can be handled at 3¼@4@4¼c.

Plate and tank is unusually active, and since last week good sized orders were placed for January and February. Quotations, 3½c. ; for heavy Plate, 3¾c. ; for light Refined, 4c. ; Shell, 4¼@4½c. ; Flange, 5@5½c. ; Fire Box, 6@6½c. Demand is in excess of supply.

Wrought pipe orders and boiler-tubes are pressing on the capacity of the pipe-works, and quotations are stronger than last week on early deliveries ; nails, $3.40 ; spikes, $3.10. Sheet-iron is extremely active. Steel rails are quoted at $60@$62.50, but the leading concerns here know of no large orders. The usual rumors prevail as to foreign orders. It is known that negotiations are pending for foreign rails. Quotations, $61@$63 ; iron rails, $47@$48 ; old rails, $28.50 ; for Ts. doubles, $31.

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

LONDON, E. C., Oct. 19.

STEEL RAILS.—Continue at £6@£6 10s. per ton for sections 30 lbs. and upward. The inquiry is still chiefly for light sections, but we do not hear of any transactions. English railroad companies and our colonies have supplied the orders recently.

IRON RAILS.—£5 10s. per ton asked for rails 50 lbs. per yard and over, and £5 15s.@£6 for 35-lb. rails. Belgian makes are offered (4000 tons), 35 lbs. at equal to £5 6s. per ton, f. o. b. Antwerp, without finding takers.

BAR IRON.—Very steady at £5 10s. per ton, on which basis some fair orders have come forward for United States ports.

OLD RAILS.—Without change, freights continuing to check forward sales. Our railroad companies and others still demand prices which, under present circumstances, would bring c. i. f. prices up to 95s.@97s. 6d. per ton for D. Hs.

HEAVY WROUGHT SCRAP-IRON.—Nominally 80s. per ton c. i. f., and a good turn-over could be accomplished if the facilities for shipping would permit.

OLD RAILROAD LEAF SPRING STEEL.—In demand ; £6 paid c. i. f. New York and buyers over.

STEEL BLOOMS, 7″ × 7″ AND UPWARD.—Continue nominally £5 12s. 6d. per ton; makers well sold, and buyers anxious to get away their recent purchases.

BESSEMER PIG-IRON, NOS. 1, 2, AND 3.—Very steady at about 60s. per ton.

SCOTCH PIG-IRON.—Fluctuating considerably, principally through speculative manipulations. To-day's price is 50s. 6d.@50s. 10d. cash.

MIDDLESBROUGH PIG-IRON, No. 3.—Steadier than Scotch, not being subject to such extreme influences; price 42s. 6d. @42s. 9d. per ton cash.

FREIGHTS.—There is no improvement in freights to the United States, and nothing has been done in steam chartering during the week. The following prices per ton are offered, but do not tempt owners : New York, 13s. ; New Orleans, 15@16s. ; Galveston Bay, 20s. ; Galveston Wharf, 27s. 6d. ; Corpus Christi, 30s. ; St. John's, N. F., 27s. 6d. ; Moorehead City, N. C., 27s. 6d. ; Halifax, 15@16s.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Nov. 4.

Anthracite.

The demand still continues to be in excess of the supply, and prices 15 to 25c. per ton higher than circular rates are reported to have been secured for spot lots of chestnut and stove coal. There is delay in loading vessels, owing to the scarcity of coal. There has not been so large a supply of shipping during the past week, although it has been sufficient to prevent a rise in freights. How long the demand will exceed the supply is a question upon which there are difference

of opinion. Many think that a change will occur by the beginning of next month. Already shipments by water have ceased to many points, especially on the Erie and Champlain canals. The dealers and consumers at many other points will not risk securing their supplies by the end of the month, so by that time the markets will be curtailed. At the same time, there will probably be colder weather at the markets which are open all winter; and with increased consumption for heating purposes, there may be an increase for a while in the demand sufficient to counteract a portion of the loss of the demand from ice-bound markets. There is a demand from the West for a great deal more coal than can be moved. This will probably continue all winter, unless there should be very mild weather. The closing of lake navigation will greatly reduce the facilities for getting coal to the West, which will then necessitate a longer use of cars in carrying the coal entirely by rail. The supply of cars for the Western trade on the Erie road has been very much reduced by the low water in the Delaware & Hudson Canal, necessitating the withdrawal of cars from the Western business for the purpose of supplying the Delaware & Hudson Canal Company with transportation to the East.

There were instances where the production was seriously curtailed last week by the scarcity of water at the collieries; but still the production was enormous, and now there is probably enough water to meet all wants. With a production averaging 100,000 tons per week less than that of last week until the end of the year, the aggregate will equal 28,000,000 tons.

Bituminous.

There is not much doing on new orders; but the great scarcity of coal has made many who were a few months ago anxious sellers at low prices buyers at high prices. There is practically no coal for sale. Over $5 alongside has been paid for Cumberland; and a buyer who made the effort reports that 1000 tons was not obtainable at any price. The steamship demand is very large. The City of Rome, the new Inman steamer, is reported to have taken 2000 tons of coal for her return trip. The recent rains will probably increase business over the Chesapeake & Ohio Canal. Cars are very scarce on all of the lines, with no indication of early relief.

San Francisco. Oct. 27.

The arrivals, chiefly foreign, are large and free. This month's receipts will reach 100,000 tons, chiefly bituminous. Notwithstanding cable quotations show an advance on all British coals of one shilling per ton, still asking prices are not similarly advanced. Cargoes are still being freely loaded, insuring a continuance of low prices. Vacant water-lots can be profitably rented for coal storage. Anthracite and Cumberland grades still maintain extreme figures; the demand is in excess of supply. Imports during the week embrace the following cargoes: Sardinian, from London, 315 tons; Willamette, from Seattle, 3000 tons. From Sydney, Cape Verde, 2500 tons; Cadzow Forest, 1480 tons; Starlight, 365 tons; Thomas Bell, 1226 tons; Cambrian Princess, 1815 tons; Colwyn, 1600 tons. From Newcastle, N. S. W., Esdale, 1666 tons; Aristomene, 2719 tons; Corolla, 1790 tons; Frith of Durnoch, 1483 tons. From Dundee, Panmure, 2049 tons; America, 1726 tons. From Liverpool, Prince Charlie, 1916 tons; J. B. Walker, 2200 tons. From Hull, Eng., Oakhurst, 1405 tons; Victoria, 1803 tons. From Leith, Professor Johnson, 1570 tons. From Liverpool, Thomas M. Reed, 2780 tons; Regent, 1888 tons. From Cardiff, The Douglass, 1104 tons coke; Occident, 2125 tons coal. From British Columbia, Empire, 820 tons Wellington. From Glasgow, Clan McFarlan, 2204 tons. From Philadelphia, Samaria, 2 0 tons anthracite. From Baltimore, Snow & Burgess, 2203 tons Cumberland. From New York, Eureka, 198 tons; Farragut, 358 tons. From Guayaquil, Augustine, 230 tons. We submit the following schedule of rates:

	Prices to arrive.	Spot rates.
Australian	$6.12½@$6.25	$6.25 @ .. ..
Liverpool Steam	5 62½@ 5.75	5.62½@ .. ..
West Hartley	6.25 @ 6.37½	6.25 @ .. ..
Scotch Splint	5,87½@ 6.00	5.75 @ .. ..
Lehigh Lump	13.00 @13 25	20.00 @ .. .
Cumberland bulk	10.00 @10.25	12.00 @ .. ..
Egg Hard	11.50 @11.75	16.00 @ .. ..
Cardiff	6.00 @ 6.12½	5.75 @ .. ..

The following table shows the imports of coal for the month of September, and the total for the first nine months of 1881:

	Month of September. Tons.	Nine mos. of 1881. Tons.
Domestic (Eastern)	782	15,809
Australian	13,259	76,226
Coos Bay	500	17,704
Departure Bay	8,520	89 429
British Columbia	3,412	35,130
Seattle	9,372	107,829
English	24,142	106,711
Scotch and Welsh	18,874	62,129
Carbon Hill	1,445	12,640
Mount Diablo (estimated)	13,000	118,004
Totals	93,276	641,611
Same time in 1880	36,145	409,049
Increase in 1881	57,131	232,562

—*Commercial Herald.*

Wholesale Prices of Anthracite Coal Delivery f. o. b. at Tide-Water Shipping Ports, per ton of 2240 lbs.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
WYOMING COAL.	$	$	$	$	$	$
* Pittston at Newburg	3 95	3 95	3 85	3 90	4 05	3 90
Scranton at Hoboken	3 90	3 90	3 90	4 05	4 20	3 90
Lackawanna at Weehawk'n	3 90	3 90	3 90	4 05	4 20	4 10
Wilkes-Barre at P. Johnston	3 90	3 90	3 90	4 05	4 20	3 90
Plymouth R. A. at P. John.	.....	.....	3 90	4 15	4 50	4 00
LEHIGH COAL.						
Honey Brook at Port John.	5 00	.....	4 25	4 25	4 25	3 90
Cross Creek at Port John	4 40	4 40	4 35	4 35	4 25	4 00
U.L. & Coun. Ri'ge at Eliz'pt	.....	.....	.....	.....	.....	.....
SCHUYLKILL COAL. *At Elizabethport.*						
Hard White Ash	4 85	4 85	4 25	4 25	4 25	3 90
Free-Burning White Ash	.....	3 90	3 90	4 05	4 20	3 90
Schuylkill Red Ash	.....	.....	.....	4 25	4 45	3 90
Shamokin	.....	.....	.....	4 25	4 45	3 90
Lorberry	.....	.....	.....	4 75	4 85	4 00
Lykens Valley (Brookside)	.....	.....	5 50	5 50	5 50	4 60
At Port Richmond, Philadelphia, for shipment to points beyond Capes of the Delaware.						
Hard White Ash	4 50	4 50	3 90	3 90	3 90	3 55
Free-Burning White Ash	.....	3 55	3 55	3 70	3 85	3 55
Schuylkill Red Ash	.....	.....	.....	3 90	4 10	2 55
Shamokin	.....	.....	.....	3 90	4 10	3 55
Lorberry	.....	.....	.....	4 35	4 50	3 65
Lykens Valley (Brookside)	.....	.....	5 00	5 00	5 00	4 25

FREIGHTS.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to Nov. 4th, 1881.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnston, South Amboy, Hoboken, and Weehawken.
Alexandria	.....	1.00	.....
Annapolis	.....	.....	.....
Albany	.....	.....	.....
Baltimore	.60	.....	.....
Bangor	.....	2.25	1.40
Bath, Me	.....	1.75	1.50
Beverly	.....	.....	1.45
Boston, Mass	1.75@2.10	1.80	1.40
Bristol	.....	.....	.....
Bridgeport, Conn.	.....	1.65	.65@.70
Brooklyn	.....	.....	.....
Cambridge, Mass.	.....	.....	.....
Camboridgeport	.....	.....	.....
Charleston	1.20	.....	1.25
Charlestown	.....	.....	1.40
Chelsea	.....	.....	1.40
City Point	.....	.....	.....
Com. Pt, Mass.	.....	.....	.....
E. Boston	.....	.....	1.40
East Cambridge	.....	.....	.....
E. Gr'nwich, R. I.	.....	.....	1.60
Fall River	1.50	1.75	1.00
Galveston	.....	.....	.....
Georgetown, D.C.	.....	.....	.....
Gloucester	.....	.....	.....
Hartford	.....	.....	.....
Hackensack	.....	.....	1.00
Hudson	.....	.....	.....
Lynn	2.00	.....	.....
Marblehead	.....	.....	.....
Medford	.....	.....	.....
Millville	.....	.....	.....
Milton	.....	.....	.....
Newark, N. J	.....	.....	.....
New Bedford	1.50@1.60	1.75	1.10
Newburyport	.....	2.25	.....
New Haven	.....	1.70	.65
New London	.....	1.70	.90
Newbern	.....	.....	.75
Newport	.....	.....	1.00
New York	.85	1.50	.....
Norfolk, Va	1.05	.90	.....
Norwich	.....	.....	.95
Norwalk, Conn	.....	.....	.65
Pawtucket	.....	.....	.....
Philadelphia	.....	.....	.....
Portland	1.60@1.65	1.90	.....
Portsmouth, Va	.....	.....	1.65
Portsmouth, N.H.	1.85	2.15	.....
Providence	1.50	1.75	1.00
Quincy Point	.....	.....	1.50
Richmond, Va	1.20	.....	.....
Rockland	.....	.....	.....
Rockport	.....	.....	1.50
Roxbury	.....	.....	.....
Saco	.....	.....	.....
Sag Harbor	.....	.....	.....
Salem, Mass	.....	2.10	1.40
Saugus	.....	.....	1.15
Savannah	1.17½@1.25	.....	.....
Somerset	.....	.....	1.00
Staten Island	.....	.....	.....
Trenton	.....	.....	.....
Troy	.....	.....	.....
Wareham	.....	2.00	.....
Washington	1.00@1.15	1.00	.....
Weymouth	.....	.....	.....
Williamsbg, N.Y.	.....	.....	.....
Wilmington, Del.	.....	.....	.....
Wilmington, N.C.	.....	.....	.....

* And discharging. † And discharging and towing. ‡ 3c per bridge extra. § Alongside. ‖ And towing up and down. ¶ And towing. ** Below bridge.

STATISTICS OF COAL PRODUCTION.

Comparative statement of the production of anthracite coal for the week ending Oct. 29th, and years from January 1st:

TONS OF 2240 LBS.	1881. Week.	1881. Year.	1880. Week.	1880. Year.
Wyoming Region.				
D. & H. Canal Co.	78,733	2,937,714	80,301	2,446,043
D. L. & W. RR. Co.	97,589	3,495,487	86,365	2,865,559
Penn. Coal Co.	30,158	1,145,554	23,918	908,888
L. V. RR. Co.	17,943	936,479	18,809	801,538
P. & N. Y. RR. Co.	*	80,207	.....	30,998
C. RR. of N. J.	62,625	1,917,792	54,679	1,348,817
Penna. Canal Co.	15,815	388,470	16,662	411,763
	302,863	10,901,703	280,734	8,813,606
Lehigh Region.				
L. V. RR. Co.	106,650	3,673,198	88,472	2,805,248
C. RR. of N. J.	68,153	1,800,172	69,735	1,756,065
S. H. & W. B. RR.	.....	10,426	.....	8,515
	174,803	5,483,796	158,207	4,569,828
Schuylkill Region.				
P. & R. RR. Co.	159,763	5,683,072	183,835	4,908.086
Shamokin & Lykens Val.	† 24,641	848,895	28,816	740,427
	184,404	6,531,967	212,651	5,648,513
Sullivan Region.				
St Line & Sul. RR. Co.	*	51,233	.....	37,181
Total	662,070	22,968,699	651,592	19,069,128
Increase	10,478	3,899,571	.....	.....
Decrease	.....	.....	.....	.....

* This report was not received this week.
† This report is not full.

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

Total same time in 1876	15,976,986 tons.
" " " " 1877	14,626,835 "
" " " " 1878	13,817,359 "
" " " " 1879	21,585,647 "

The decrease in shipments of Cumberland Coal, over the Cumberland Branch and Cumberland & Pennsylvania railroads, amounts to 173,023 tons, as compared with the corresponding period in 1880.

The shipments of Cumberland Coal, over the George's Creek & Cumberland RR., by the Maryland and the American Coal companies, for the week ending Oct. 29th, amounted to 6745 tons, making a total of 146,434 tons since the beginning of transportation.

The Production of Bituminous Coal for the week ending Oct. 15th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
*Tons of 2240 lbs	46.877	1,757,004
Barclay Region, Pa.		
Barclay RR., tons of 2240 lbs	9,098	317,100
Broad Top Region, Pa.		
Huntingdon & Broad Top RR.	3,943	164,938
East Broad Top	2,273	65,079
Clearfield Region, Pa.		
Snow Shoe	2,751	92,543
Tyrone and Clearfield	40,992	1,844,919
Alleghany Region, Pa.		
Pennsylvania RR.	7,196	217,372
Pittsburg Region Pa.		
West Penn RR	4,478	226,733
Southwest Penn. RR.	1,077	21,868
Penn & Westmoreland gas-coal, Pa. RR.	10,334	713,670
Pennsylvania RR.	17,961	517,916

* For the week ending Oct. 29th.

The Transportation of Coke over the Pennsylvania Railroad for the week ending Oct. 15th, and year from Jan. 1st:

Tons of 2000 lbs.	Week.	Year.
Penn. RR. (Alleghany Region)	1,754	76,617
West Penn. RR	2,844	95,166
Southwest Penn. RR	25,167	1,095,492
Penn. & Westmoreland Region, Pa. RR	4,298	152,846
Pittsburg, Penn. RR	7,958	455,918
Show Shoe (Clearfield Region)	453	9,321
Total	42,474	1,885,360

DIVIDENDS.

ROBINSON

CONSOLIDATED MINING COMP'Y

DIVIDEND NO. 7.

NEW YORK, Oct. 1, 1881.

The Board of Trustees have this day declared the regular monthly dividend of Fifty Thousand Dollars, also an extra dividend of Fifty Thousand Dollars, making one hundred thousand dollars, payable on and after October 15th, 1881, at the office of the company, 18 Wall street.

The transfer-books will be closed from 3 o'clock P.M. of the 5th until 10 o'clock A.M. of the 17th inst.

JAMES. K. SELLECK,
Secretary.

THE ROBINSON CONSOLIDATED MINING COMPANY, No. 18 Wall Street, New York, Nov. 1, 1881.

DIVIDEND NO. 8.

The Board of Trustees have this day declared the regular DIVIDEND of FIFTY THOUSAND DOLLARS, also an EXTRA DIVIDEND (No. 3) of FIFTY THOUSAND DOLLARS, making one hundred thousand dollars, payable on and after November 15th, 1881, at the office of the company.

The transfer-books will close at 3 o'clock P.M. of the 5th, and remain closed until 10 o'clock A.M. of the 16th inst. JAMES K. SELLECK, Secretary.

DIVIDENDS.

OFFICE OF THE STORMONT SILVER MINING COMPANY, No 2 Nassau Street,
NEW YORK, Oct. 19, 1881.

DIVIDEND NO. 5.

The Board of Trustees have this day declared a monthly dividend of FIVE CENTS per share, payable on the first day of November, at this office.

The transfer-books will close on the 26th inst., and reopen November 2d. WILLIAM S. CLARK, President.
JOHN R. BOTHWELL, Secretary.

OFFICE OF CHRYSOLITE SILVER MINING COMPANY, No. 18 Wall Street,
NEW YORK, Oct. 13, 1881.

A dividend (No. 10.) of

ONE HUNDRED THOUSAND DOLLARS,

or fifty cents per share, has been declared, payable on the 10th November proximo.

The transfer-books will be closed on the 26th October, at 3 o'clock P.M., and reopened on the 11th November.

HENRY C. COOPER, Secretary.

OFFICE OF THE GREEN MOUNTAIN GOLD MINING COMPANY, of California, No. 18 Wall Street, New York, October 13th, 1881.

DIVIDEND NO. 28.

The Trustees have this day declared a dividend of SEVEN AND ONE-HALF CENTS per share on the capital stock of this company for the month of September (being the 28th consecutive monthly dividend; and making a total to date of $203,000), payable on the 26th inst.

Transfer-books close on the 19th, and reopen on the 28th of September. J. JAY PARDEE, Secretary.

NEW YORK, Nov. 2, 1881.

THE STANDARD CONSOLIDATED MINING COMPANY to-day declared its regular monthly dividend of

SEVENTY-FIVE CENTS PER SHARE,

payable Nov. 12th, 1881, at the Farmers' Loan and Trust Co., 26 Exchange Place, New York.

Transfer-books close Nov. 5th, and open on 14th inst.

M. R. COOK, Vice-President.

HORN - SILVER MINING COMPANY, office, 44 Wall Street, New York, Oct. 15, 1881.

The Board of Directors have this day declared a

DIVIDEND OF $300,000,

being three per cent on the capital stock, payable to the stockholders of record on the 15th of November next, at the office of the company.

Transfer-books will be closed on November 7th, and reopened November 16th.

W. S. HOYT,
Secretary.

OFFICE COPPER QUEEN MINING COMPANY, 34 Thomas Street,
NEW YORK, October 15, 1881.

The Board of Directors of this company have this day declared a monthly dividend (No. 5) of TWENTY-FIVE THOUSAND DOLLARS, payable to stockholders on and after November 1st, 1881.

Transfer-books close October 29th, and reopen November 3d. A. A. HAYES, JR., President.
L. ZECKENDORF, Secretary and Treasurer.

OFFICE OF THE TOMBSTONE MILL AND MINING COMPANY, No. 432 Walnut Street.
TWENTIETH DIVIDEND,
PHILADELPHIA, Oct. 31, 1881.

The Executive Committee of the Board of Directors of this Company has this day declared the regular monthly dividend of $50,000, being ten cents on each share of the capital stock of the company, payable on and after November 15th at this office. Transfer-books closed from 10th to 15th inclusive.

GEORGE BURNHAM, President.
W. J. CHEYNEY, Secretary.

ALICE GOLD AND SILVER MINING COMPANY.

General office, Salt Lake City Utah; Mine and Works, Walkerville, Montana; New York office, 47 Broadway.
NEW YORK, Nov. 2, 1881.

The Board of Directors of this Company has declared a monthly dividend (No. 9) of FORTY THOUSAND DOLLARS, payable at the Farmers' Loan and Trust Company, New York City, on the 15th inst.

Transfer-books will close on the 10th, and reopen on the 16th inst. R. G. LANSING,
Assistant Secretary.