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NOTE.—Communications relative to the editorial management should be addressed to Mr. ROTHWELL, P. O. Box 4404, New York. Articles written by Mr. RAYMOND will be signed thus *

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NOTICE.

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AMERICAN INSTITUTE OF MINING ENGINEERS.

SECRETARY'S OFFICE,
LAFAYETTE COLLEGE, EASTON, PA., Sept. 26, 1878.

The first session for the reading and discussion of papers will be held at Ticonderoga on Tuesday evening, October 15th. It is desirable that members should arrive at noon on Tuesday, on the train leaving Albany at 7 o'clock A.M.

The arrangements with the railroad companies as to fares, etc., are not yet completed. Members expecting to attend the meeting will please notify the Secretary promptly, that provision may be made for their accommodation, and that later information concerning railroad rates, etc., may be sent them.

It is earnestly desired that members will give early notice to the Secretary of their intention to read papers at this meeting.

THOMAS M. DROWN, Secretary.

THE FAILURE OF THE CITY OF GLASGOW BANK.

Paying exorbitant dividends, with growing indebtedness, and reckless investments, seem to have the same effect in canny old Scotland that they do on this side of the Atlantic; and the City of Glasgow Bank, which has been paying a "progressively increasing dividend for several years until it had reached twelve per cent," and which lent $29,140,000 to four firms, "the reputation of one or two of which has not been good for years past," has "gone up," with liabilities estimated at $50,000,000. As large sums are said to have been loaned to North of England and Scotch iron-makers, there is a probability of this failure affecting to some extent the iron trade and prices, especially should a panic ensue in general business circles. It is expected that a number of large houses will be brought down by this suspension, but as yet there is no panic—the failure having been partly anticipated.

THE BRITISH COLUMBIA GOLD MINES.

We hear, through private and reliable sources, that the British Columbia gold mines are at a heavy discount. The excitement of some months ago was based upon reports by a Mr. R. B. HARPER, who is styled Provincial Mining Engineer, and who is said to be totally incompetent, both as to technical education and as to freedom from personal interest, to rank as a reliable authority. The consequence has been that the stock of innumerable companies, quickly sold at a low figure when first brought out during the excitement, and which the simple-minded Columbians expected would immediately return large dividends, has been productive of those only which are usually called *Irish dividends*. This unexpected result brought on a panic. At the very first assessment, one half the stock had to be sold out as delinquent, and it brought, when any one would bid on it, about one cent per share, which must still be considered as a liberal price for the privilege of paying assessments indefinitely. The fact seems to be that the mines thus far opened have almost, if not quite, without exception, proved too poor to pay; and no competent expert has yet made such thorough examination and report as would inspire confidence in the ultimate success of extended exploration.

If the Provincial Government desires to encourage the development of this mining industry, it will do well to have the gold districts thoroughly examined by some such able and reliable authorities as Messrs. KEYES, JANIN, or ASHBURNER, of San Francisco—where it would naturally send to get an engineer—and make public in the pages of the ENGINEERING AND MINING JOURNAL the results of this examination. If one of these gentlemen reports that the deposits justify the investment of capital, capital will go there, and what seems approaching paralysis of a promising industry will be avoided.

It would also be well for the honor of the Provincial Government to see that its officer—the P. M. E.—be not only a competent engineer, but that he be prohibited from having any personal interest in the mines and claims upon which he officially reports as an officer of the government.

MINERAL PRODUCTION OF GREAT BRITAIN IN 1877.

We have just received the annual volume giving the mineral statistics of Great Britain for 1877. Like its predecessors, this volume bears abundant testimony to the conscientious, painstaking labor of Mr. ROBERT HUNT, the keeper of the Mining Records. These volumes are full of information, the care with which the returns are compiled adding greatly to their value. The following table summarizes the production statistics:

MINERALS.	Quantities. Tons.	Cwt.	Value. £	s.	d.
Coal	134,610,763	0	47,113,767	0	0
Iron ore	16,692,802	0	6,746,668	8	11
Tin ore (black tin)	14,142	6	572,753	0	0
Copper ore	73,141	0	262,270	15	5
Lead ore	80,850	0	1,123,952	0	0
Zinc ore	24,405	16	86,151	1	4
Iron pyrites	43,948	10	28,225	14	7
Arsenic	4,809	4	30,420	12	8
Manganese	3,038	14	7,958	1	6
Bismuth	0	8	15	4	0
Cobalt and nickel	27	4	241	16	11
Gold ore			18	4	6
Silver ore	142	15	927	0	0
Uranium ore	0	2	11	15	3
Wolfram	15	0	150	0	0
Fluor-spar	220	3	96	12	0
Ochre and umber	5,074	3	4,484	13	9
Clays (porcelain, potters', and fire-clay)	2,961,155	0	592,231	0	0
Salt	2,735,001	0	1,502,250	0	0
Barytes	21,056	7	28,948	1	7
Calc-spar	2,353	2	625	0	0
Coprolites, etc	69,006	0	200,000	0	0
Oil shales	123,558	0	61,779	0	0
Gypsum	73,908	0	22,172	8	0
Sundry materials			10,000	0	0
Total value of minerals produced in 1877			58,398,071	10	5

NEW PUBLICATIONS.

THE ROAD-MASTER'S ASSISTANT AND SECTION-MASTER'S GUIDE. By WILLIAM S. HUNTINGTON. Revised and enlarged by CHARLES LATIMER. New York: The *Railroad Gazette*. 1878. 8vo, pp. 296.

Although all the details connected with the construction of permanent way are fully dealt with in numerous engineering works, these do not ordinarily come within the reach of employés of the lower grades—the actual workers, such as track-layers and section men. That these classes need precise instruction in their business, such as this work supplies, is indicated by the remark made by Mr. LATIMER in the preface, and which all engineers having to do with railway construction will indorse, that they have fallen into certain erroneous practices fatal to the life of track and rolling stock. In this Guide the most rational and approved plans in repairs are explained, reference to methods characterized by extreme novelty having been avoided, as well as too great technicality, though usual road terms are freely used.

Mr. LATIMER has done good service in rendering the book so far general as to apply to the leading grades. The directions for track-laying, ballasting, and keeping tracks in good repair are most minute, and, if adhered to, would go far to effect the improvement of our lines. Mr. HUNTINGTON was himself a practical trackman, and this volume is the outcome of a work on track repairs of which he was the author. A lucid description of the most approved track equipments is given, especial attention being bestowed on switches, switch-holders, and frogs. A chapter devoted to the elevation of curves includes a method of curving rails on a track-layer. The best patterns of rails and tools are illustrated

The work supplies a want, and there could be no better preparation than its study for the passing, by trackmen, of the necessary examination for promotion to a higher grade.

Railway Service: *Trains and Stations.* By Marshall M. Kirkman. New York: The *Railroad Gazette.* 1878. 8vo, pp. 271.

The object of this work is that of initiating railroad men in the modes of making up and operating trains, and of setting forth the duties of employés connected with train and station service. Good judgment is shown in the elimination of practices and rules as to train and station service from the diversity prevailing on different lines. The instruction as to timing of trains, regulation of speed under special circumstances, the causes to be recognized as governing train movements, protection of trains in event of obstruction or accident, with the characteristics and significance of signals, will be found of a highly disciplinary character. There is much in the work that conductors, brakemen, engine-men, and others could put to good account, particularly in emergencies. Ample space is afforded to the duties of freight agents. The concluding chapter contains the "standard" rules and regulations as set forth by the London Railway Clearing House for its associated lines.

Principles of Machine Construction. By Edward Tomkins. Edited by Henry Evers, LL.D. New York: G. P. Putnam's Sons. 16mo, pp. 368.

Geometrical drawing is applied in illustration of the text of this work, which also includes an atlas of plates. Its prime features are the exposition of the application of true theory to practice, of the operative functions of machinery, and of the proportions of machines and tools which scientific data furnish. These proportions are worked out and proved. The theoretic training which this work assures renders it a valuable elementary aid to constructive engineering; for, in the adaptation of machinery to a diversified demand, in which new operative conditions have to be taken into account, labor and expense may be incurred to an unnecessary degree by too much reliance on merely practical experience. The progress effected in better fitting, better framing, less useless details, and, above all, attention to the working qualities of machines, is due to the mastery of principles, in conjunction with the aggregation of experience and skill. A great deal is to be learned from the diagrams furnished. The chapters on motion and its transmission are ingenious and valuable. In dealing with motion, reference might well have been made to true movement as one of the principal among machine functions. It is indeed surprising how large a part of machinery is applied to secure exact movement in straight, curved, and irregular lines, and the adaptation of movements as to time and capacity. The selection by the author of the Davy Paxman vertical engine and boiler combined, as an exemplar of the steam-engine, recalls the fact that formerly vertical engines and boilers were regarded as the most imperfect combination of machinery in the market; but no class of engines have received more attention of late years; and in finish, safety, economy of fuel, and price, compare favorably with other forms of steam machinery. The work is well indexed, and must be pronounced a useful manual.

NICKEL—PLATINUM COUNTERFEIT GOLD COINS—COBALT-PLATING.

Editor Engineering and Mining Journal:

Sir: My attention having been called to Prof. B. Silliman's valuable letter in your number of 7th inst., I think a few remarks thereon may interest your readers.

1. Prof. Silliman observes that in the nickel industry I have "hitherto enjoyed the 'protection' of an exclusive duty." Now, while it is true that nickel is subjected to an import duty of 30 cents per lb., it is also true that this duty did not exist during the first years when I was struggling with the difficulties of the manufacture on the one hand, and on the other hand with the determination of the English nickel-makers to maintain their monopoly. Shortly after that duty was imposed, the European price of nickel rose so high that I refrained from adding to it the import duty, but for several years sold nickel here of better quality than any foreign metal quite as low as the naked European price—indeed, I exported large quantities. Now that nickel has fallen in Europe to one third of its price three years ago, the duty of 30 cents per lb. is highly important. During the only part of my experience as a nickel-maker when foreign nickel was "excluded," it was so simply because I sold a better article at a lower price than any foreigner, no duty being reckoned, and this, together with the fact that the moderate existing duty is now useful, illustrates how moderate but stable specific duties tend to steady prices and to sustain in adverse times our well-established industries. No nation can afford to allow its industries to be destroyed by foreigners whenever their exigencies or policy dictate a trade invasion. The frontier needs the protection of a tariff more than that of a chain of forts.

FORGED NICKEL.

2. Prof. Silliman says that I exhibit at Paris the only specimen of *forged nickel*, which is doubtless correct, but *that* I exhibited at our Centennial Exhibition. At Paris I show also divers finished articles made by me of pure wrought nickel, such as knives, solid lightning-rod points, a complete set of harness mountings, with bit, buckles, rings and turrets, a ship's compass with nickel magnetic needle, etc. It is, I believe, true that the considerable advance in the metallurgy of nickel, which these articles indicate, gained for America the highest prize awarded to nickel; but this was only after Prof. W. P. Blake had taken the pains to demonstrate to an incredulous jury that the articles in question were really made of pure wrought nickel.

PLATINUM COUNTERFEIT GOLD COINS.

At the conclusion of Prof. Silliman's interesting letter he speaks of coins made by inclosing a disk of platinum between two faces of gold and stamping the whole into a solid and very deceptive mass in the coining press. Messrs. Kern and Feer-Herzog, Swiss delegates to the Monetary Conference of 1876, report that the President of the Conference, M. Dumas, made a report upon the use of platinum in counterfeiting, from which I translate and condense as follows:

"The specific gravity of gold is 19, that of platinum 21. The resonance of the two metals is about the same. It results that if one should succeed in alloying platinum with another metal which would decrease its density, one could obtain disks which when gilded would imitate closely enough real gold coins. And as platinum costs only one fifth as much as gold, a false 20-franc piece made of that metal would cost about 4 francs.

"For the last six years, isabellas, napoleons, and sovereigns have been thus made on a large scale in Spain. Some of these coins have been introduced into France by trade and by Carlist refugees.

"A criminal confined in 'La Roquette,' confessed in 1874 that in 1867 several workshops were established in Catalonia, and that counterfeit gold Spanish coins had been made to the amount of $\frac{1}{15}$ of the entire circulation of the Peninsula. Public distrust having been aroused, this criminal industry was turned to foreign coins; the first counterfeits of French pieces were introduced into France by the cattle trade. The manufacturing points were Valencia, and especially Barcelona; the workshops were furnished with hydraulic presses by which the platinum disks could be struck without noise.

"A single shop in Barcelona had made a million and a half (francs) of false money, another had operated on a much more extensive scale; the shops were very well set up, and were worked by skillful mechanics and engravers. The platinum strips were made of uniform size in different parts of Europe by manufacturers whose addresses were given.

"We have said that the density of platinum was changed by the addition of other metals, so as to reproduce exactly the density of our coin alloy of $\frac{9}{10}$ gold, $\frac{1}{10}$ copper, while retaining for the disk the exact legal thickness, so as to give to the rouleau of 1000 francs the normal length. The counterfeiters began with an alloy of 950 platinum and 50 copper, which they found imperfect because it made the height of the 1000 franc rouleau too small; they then added to the platinum and copper a little silver or zinc to remedy that deficiency in thickness."

COBALT-PLATING.

Turning to page 171 of your same number I find a notice of cobalt-plating, by A. Gaiffe, taken from the *Chemical News*, as if this were a novelty. About eight years ago, when talking with a plater, who complained of the Adams patents upon nickel-plating, I suggested that he should try cobalt-plating, upon which no patent existed, as the field was a new one. He was very willing to undertake it, but was at a loss to procure the materials, which, however, I furnished to him, namely, a cast-cobalt anode and some cobalt-ammonia sulphate. Shortly after, it occurred to me that, possibly, improper use might be made of my information, and I offered to file in the Patent Office a caveat concerning cobalt-plating. Notice of an interference was returned to me, and it proved that the partner of my interlocutor had promptly applied for a patent for cobalt-plating upon the plan which I had communicated. That gentleman was obliged when testifying in the case to fix the date when he made his discovery or invention, and he named a convenient date, about ten or fifteen years earlier, whereupon my attorney exhibited a German book, printed several years before that date, in which the process was sufficiently described. Of course, no patent was granted, but several years later *the same gentleman applied again for a patent for cobalt-plating, and obtained it;* he still enjoys it, if that term may be used, for nobody has taken the trouble to contest it.

So much for our patent system. Now, as to the merits of galvano-plating with cobalt, I believe it has no advantage over nickel-plating to compensate for its greater cost, except that cobalt is whiter, more silvery, than nickel, which latter has a peculiar tint, inclining to brownish white. About the year 1870 I plated one side of my riding bridle-bit and one stirrup with cobalt, and the other side of the bit and other stirrup with nickel. The cobalt-plating was distinctly handsomer, but the nickel lasted longer.

Joseph Wharton.

Camden, N. J., September 30, 1878.

THE LOWE GAS AT BALTIMORE.

Extracts from a Report by Prof. Henry Wurtz, Ph.D.

(*Concluded from page* 219.)

THE HYDROCARBONS IN THE GAS.

"A most interesting and important point in all gases enriched with petroleum or naphtha is the nature of the hydrocarbon gases proceeding therefrom, to which the illuminating power of the gas is due. I therefore procured and took with me to Baltimore some apparatus for the examination of these hydrocarbons by what I call train analysis. In gases similar to this, enriched with naphtha, there exist (as was determined by me in experiment on the Lowe gas made at Manayunk), in addition to the ordinary series of illuminating gases found in gas from gas-coal, another peculiar series known as the marsh-gas homologues, or paraffine gases. These are not absorbed by the agent usually applied in gas analysis for absorbing the hydrocarbons of gas-coal, and their presence is rendered visible by passing through one of the trains charged with this, by the high illuminating power still possessed by the gas after such treatment.

"The Lowe gas shows this phenomenon to a very high degree, one third at least of its candle-power being certainly due to the *paraffine* gases. The determination of the amount of these paraffine gases requires indirect methods, consisting chiefly in the absorption in ponderable form of the ordinary illuminants or so-called *olefine* hydrocarbons, and, besides these, also of the condensable liquid and solid hydrocarbons in the crude gas by analytical trains applied immediately after the generators, deducting the sum of both these from the weight of the naphtha introduced into the gas.

"The only step I have yet accomplished in this process is the determi-

nation of the *olefines*. Analytical trains were three times in succession fitted up with care for this purpose, but, owing to peculiarities in the behavior of the gas not heretofore met with, the third analysis only gave a satisfactory result for both the volume and density of the olefine hydrocarbons in this gas.

"Density of the whole gas operated on=·5866. Weight of olefines absorbed in the train per cubic foot=41·3278 grains.

"Density of the residual gas after losing the olefines, being the mean of fourteen (14) determinations=·552.

"Volume of olefines absorbed, mean of many readings=7·5 per cent.

"These figures give by computation for the amount of naphtha represented by the olefines per 1000 cubic feet of the gas=41,323 grains, and as the naphtha used was found to have the density ·702, weighing therefore 40,946 grains per gallon, the olefines represent but 1·01 gallons of naphtha per 1000 feet. If the amount of naphtha utilized, making due allowance for loss and conversion into tar, naphthaline, etc., be 3·75 gallons per thousand, it is clear that each thousand feet of this gas contains some two and three quarter gallons of naphtha probably chiefly in the form of the gases which I have designated under the name of paraffines.

"The importance of the study of these constituents of this gas is thus made very manifest.

"Computation from the above figures shows also that the olefine gases have the very low density 1·0131, which is but little above that of olefiant gas or ethylene, and they must, therefore, be chiefly composed of this compound. This is the lightest of the illuminating hydrocarbons, so called, and its formation in the superheaters is one of the circumstances which leads to the surprisingly low density of gas made by the Lowe process, though there are other causes for this which more extended analytical research must develop. Eudiometric analysis of the residual gas from which the olefines have been separated by the train will furnish data of great interest, and a number of samples of such residual gas were collected and sealed up.

DRYNESS OF THE GAS.

"In the course of the train analyses, whose results are given above, occasion was taken to determine the quantity of moisture in this gas, the object being to throw light upon a peculiar dryness (caked and dusty condition) observed in the lime of fouled purifying boxes. A similar circumstance was observed at Utica in 1875. It was found, as anticipated, that, through some unexplained absorption of water (as chemically combined water) by some unknown compound formed in the purification of the Lowe gas, the gas itself—which comes, of course, saturated with moisture from the wet scrubbers—is almost entirely deprived of moisture. The analytical train was so constructed that, after determining the small amount of moisture contained in the gas, the amount it was capable of taking up was also determined at the special temperature of the experiment, which happened to be 70° Fahr. The amount left in the gas by the lime per 1000 feet was 139 grains, while the additional amount taken up at 70° was 6256 grains, in all, 6395 grains, or nearly one pound avoirdupois of water. This amount of water vapor measures nearly twenty cubic feet, or two per cent of the volume of the gas which is lost by depriving it of moisture in this way.

"The probability is, also, that the purifying power of the lime is itself injured by this desiccation, which, as the consumption increases, bringing a heavier tax on the purifiers, will become important. I have, therefore, called the attention of the engineer to this circumstance, and advised the trial of wet sawdust in the boxes as a remedy.

"HENRY WURTZ, Ph.D."

"12 HUDSON TERRACE, HOBOKEN, May 1, 1878."

In July Prof. WURTZ made further eudiometric analyses of the gas collected by him in April, and reported as follows:

"As I have before stated, a *precise* and wholly convincing determination of the composition (gas of the Baltimore company) requires that I should have also, for eudiometric analysis, samples of the *water-gas*, produced from the generators without enrichment with naphtha, which, at the time of this work in Baltimore, could not apparently be obtained.

"The samples of the completed illuminating-gas, of date April 18th, remaining in my hands, have enabled me—not, however, without tedious labor and exhaustive study—to obtain the data for arriving at the following figures, which represent, in my belief, within narrow limits of approximation, the gas of that date:

	Constituents.	Vols. per 100.	Density.	Computation.
	Hydrogen	46·49	× ·000693	= ·0322
	Marsh-gas	11·75	× ·00553	= ·0650
	Carbonic oxide	21·51	× ·009674	= ·2081
	Nitrogen	4·30	× ·0097	= ·0417
	Oxygen	·20	× ·01106	= ·0022
Olefine Gases.	Ethylene	6·50	× ·00968	= ·0629
	Propylene	·35	× ·01455	= ·0051
	Butylene	·15	× ·0194	= ·0029
Paraffine Gases.	Ethane	·50	× ·0104	= ·0052
	Propane	1·00	× ·01522	= ·0152
	Butane	7·25	× ·02	= ·1450
		100·00		
	Density, as computed from composition			·5855
	Density of gas of April 18th, as previously reported by direct determination: Mean of 7			·5882

THE FIRST FURNACE.—James M. Swank, Esq., Secretary of the American Iron and Steel Association, in the *Bulletin* of that association, publishes an article in which he says: "A year ago we carefully and patiently investigated the whole subject of priority in the erection of iron-works in Pennsylvania, and unhesitatingly awarded the honor of having erected the first furnace in the State to Thomas Rutter and his associates, who built Colebrookdale furnace, Ironstone Creek, in Colebrookdale township, in Berks County, as early as 1720, and probably in that year. The furnace, which was successfully operated for many years, stood about eight miles north of Pottstown, three fourths of a mile west of Boyertown, and about two hundred yards from the Colebrookdale Railroad. Plenty of cinder marks the exact site."

DRY GRAPHITE FOR STEAM CYLINDERS.

By J. H. Cooper.

Mr. W. J. Williams, Engineer, 611 St. John street, Philadelphia, has called my attention to the successful use of dry pulverized graphite for lubricating steam-cylinders. He applies 137 grains twice a day, introducing it into the cylinder through the usual form of tallow-cup. Six months of continuous use, in an 11″ × 30″ horizontal engine, working to its full capacity, prove this lubricant superior in every way to oils or tallow, both of which he had used for years. No oil whatever is introduced with the graphite. Besides satisfying all the lubricating needs of the cylinder, the joints, where gum is used, last longer and show less of leakage. At 30 cents per pound, this engine would require 1⅛ cents' worth per day.

After a run of four months following the above tests, Mr. W. says: "I took off the cylinder-head of my engine to examine the interior. I found the piston perfectly clean, with no appearance of wear or abrasion, on account of plumbago being used as the lubricator. I feel very positive that if I had been using animal or vegetable oils, the parts would be in a much worse condition to-day. The cylinder has been scored for several years. It is in no better or worse condition now than it was before I quit using oils (about 14 months). The working part of the cylinder is everywhere covered with a coat of plumbago, readily soiling the fingers.

"I touched the cylinder in the same place three times, cleaning the fingers previous to each touch, but they were soiled each time.

"The conclusion I have come to about the choking up of passages is, that plumbago alone will not do it; but wherever there is friction of one or more moving parts, some of it will adhere to them.

"I have never heard a noise in the cylinder since I have been using plumbago, except when the steam is entirely shut off at the stop-valve for the purpose of stopping the engine; and then it would be heard during one or two strokes of the piston before the engine would stop, and this not oftener than usually occurs when using any kind of lubricator.

"I increase the quantity of plumbago sometimes to 180 grains twice a day; 134 is the minimum and usual quantity.

"I have never given the former quantity because the engine has called for it."

THE LEAD REGION OF WISCONSIN.*

(*Concluded from page* 132.)

STATISTICS OF ZINC ORE.

The statistics of the production of zinc ores are believed to be complete and to embrace the annual production from the year 1860 (at which time the zinc ore began to be utilized) to October, 1876. The ore is all consumed at La Salle, Ill., by four companies. By far the greatest quantity of the ore is shipped from Mineral Point; the other points are Platteville, Council Hill, and Galena.

The blende is shipped in its crude state, as it comes from the mines; but the carbonate of zinc (dry bone) is previously roasted or calcined, by which process it loses its carbonic acid, which constitutes about one third of its weight, and is decreased in bulk in the same ratio. The small amount of water, which is usually present as a mechanical mixture with the ore, is also driven off. The ore is calcined in a small and inexpensive furnace, resembling a lime-kiln in its structure and object, capable of containing about sixty tons of raw ore. Such a furnace will roast about twenty-five tons of ore in twenty-four hours, and requires the labor of six men at eight hours apiece (three shifts). From eighty to one hundred pounds of bituminous coal are required for each ton of ore. The cost of carrying the ore through this operation is from fifty to sixty cents per ton. The cost of a furnace and requisite tools is about $300. The following are the amounts of zinc ores produced in the lead region from 1860 to October 1st, 1876. The table has been prepared from the books of the four manufacturing companies, to whom I am greatly indebted for their ready coöperation and assistance:

Year.	Smithsonite, lbs.	Blende, lbs.	Year.	Smithsonite, lbs.	Blende, lbs.
1860	320,000	.....	1870	4,429,585	7,414,022
1861	266,000	.....	1871	16,618,160	9,303,625
1862	.....	.....	1872	27,694,574	16,256,970
1863	1,120,000	.....	1873	20,538,946	15,089,514
1864	3,173,333	.....	1874	15,123,050	19,500,465
1865	4,198,200	.....	1875	11,878,210	20,538,190
1866	7,373,333	.....	1876	12,168,540	17,181,490
1867	5,181,445	841,310			
1868	4,302,383	3,078,435	Total...	138,933,730	115,456,441
1869	4,547,971	6,252,420			

STATISTICS OF THE PRODUCTION OF LEAD ORE FROM JANUARY 1ST, 1862, TO OCTOBER 1ST, 1876.

During the progress of this survey, much time and care have been devoted to this portion of the work, in writing to and personally soliciting information from all persons possessed of it, and especially from the smelters. We have sought to prepare a statement of the amount of lead ore produced annually in each district, and a combined estimate of the total amount for the lead region.

The lead ore produced in each district is seldom exported from it as such, but is usually reduced by the furnaces of that district and then exported as pig-lead. Therefore, it was believed that the most accurate statistics could be obtained from the books of the smelters; accordingly, circular letters have been sent to each of them, to which, in most instances, they immediately responded, giving a full and complete statement taken directly from their books, and leaving nothing further to be desired. Some were unable to do so, as their old accounts were lost or mislaid, and some, perhaps, were unwilling to have a detailed statement of their business published. All who did not respond to the circular were personally visited, and a statement giving the general average obtained. Although some of the individual statements herewith submitted may be liable to slight error, yet it is confidently believed that the esti-

* Condensed from *Geology and Topography of the Lead Region*, by MOSES STRONG, in *Geology of Wisconsin, Survey* 1873-77, Vol. II. Published under the direction of the Chief Geologist, 1877, Mr. T. E. CHAMBERLIN.

mates are, as a whole, rather too small than too large, and that they are as reliable as it is now possible to make them. We are thus enabled to give the products of the separate parts of the district, and a total of the whole in the following table :

Name of District.	1862.	1863.	1864.	1865.	1866.
Beetown					
Platteville	1,150,000	950,000	950,000	850,000	850,000
Potosi	6,050,000	5,120,000	4,500,000	5,200,000	4,400,000
Hazel Green	2,027,047	1,262,640	837,597	753,821	797,421
New Diggings	2,148,938	2,526,198	2,237,695	2,278,609	2,273,415
Shullsburg	1,800,000	1,700,000	1,400,000	2,000,000	2,000,000
Mineral Point	1,991,938	1,991,938	1,683,998	1,889,058	2,154,058
Dodgeville	1,369,989	1,055,441	905,511	866,407	1,154,298
Highland					
Totals	17,037,912	15,105,577	13,014,201	14,337,895	14,029,192

Name of District.	1867.	1868.	1869.	1870.	1871.
Beetown		800,000	1,100,000	1,700,000	1,300,000
Platteville	850,000	800,000	800,000	800,000	950,000
Potosi	3,500,000	2,600,000	2,200,000	1,900,000	2,230,000
Hazel Green	1,334,640	1,541,670	1,315,970	1,223,250	1,230,917
New Diggings	2,200,597	2,629,158	1,615,323	2,200,000	1,700,000
Shullsburg	2,200,000	1,700,000	1,200,000	1,863,986	1,650,362
Mineral Point	2,043,608	2,252,710	2,532,710	2,192,306	1,990,672
Dodgeville	1,191,939	1,046,081	1,162,718	1,374,617	1,932,259
Highland					
Totals	13,820,784	13,869,619	13,426,721	13,754,159	13,484,210

Name of District.	1872.	1873.	1874.	1875.	1876.
Beetown	900,000	850,000	1,000,000	800,000	700,000
Platteville	950,000	600,000	500,000	504,000	1,044,000
Potosi	1,400,000	1,500,000	750,000	700,000	650,000
Hazel Green	1,278,524	1,046,626	830,174	735,395	723,193
New Diggings	1,650,000	1,128,000	1,200,000	1,200,000	1,300,000
Shullsburg	1,446,448	1,334,221	1,700,000	1,800,000	1,625,000
Mineral Point	1,661,376	1,518,888	1,850,000	2,000,000	1,455,350
Dodgeville	1,836,320	1,441,999	1,595,000	1,240,000	1,100,000
Highland					
Totals	11,622,668	9,919,734	9,625,174	9,179,395	8,747,543

The following are the totals for the years from 1862 to 1876, inclusive: Beetown, 9,150,000; Platteville, 12,548,000; Potosi, 42,700,000; Hazel Green, 16,938,885; New Diggings, 29,184,333; Shullsburg, 25,420,017; Mineral Point, 29,208,610; Dodgeville, 19,272,579; Highland, about 7,500,000. Grand total, 190,974,784.

From the foregoing statistics, the following general results may be deduced: There are now seven reverberatory or Drummond furnaces in operation, with an average daily capacity of 7000 pounds of ore each; and five blast-furnaces of two hearths, and two of one hearth each, the average capacity per hearth being 100 pigs, or 10,000 pounds of ore per 24 hours. In addition to these, there are nine blast-furnaces of two hearths each, not at present worked, but nearly all in good repair. Some of them have been supplanted by the reverberatory furnace, which is preferred for fine ore, and some by new furnaces built in adjoining localities.

Besides the smelters already mentioned, there are numerous others operating outside of the Wisconsin Lead Region, in Illinois and Iowa. The following information was obtained relative to the production :

The parties smelting n Dubuque are :

J. & W. G. Walters, annual amount ..... 900,000 lbs.
Coates & Brunskill " " ..... 900,000 "
Fern & Simpson " " ..... 650,000 "

Parties smelting in Galena are :

Thos. B. Hughlett, annual average since 1862 ..... 1,800,000 lbs.
Spensley's Furnace, present annual average ..... 1,000,000 "

Richard Bowden, or Galena Furnace, smelted as follows :

Year 1874 ..... 930,000 lbs. | Year 1876, to October 1st ..... 630,000 lbs.
" 1875 ..... 850,000 "

Hon. Henry Green, of Elizabeth, Ill., as follows :

Year 1873 ..... 575,113 lbs. | Year 1875 ..... 615,406 lbs.
" 1874 ..... 821,720 " | " 1876 to October 1st ..... 442,602 "

Mr. Green remarks that seven years ago the mineral field which supplies his furnace produced three times as much ore as at present.

The amounts smelted by Richards & Co., at their furnace in Warren, Ill., are approximately as follows :

Year 1873 ..... 450,000 lbs. | Year 1875 ..... 250,000 lbs.
" 1874 ..... 300,000 " | " 1876 to October 1st. ..... 200,000 "

As it is a matter of interest to compare the present production of the mines with the past, I have taken the liberty to reproduce the following statistics of the Upper Mississippi lead mines, the product being given in tons of metallic lead.*

Year.	Tons.	Price per cwt. in St. Louis.	Year.	Tons.	Price per cwt. in St. Louis.
1823	150		1839	11,976	$4.38
1824	78		1840	11,987	4.38
1825	297		1841	14,150	3.50
1826	428				At Galena.
1827	2,313	$4.50	1842	13,992	$2.24
1828	4,958	3.30	1843	17,477	2.34
1829	5,957	2.00	1844	19,521	2.82
1830	5,331	2.13	1845	24,328	2.96
1831	5,369	3.00	1846	23,513	2.88
1832	5,401	4.25	1847	24,145	3.17
1833	6,068	4.13	1848	21,312	3.24
1834	7,699	4.25	1849	19,654	3.67
1835	8,469	5.00	1850	17,768	4.20
1836	11,390	5.13	1851	14,816	4.08
1837	9,708		1852	12,770	4.12
1838	10,811		1853	13,307	5.50

* See Whitney's Metallic Wealth of the United States, 1854, p. 421.

CONCLUDING REMARKS.

The subject of drainage in our mines is one of great importance; at present it is effected by pumping, and by levels or adits. Pumping is at best but a temporary expedient, and when steam is employed, it is a costly one; it effects the drainage of only a comparatively small area, and when the pump ceases to work, water immediately returns. Expensive pumping operations are only warranted where large bodies of ore are known to exist within a small area of ground.

On the other hand, the drainage effected by a level is permanent and extensive, although the original outlay of capital is large. Our mines have now been worked so long that it is known in each mining locality how many ranges have been worked to the natural water-level, and the comparative value of the veins of ore left in them when abandoned. With this foreknowledge, it is not difficult to arrange a level that will not only drain the previously-known ranges, but will also make it possible to work any others which may afterward be discovered in its vicinity; a system which is further favored by the well-known parallelism of the ranges.

The stratum in which levels can be most rapidly excavated, and with the least expense, is the upper or thin-bedded portion of the blue limestone (Trenton). There are no interstratified beds of clay above it, and usually nothing to prevent the drainage of all the Galena limestone; but as the strata sometimes contain slight flexures, it is not always possible to drive a level in the same formation. Levels driven in this, the upper pipe-clay opening, have the additional advantage of proving one of the most productive openings known in the lead region.

Judging from the number of levels which have been excavated, and the success which has usually attended them when completed, the system of mining by levels seems to offer the safest field for the employment of capital.

The recent inventions and improvements in pneumatic or compressed-air drills, and in mining explosives, such as dynamite and rend-rock, are daily rendering the excavation of levels a much less laborious task.

There is another method by which drainage of mines has sometimes been effected, and which might in many other places be employed to advantage. It is by simply drilling a hole from the bottom of the mine to some of the underlying clay beds of the Trenton. In this way a passage is often effected for the escape of the water, of which it will often avail itself until the opening becomes closed up with mud from the mine, when a new hole has to be drilled.

WEALTH AND THE ADVANCEMENT OF SCIENCE.

A historical illustration will perhaps bring out more clearly this view, which is now coming to be regarded as so peculiarly American. There lived in England, in the last century, a man of science named Henry Cavendish, who was born in 1731, and died in 1810. He was a gentleman of fine cultivation, an excellent mathematician, a profound electrician, and a most acute and ingenious chemist. He published many papers, containing results of recondite investigations and the most important discoveries. He was not only a great original thinker, but a most indefatigable and accurate experimenter, and one of his main lines of research was the chemical constitution of the atmosphere. He made no less than 500 analyses of the air, and it is to him that we owe our chief knowledge of the composition of the breathing medium. Now, there is not an American that will not commend all this as most proper and admirable. But there is another side to the case. Henry Cavendish was a man of enormous wealth, for which he cared absolutely nothing. He was one of the greatest proprietors of stock in the Bank of England, and when on one occasion his balance had accumulated to $350,000, and the directors, thinking it too much capital to lie unproductive, asked him if they should not invest it, he simply replied, "Lay it out, if you please." That small portion of his wealth which he could make use of in his investigations was so used, but he did not allow the remainder of it to divert his thoughts in the slightest degree from the unremitting prosecution of his scientific labors. He died worth $7,000,000, which was an immense sum of money at the beginning of this century, but he had not the slightest interest in those objects for which wealth is generally prized. Now, the whole case being given, to the eye of the typical American Henry Cavendish will be regarded as a fool. "With all that money," the representative American would say, "I could keep a yacht and a stud of fast horses, and build a church, and endow a college, and send a dozen missionaries to the heathen, and run a whole political campaign at my own expense; and you say this odd creature actually spent life in the smudge and stenches of a chemical laboratory, puttering with gases, and worried about the composition of the air!"—*Prof. Youmans, in Popular Science Monthly for August.*

Irisation.—We learn from the London *Engineer* that, at the June meeting of the Society for Encouraging National Industry, of France, M. Hélouis exhibited samples of metallic threads and ribbons "irisated" by means of binoxide of lead, and also samples of lace work ornamented with them. Nobili was the first to obtain such deposits as these on different metals, by electro-chemical means. He immersed a metallic plate, placed in communication with the positive pole of a battery, in a solution of acetate of lead, for example. The negative pole was fastened to a platinum wire, surrounded, except at the ends, by a glass tube; this tube dipping into the liquid in such a way that the free metallic end wasplaced at a distance of from one to two milli meters from the plate, the current was passed through it. It was observed that around the wire there were formed concentric rings, produced by delicate films of binoxide of lead, and characterized by varied and extremely brilliant colors, like those exhibited by soap-bubbles. Becquerel made an exhaustive study of this phenomenon in 1843. By substituting for acetate of lead a solution of oxide of lead in potassa or soda, he obtained iridescences that were much more solid; and by taking a certain number of wires as negative poles, he was enabled to give objects of small dimensions uniform colorations of such tints as he wished. For certain kinds of objects his process is still in use at the present day. But "irisation" has never before been attempted on ribbons or wires of such delicacy as to measure on an average 32,800 feet in length to the pound. M. Hélouis has succeeded in giving these delicate threads and bands uniform tints throughout their whole length, and in producing at will any color that he desires.

EDISON'S TELEPHONIC RESEARCHES.

The following communication from Mr. THOMAS A. EDISON gives a detailed account of his researches in telephony, and is a valuable contribution to the history of the development of the speaking telephone.*

The investigations here detailed were made with a view to the perfection of a system of multiple telegraphy, which had for its basis the transmission of acoustic vibrations, with the view of producing an articulating telephone, carrying on both series simultaneously.

THE TUNING-FORK SYSTEM.

In Mr. EDISON'S first system of acoustic transmission, which was devised in September. 1875, and is shown in Fig. 1, two tuning-forks, *A* and *B*, vibrating from 100 to 500 times per second, were kept in continuous motion by a local magnet and battery, and the short circuiting was controlled by the signaling keys K_1 and K_2. As will be seen on reference to the engraving, this system is dependent upon the varying resistance occasioned by employing a movable electrode in water, and which thus produces corresponding variations of the battery current in the line.

The receivers R_1 and R_2, Fig. 2, were formed of telescopic tubes of metal, by the lengthening or shortening of which the column of air in either could be adjusted to vibrate in unison with the proper tone of the fork, whose signals were to be received by each particular instrument. An iron diaphragm was soldered to one end of these tubes, and the latter placed in such a manner as to bring the diaphragm of each respectively just in front of an electro-magnet, which, in action, would cause them to vibrate. When the column of air in either receiver was properly adjusted to a given tone, the signals due to stopping and starting the vibrations by the distant key were very loud, as compared to other tones not in harmony with the column of air. Flexible rubber tubes, with ear pieces, were connected to the receivers, so that, in using the instruments, the head of the operator was not required to be held in an unnatural or strained position.

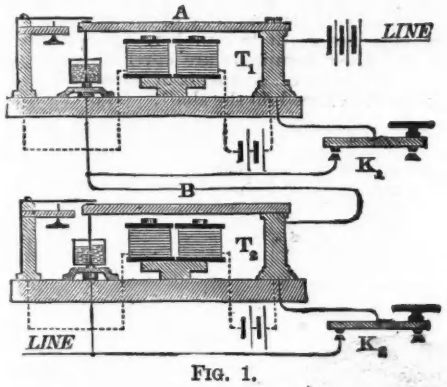


FIG. 1.

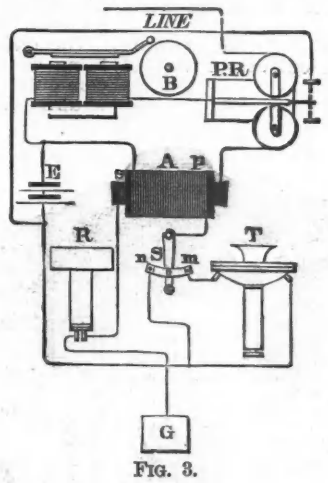


FIG. 3.

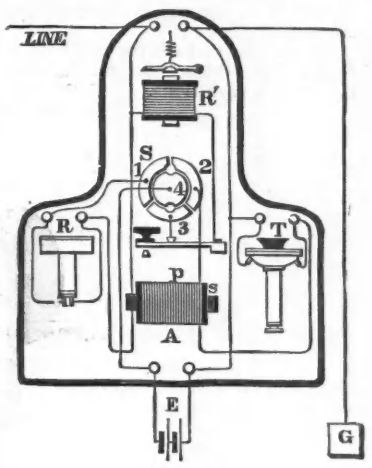


FIG. 4.

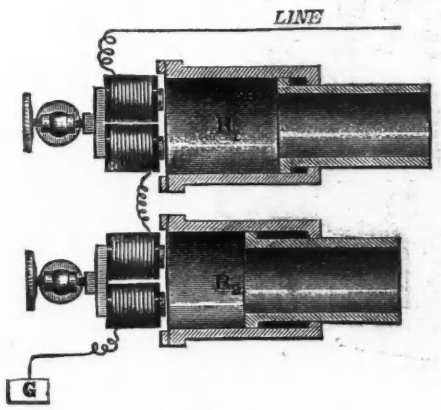


FIG. 2.

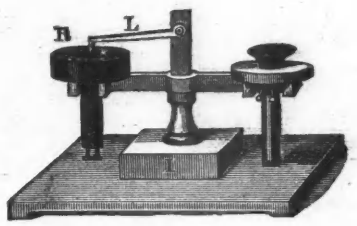


FIG. 5.

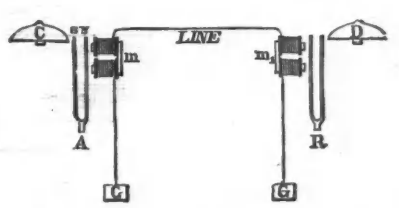


FIG. 6.

The manner in which this result was reached is described by Mr. EDISON as follows: "I first substituted a spiral spring of about a quarter inch in length, containing four turns of wire, for the rubber tube which connected the diaphragm with the disks. I found, however, that this spring gave out a musical tone, which interfered somewhat with the effects produced by the voice; but, in the hope of overcoming the defect, I kept on substituting spiral springs of thicker wire, and as I did so I found that the articulation became both clearer and louder. At last I substituted a solid substance for the springs that had gradually been made more and more inelastic, and then I obtained very marked improvements in the results. It then occurred to me that the whole question was one of pressure only, and that it was not necessary that the diaphragm should vibrate at all. I consequently put in a heavy diaphragm, one and three quarter inches in diameter and one sixteenth inch thick, and fastened the carbon disk and plate tightly together, so that the latter showed no vibration with the loudest tones. Upon testing it, I found my surmises verified; the articulation was perfect, and the volume of sound so great that conversation carried on in a whisper three feet from the telephone was clearly heard and understood at the other end of the line.

"This, therefore, is the arrangement I have adopted in my present form of apparatus, which I call the carbon telephone, to distinguish it from others. [In this way was made the discovery which Professor D. E. HUGHES has lately claimed to have originated, and on which the so-called microphone is based.]

"The accessories and connections of this apparatus for long circuits are shown in Fig. 3. *A* is an induction coil, whose primary wire *p*, having a resistance of several ohms, is placed around the secondary, instead of within it, as in the usual manner of construction. The secondary coil *s*, of finer wire, has a resistance of from 150 to 200 ohms, according to the degree of tension required; and the receiving telephone *R* consists simply of a magnet, coil, and diaphragm. One pole of the magnet is connected to the outer edge of the diaphragm, and the other, which carries the wire bobbin of about 75 ohms resistance, and is included in the main line, is placed just opposite its center.

"*P R* is the signaling relay, the lever of which, when actuated by the current from a distant station on the line in which the instrument is included, closes a local circuit containing the vibrating call-bell *B*, and thus gives warning when speaking communication is desired.

"Besides serving to operate the call-bell, the local battery *E* is also used for sending the call signal. *S* is a switch, the lever of which, when placed at *o*, between *m* and *n*, disconnects the transmitter *T* and local battery *E* from the coil *A*, and in this position leaves the polarized relay *P R* free to respond to currents from the distant station. When this station is wanted, however, the lever *S* is turned to the left on *n*, and depressed several times in rapid succession. The current from the local battery, by this means, is made to pass through the primary coil of *A*, and thus for each make and break of the circuit induces powerful currents in the secondary *s*, which pass into the line and actuate the distant call-bell.

"When the call signals have been exchanged, both terminal stations place their switches to the right on *m*, and thus introduce the carbon transmitter into their respective circuits. The changes of pressure, produced by speaking against the diaphragm of either transmitter, then serve, as already shown, to vary the resistance of the carbon, and thus produce corresponding variations in the induced currents, which, acting through the receiving instrument, reproduce at the distant station whatever has been spoken into the transmitting instrument.

TELEPHONE SIGNALING APPARATUS.

"For lines of moderate lengths, say from one to thirty miles, another arrangement, shown in Fig. 4, may be used advantageously. The induction coil, key, battery, and receiving and transmitting telephones, are lettered the same as in the previous engraving, and are similar in every respect to the apparatus there shown; the switch *S*, however, differs somewhat in construction from the one already described, but is made to serve a similar purpose. When a plug is inserted between 3 and 4, the relay or sounder *R'*, battery *E*, and key *K* only are included in the main line circuit, and this is the normal arrangement of the apparatus for signaling purposes. The battery, usually about three cells of the Daniell form, serves also both for a local and main battery. When a plug is inserted between 1, 2, and 4, the apparatus is available for telephonic communication.

"I have also found, on lines of from one to twenty miles in length, that the ordinary call can be dispensed with, and a simplified arrangement

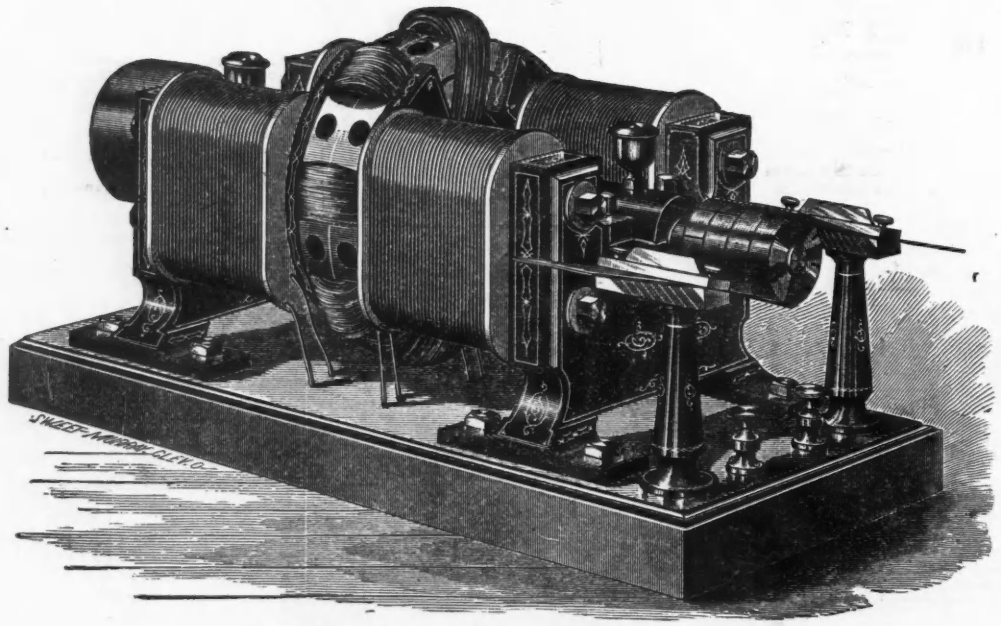
* Abridged from "The Speaking Telephone, Talking Phonograph, and other Novelties," by George B. Prescott.

substituted. This latter consists simply of the ordinary receiving telephone, upon the diaphragm of which a free lever *L* is made to rest, as shown in Fig. 5. When the induced currents from the distant station act upon the receiver *R*, the diaphragm of the latter is thrown into vibration, but by itself is capable of giving only a comparatively weak sound; with the lever resting upon its center, however, a sharp, penetrating noise is produced by the constant and rapid rebounds of the lever, which thus answers very well for calling purposes at stations where there is comparatively but little noise."

Mr. Edison has also used direct and induced currents to release clockwork, and thus operate a call, and by the further action of these currents on similar forks at a distant station, bells were caused to be rung, and signals given, Fig. 6 shows an arrangement of this kind. *A* and *B* are two magnetized tuning-forks, having the same rate of vibration and placed at two terminal stations. Electro-magnets *m* and m_1 are placed opposite one of the prongs of the forks at each station, while a bell *C* or *D* stands opposite to the other. The coils of the magnet are connected respectively to the line wire and to earth. When one of the forks is set in vibration by a starting key provided for the purpose, the currents produced by the approach of one of its magnetized prongs toward the magnet, and its recession therefrom, pass into the line and to the further station, where their action soon causes the second fork to vibrate with constantly-increasing amplitude, until the bell is struck and the signal given.

For telephonic calls the call-bells are so arranged that the one opposite to the fork which generates the currents is thrown out of the way of the latter's vibrations.

(TO BE CONTINUED.)



The Brush Dynamo-Electric Machine.—Fig. 1.

THE BRUSH DYNAMO-ELECTRIC MACHINE.

By the courtesy of Mr. N. H. Edgerton, of Philadelphia, we are enabled to present the following facts concerning this machine, which has of late attracted much attention in view of the growing importance of the subject of electric lighting, and the high record which the Brush apparatus has sustained in the trials of comparative excellence instituted by the Franklin Institute.

The desirability of the electric light has been long admitted both for its economy and safety, but the difficulty of regulating the current so as to give a steady and continuous light has hitherto prevented its general adoption. With the Brush machine, this difficulty is overcome, and in addition a mode of dividing the electric current is attained, which allows of two or more lights being run at the same time and continuously. This is an important step in advance of any other machine, and greatly lessens the original cost of outfit for mills, factories, depots, wharves, etc., while in economy of power and durability it stands unrivaled.

It is exceedingly simple in construction, and all its parts are readily accessible for inspection or repair; in running it requires no special attendance. For university and college use, the ordinary light machine will answer for all the experimental electro-plating and electrolytic action, or other purposes required for the physical laboratory. Where special attention is paid to electro-plating, however, it is desirable to have the machine arranged for that definite purpose.

	Cents.
Cost of fuel for engine, say 100 pounds of coarse slack coal, per hour	20
Cost of oil, waste, etc., for engine and machine, per hour	2
Cost of carbons burned in four lamps, two inches per hour in each	16
Fifteen per cent upon cost of engine and all electrical apparatus to cover interest upon investment and wear and tear, per hour	13
Wages of engineer to run engine and machine, per hour	20
Total per hour	71

Total light given by the four lamps equal to 800 gas-burners burning six feet of gas per hour. This amount of gas, at $2.15 per thousand feet, would cost $10.32 per hour, or over *fourteen and a half* times the cost of the electric light.

The above table shows the cost per hour of producing electric light by the use of a Brush dynamo-electric machine of 12,000 candle-power, arranged to give four separate and distinct lights, each equal to 3000 candles, or 200 six-foot gas-burners,* and the cost per hour of an equal amount of gas-light, concentrated at the same points where the electric lamps are placed. This estimate is made with the idea that a special engine of ten horse-power is purchased to run the machine, and that the whole apparatus is in use ten hours each day for three hundred days in the year.

The above comparison may be made still more favorable for electric light in all places where power is already in use, and the amount needed to run the light machine can be spared (about five or six *actual* horse-power). In such cases the above total of seventy-one cents per hour would be reduced to not more than twenty-six cents per hour, or *one fortieth* the cost of an equal amount of gas.

The power required is about three horse-power for the 2000-candle machine, four horse-power for the 4000, and a proportionate increase for the larger-sized machines.

The Brush dynamo-electric machine consists of two large and powerful horseshoe electro-magnets, placed with their similar poles facing each other, and at such a distance apart as to allow of an iron ring or armature revolving between them.

All these parts are suitably mounted on a rigid wood or metal base. The currents are generated in coils of copper wire wound upon this ring or armature, which is rapidly rotated between the poles of the magnets.

The coils on the armature ring are eight in number, opposite ones being connected end to end, and their terminals are carried out to the commutator. This commutator consists of segments of brass, secured to a ring of non-conducting material carried on the shaft. The commutator is so arranged that at any instant three pairs of coils are interposed in the circuit of the machine. The current is conveyed from the commutator by means of brushes, made of strips of hard brass, joined together at their outer end, and connected with a large post or binding screw on the base.

The wires leading to the lamps are also connected with these screws; the current therefore passes along these wires and through the carbon points held in the lamps, thus completing the circuit.

The lamp is shown in Fig. 2, arranged for hanging from the ceiling. *A* is a helix of copper wire through which the current flows, making an electro-magnet of the hollow soft iron core, which carries the carbon-holder *B*. If now, one wire be connected at *P*, and the other at *N*, the current will flow through *P*, down the carbon *F* to the point of light through the other carbon, and the carbon-holder *G*, up the rod *E* and over the wire *N*, back.

The axial magnetism produced in the helix by the passage of the current will draw up the core, separating the carbon points far enough to produce the light. As the carbons burn away, the increased length of the electric arc increases its resistance and weakens the magnetism of the helix, and, therefore, the rod and carbon move downward by the force of gravity, until, by the shortening of the arc, the magnetism of the helix is strengthened and the downward movement arrested.

Parties desirous of obtaining further information concerning machines for lighting mills, factories, depots, freight-yards, docks, public halls, ferry-boats, light-houses, etc., may address N. H. Edgerton, 924 Chestnut street, Philadelphia.

The following extracts from a report on the introduction of the system of electric lighting by the Brush dynamo-electric machine for the Hall of Representatives, United States Capitol, Washington, D. C., to Edward Clark, Esq., Architect, United States Capitol, by Robert Briggs, C.E., Consulting Architect; also from the Report of the Committee of the Franklin Institute on Dynamo-Electric Machines will be of interest in connection with the preceding:

FROM REPORT OF MR. BRIGGS.

"Within the past two years, dynamo-electric machines of several

*The average light given by a six-foot burner being equal to fifteen standard candles.

kinds have been proposed, and the certainty of ultimate success in lighting places where considerable amount of light is required, can now be affirmed. These machines are of greatly varied construction in detail, but generally possess the characteristics of one made by an Italian, Professor PACINOTTI, in 1863, or of a French scientist, M. GRAMME, 1869, the latter having given a practical working form to the type of machines. An English machine, known as the Siemens machine, rivals, in foreign estimation, and perhaps exceeds, the Gramme machine in the ability to transform motive power into electric currents, and its consequent light-producing capability. Two American machines, one of which is called the Wallace-Farmer machine, and the second that of C. F. BRUSH, complete the list of dynamo-electric machines now available for electric light. The machine of Mr. BRUSH appears to offer most, if not all, the facilities for production of electric current possessed by other machines, and to have some points of superiority in mechanical construction which make it preferable to them.

"The largest Brush machine now made is estimated by the makers to have six times the lighting capability of the larger one of the two furnished to the Franklin Institute to be tested, and this machine is arranged to use four lamps at one time. One of these machines has just been put

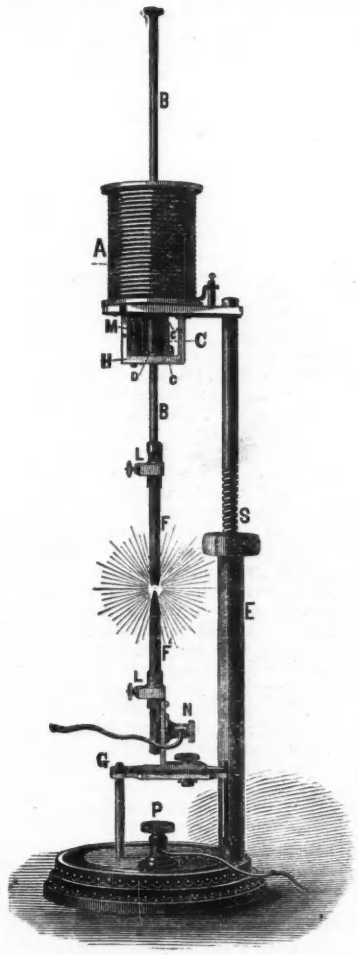


FIG. 2.

into experimental operation at the passenger station of the Pennsylvania Railroad in this city, where I inspected the arrangement and performance on the evening of the 17th inst. The place lighted is the departure side of the station, and is an open structure, of iron columns, with roof covering about 900 feet in length by 90 feet in width, and 22 feet height of columns. The four lamps were distributed in the roof, about 25 feet from the ground, and 225 feet apart; three of them in the line of the middle of the roof, and the fourth, at one end, was placed at the side of the building, so as to give an outside light for running the engine. The latter, with the dynamo-electric machine, was placed at a distance from the building, on the opposite side of the low level tracks, on a platform 25 feet below the ground level of the station, and about 80 feet distant, in a side direction. The arrangement demanded about three fifths of a mile of copper wire, one quarter inch diameter, for connection between the machine and the lamps.

"It is rare, in mechanical operations, to see a more satisfactory first trial than that made at the station of the Pennsylvania Railroad, on the evening in question. The time of commencement was eight P.M.; the sky was overcast with clouds, and it was rainy, although it did not actually rain during the one and a half hours' lighting. The whole building was illuminated so that, by turning to the light, the finest print could easily be read, while anywhere, within 50 feet of the light, the effect was that of a sunbeam. All the objects in the station were dark colored, and but little reflection took place; and as there were but four sources of light, the diffused light did not amount to much.

"The products of combustion which accompany electric lighting are almost inappreciable. Twelve lamps will burn, or consume (for some is not burned), 19 inches of carbon pencils, ⅜-inch square, per hour. The weight of carbon is possibly three ounces, and the resulting carbonic acid is, if the carbon is really burned, five cubic feet. For comparison, 5500 cubic feet of gas will demand 6754 cubic feet of oxygen, producing 3333 cubic feet of carbonic acid; and 67,100 cubic feet of air must be supplied to effect the complete combustion of the gas (being double the quantity of air which carries the oxygen); while 55,000 cubic feet of air must be furnished *each minute* to dilute and reduce to sufferable temperature the effluent gases.*

"The question of relative safety from fire of the two systems is too important not to merit remark. The danger of leaky gas-pipes and fixtures, disastrous explosions, the feeding of flame by gas when accident occurs, all disappear before the harmless wires which convey the electric current for illumination.

"With all these advantages there remains yet another. The electric light is the nearest possible one to the natural one of the sun. Properly arranged, to avoid distinct shadows, the correspondence to a carefully-shaded room at midday can be secured, colors will have their natural values and tints, and the gratification of the most delicate sense is not the least of the promises in the future perfection of electric lighting.

"And it should be mentioned here that in mechanical construction and consequent wear of parts, I regard the Brush machine, *as a machine*, to be quite as permanent as any steam-engine. And I will also here say that I look on this machine as much superior to any of the competing machines in this very particular of mechanism."

FROM THE REPORT OF COMMITTEE OF FRANKLIN INSTITUTE.

"After careful consideration of all the facts embodied in the preceding reports, the committee has unanimously concluded that the small Brush machine, though somewhat less economical than the Gramme machine, or the large Brush machine, for the general production of light of electrical currents, is, of the various machines experimented with, the best adapted for the purposes of the Institute, chiefly for the following reasons:

"1. It is admirably adapted to the production of currents of widely varying electro-motive force. and produces a good light.

"2. From the mechanical details of its construction, especially at the commutators, it possesses great ease of repair to the parts subject to wear.

"The committee therefore recommends that it be selected for purchase."

WYOMING VALLEY MINING NOTES.

Special Correspondence of the Engineering and Mining Journal.

THE TELEPHONE IN COAL-MINING.

There is not much news, at least of any interest to your readers, to be reported at present. One item or two may be mentioned in connection with our mining matters that may be thought worthy of note. Some time during the last month, Messrs. CHARLES PARRISH & CO. put up a telephone at Audenried shaft for communication between the fan-engineers and the engineers, or others, at the hoisting-engine, a distance of nearly half a mile. Heretofore some difficulty has been experienced in keeping a perfect understanding, and several serious troubles have arisen from said difficulty. The telephone will enable the parties at both ends to communicate freely and quickly, and the fan-engineer can report instantly in case any thing threatens to give way on the fan or engines, thereby saving much time and probably preventing accident. Another matter in this connection is in contemplation, and it is this: To arrange the instrument to act as a perfect tell-tale or check against any carelessness on the part of the fan-engineer on the night shift, which has been a serious complaint in the past. As I said before, the telephone is to be a check, and to do that it must be so fixed as to enable a person at the end, stationed in the hoisting-engine-house, to read or hear and count each pulsation of the fan. This will enable any person, night or day, to tell the speed of the ventilator without consulting the fan-engineer. They will understand how vigilant a companion they will have with them at all times, and it is easy to see the importance of this arrangement to the men in the mines. This is the first telephone placed in direct connection with the operation of a mine in this country that I know of, although the Lehigh Valley Coal Co. have got in operation telephones between their town office and three of their mines—the Henry, Prospect, and West Pittston collieries, the latter being distant about ten miles, more or less; and each works with perfect satisfaction.

As I mentioned in my squib, a short time ago, that the Maltby new colliery had commenced operations, I learned that the workings in the tunnel were stopped last week by the inspector for want of sufficient and proper ventilation. It was expected, however, that the new fan there would be ready within a week. This fan is also one of the *Champion ventilators* or *Murphy fans*, 6 feet in diameter. The few places at the new shaft then working were also all stopped the same time, except the ones driving for a second opening, which will be through in a week or two, when the whole blockade will be raised.

The second opening shaft for the Hollenback shaft, belonging to the Lehigh and Wilkes-Barre C. Co., has been let out to a party of sinkers from Hyde Park, who have now worked at it about five or six weeks. This shaft will have some three or four hundred feet to go to cut the Baltimore seam. It will be used to ventilate the Diamond-shaft workings. Reopening of the Diamond-shaft workings has proved a tedious, dangerous, and very expensive operation, and will require a long time to complete.

SQUIB.

IMPROVEMENT IN WATCHES.—A notable improvement in watches is reported from Chaux de Fonds, Switzerland. By a peculiar process the figures on the dial are rendered luminous, so that if exposed once during the day to the sunlight they remain phosphorescent and visible throughout the night. According to *Nature*, preparations are being made for the production of these watches on a large scale.

CAUSTIC SODA.—Arrott prepares caustic soda by heating common salt with phosphate of iron —an abundant mineral in some parts—and causing steam to act upon the mixture. The muriatic acid given off is condensed for use or sale. The soda residue is exhausted with water, thus producing a solution of phosphate of soda, which is readily converted into caustic soda by means of lime.

* These figures refer to the quantity of gas consumed and consequent heat and vitiation of the atmosphere by the present system of lighting the Hall of Representatives, Washington, D. C.

COMSTOCK NOTES.

Special Correspondence of the Engineering and Mining Journal.

Our Nevada correspondent, under date of September 26th, writes as follows:

This last week has been marked by a decided tendency to inflation, and especially of stocks with little value and next to no positive showing. However, the public seems so credulous at present and predisposed to gambling, that, no doubt, FLOOD will be able to play his game of "bluff" successfully. A look at the board shows marks of a heavy game of chance being played at present. Savage, with a water bonanza, shows well at 25, and broken pump-rods in Hale & Norcross are valued at 29. Others, like Chollar at 54, Gould & Curry at 20, Jacket at 28, etc., are, no doubt, far beyond their value. What was hoped some time ago, that stocks should only advance on merit, can be said no longer. The public seems to be gulled into the belief that every mine on the Comstock has either cut a bonanza already or is on the point of cutting one. One thing is true, and has been pointed out often enough—that the last three years have been mostly used in exploring and rational opening of many of the mines, insuring good ventilation, rolling ways, etc., and that a large number of them, at the south as well as at the north end, have either commenced or will soon commence cross-cutting; but this fact does not change the situation at present to such an extent as this inflation wishes to have it. The quotation of mines with only bunches of low-grade ore, or no ore at all, at 20 and more, seems chimerical to any but a Western stock gambler. But it is useless to discuss this matter; the public is pleased, and the public will have to pay for its amusement. The heavy sales in the inflated stocks show that somebody is unloading; and, in most instances, it is traced back to the insiders. The opinion of many is, that FLOOD is trying to enhance, as much as possible, all the stocks under his control, and any he can aid in; that with the rising market and rumors of spurious bonanzas the public will readily fall in line and buy up these "new bonanza stocks" in the hope of realizing an early fortune, while the insiders part with their stocks to some extent. This will draw capital away from Sierra Nevada, on which FLOOD is casting covetous eyes, being posted by his satrap PATTON, who inspects the incline in the Sierra daily, and who, no doubt, sometimes looks at a less-favorably-appearing spot, which, when originally cut, showed to more advantage. Being posted himself about what is going on, he knows how long he has to keep up this game of inflation; and, when the climax has been reached, will set all his wheels in motion to break the stocks. When every thing goes down, Union into the bargain, Sierra will waver; when all stocks are demoralized, it will take an iron nerve to believe in the high value of Sierra Nevada; and then, some think, FLOOD will be buying in what stock he can get hold of at cheaper prices than are now ruling and he can afford to pay. With money growing tighter, and coming into his coffers continually—with his vast means, it will be easier for him than any one else to create a corner in coin, which will aid him materially in his schemes. Such is the opinion of some of our shrewd men; for merit, if there be any in the inflated mines, is not known to the public.

A rumor also goes that English capital is backing JOHN SKAE, but it is only a rumor, as is also the story of a fight between the Nevada Bank crowd and the old California Bank Ring. It is hard to find out the true story, but the public should not lose sight of the rumor of some two weeks ago—that FLOOD and SKAE had made up. If there is a fight, and an earnest one, why is Superintendent PATTON daily admitted to the Sierra Nevada, while nobody else is? Why, if English capitalists back SKAE, as some have it, this deference to the will of FLOOD and FAIR? It sometimes makes one think that there never was a difference between the two, but, on the contrary, their aciton was very harmonious.

Ophir and Mexican have again fallen from their lofty tower of 97 and 96 to 78 and 80 respectively, with no more news of a bonanza. Mexican probably went up out of sympathy.

There is no doubt that heavy fluctuations are still in store for us; but as probable as it is that stocks may still go higher, just as certain is their downfall; and when it comes, it will come like a crash, without a warning. I fear the wailing public will then forget these jubilee days, and *try* to learn again the lesson which has been taught them before so often. The next ei[illegible] weeks, I think, will bring a wonderful change.

One thing which no doubt aids in keeping the price of Sierra Nevada hardened, is the few sales in this stock; every body holding on for higher prices. The incline shows off and on ore, which is exposed when ground is cut for the sills. Some of this portion assayed, two days ago, a little over $300 to the ton. To-day a rumor was out that the bottom of the incline was again in ore, whence the rise to 255 bid, this afternoon. Visitors will not be allowed until the 30th now, as it interferes too much with the workings. Shall endeavor to let you hear then. Ventilation is now better near the incline, as the upraise of the 1700 level has been connected with the 1400 level.

The Ophir incline continues cutting quartz, but as yet low-grade, $6 to $7, but of promising character.

Bodie, Cal., is recovering gradually, and opinion is, it will gain more prominence again after the Comstock excitement has subsided. Some think their dividends were spent too freely.

South Standard (Cal.) shaft is down 75 feet.

South Bulwer, Cal., reports to have struck a 5-foot vein 120 feet deep, assaying $30.

Eureka Consolidated (Nev.) is reported to have made a good strike on the 1200 level, to what extent I can't say.

United Brooklyn mine, of Reno, has the new winze down 153 feet, and permanent pump-station cut, and after completing 12 feet of sump, will start drifting for the ledge the beginning of next month. A new stringer was cut about 140 feet point.

A new mining company—the Esmeralda Gold and Silver Mining Company—has been formed (San Francisco company), and is about commencing operations near Reno.

Another company, with Boston capital, is being organized, as I hear, with sufficient means to help develop the Peavine Mining District near Reno. C.

LEAD FROM LEADVILLE, COLORADO.

Special Correspondence of the Engineering and Mining Journal.

The production of pig-lead from Leadville ores in 1878 will probably be somewhat below my previous estimate. From January 1st to September 1st of the present year there were shipped from Leadville to Colorado Springs 4350 tons of ore, averaging 110 ounces in silver and 29 per cent lead. During the same period, the Harrison Reduction Works smelted 1950 tons of ore into 836 tons of bullion averaging 120 ounces in silver. The above 4350 tons of ore shipped, produced certainly not more than 1088 tons metallic lead. Total of lead from January 1st to September 1st, 1924 tons—a long way off from 20,000 tons for 1878. My estimate was 5000 tons. We have got about 2000 tons for the first eight months. For the success of the various smelting works now preparing for action, I hope the lacking 3000 for the completion of my estimate will be forthcoming. There is no lack of ore here, and the Harrison Works have two and the Grant one furnace in blast. BURDELL & WITHERELL, the Adlaide and the Malta works will soon be started, and after getting the better of the preliminary big sows in the furnace will be turning a considerable number of little pigs out of the furnace this year yet. All these works, meanwhile, retain the output of ore high in lead, and several months will elapse ere a considerable quantity of bullion will be regularly shipped from here. The firms of A. MEYER & Co., JAMES & EDDY, and BURDELL & WITHERELL continue their shipments of the higher grade silver ores to St. Louis, Pueblo, and Omaha. The present output of high-grade ores is at least 75 tons a day, with a considerable increase of silver grade. The capacity of present developments for low-grade carbonates rich in lead is three times larger—at least 200 tons a day; but the price which is paid for it is so insignificant that the miners do not touch more than must needs be removed in drifting. It is beyond doubt that Leadville is the great smelting-pot of Colorado; but successful operation is dependent on so many circumstances, and the realization of so many improvements and removal of impediments, that only those who proceed with the utmost care will get their chicken out of that pot. As a first requirement for the success of smelting works in this place, I regard the connection therewith of a good lead mine—a sandy carbonate high in lead. It can not be supposed that mine owners will give away the article as they have done heretofore. Carbonates assaying 28 ounces silver and 66 per cent lead realize $5.94 a ton; 17 ounces silver and 58 per cent lead, $2.84. Ores like these are the best smelting ores, and the works having none of their own will have to pay better prices or blow out their furnaces and wait until the completing of a railroad to the spot will allow them to pay more. The Harrison Works, intimately connected with or distantly related to the Argentine and Crescent Mines, and the Adlai de Works owning the Adlaide and Terrible, are well provided with abundance of smelting ores. There are several other mines showing fine developments of good smelting ore.

The Gone Abroad and Robert Emmet of the Small Hope Company and the Long and Derry mines should be connected with smelters. A large quantity of ore delivered to the Harrison Works from the Rock and Iron mines, for which scarcely any thing was paid, makes me suppose that STEVENS & LEITER would do well to erect a smelter or two of their own. From returns at the sampling works, I saw that the Iron must contain fine bodies of high-grade ores. In my laborious investigations of the operations of the camp, all possible facilities and courteous treatment were extended to me by Mr. WEISE, Superintendent of the Harrison Works, Mr. AUG. MEYER, and Messrs. JAMES & EDDY, and mine owners generally, with scarcely one exception.

The numerous correspondents of the JOURNAL, more or less partial to their special fields, frequently make statements disagreeable to others. Another cause for grumbling is the independentt one of its editors and the unwillingness of its business manager to regard and treat special descriptions of one or another property as paid for in the subscription of $4 per annum. These characteristics of the JOURNAL are a crime in the eyes of a few, even in this enlightened age and country.

The rise of such a camp as Leadville is certainly a matter of great news, and both editorially and by correspondence it has had due attention paid to it by the JOURNAL. My recent examination of the mines and works has furnished me a host of items of public interest, which I shall place before the readers of the JOURNAL in a series of articles and reports. I have got the whole business from A to Z; but I must have time to give it proper shape for publication.

As a glorious camp, rapidly increasing and developing, Leadville is the greatest sensation on record. Its mineral resources are immense, easily developed, partly pockety, partly more permanent; communication with the world is laborious and expensive; the climate abominable; vegetation, pine fuel and sage tea; the spirit of the population good and happy. Every body who wants work gets it, and good pay. The work consists in mining, smelting, teaming, handling ores, chopping timber, and burning charcoal. Still I would not advise poor men to come here this winter. There are already more than enough for winter's work. B.

COLORADO MINES.

Special Correspondence of the Engineering and Mining Journal.

GILPIN COUNTY.

The Saratoga mine continues as profitable as ever. This is operated at remarkably low expense, due to the large size of the vein and to the soft material of which it is composed. No blasting has been required for weeks, and the soft pay dirt is usually 4 feet wide. This dirt is unusually heavy, owing to the iron contained therein—some of it carrying 10 tons to the cord. The mill gold retort from this mine is the most valuable per ounce of any in the State, surpassing even the Bobtail in purity. This is because there is a smaller percentage of silver, copper, etc., in the ore than elsewhere. Saratoga mills gold over 900 fine, and sells at about $18.50 per ounce. The average yield since production began last May has been over a cord a day, yielding from 3 to 6 ounces per cord. But few men were employed. A new vein has been found in drifting west, coming into the old and nearly parallel therewith—or else it is a part of the Saratoga, with a wall between. Four men—two on a shift—take out two cords

of three-ounce ore from this every 24 hours. Mill return of 2 cords, $112. It costs $10 per day for these four men's wages, and $52 for hauling two cords to mill and crushing the same. Total daily receipts, $112; total cost, $62; daily profits, $50. The dividends would be still better if there was a mill at the mine, instead of three miles distant, entailing an outlay of $11 per cord for transportation. The mine is worked through an intersecting tunnel 420 feet long. The main level extends 65 feet west of the tunnel and 260 feet east, and is 120 feet below the surface. This week a cord of dirt from the eastern stope gave the enormous run of 18 ounces of gold or $328 per cord. There are 150 tons of pretty rich dirt at the tunnel's mouth. The amount of pay in sight in the mine is large. Bacon & Lorah own over 2000 feet on the Saratoga besides some parallel veins.

LAKE COUNTY.

The ore buyers and shippers of Leadville are as follows: A. R. Meyer, Eddy & James, Berdell & Witherill, and Patrick & Campbell—four in number. The ore is sent to St. Louis, Omaha, Golden (Col.), and to Mather & Geisse's new smelter at Pueblo. The average daily shipments are said to range from 70 to 100 tons of ore. Eddy & James shipped 72 tons last Monday and 66 on Tuesday. It went to Pueblo.

The Leadville smelters are as follows: Harrison Works second smelter started up about the 10th Sept., making 30 tons capacity. A roasting furnace is nearly completed that will enable the works to smelt 40 tons daily altogether. This roaster was needed to handle the finer carbonates which filtered down into the slag, causing a loss of lead and silver. Berdell & Witherill's smelter, 15 tons, to start about September 20th. Grant's smelter, 15 tons, waiting for crusher. Probably start next week. Adelaide Mining Company's smelter, nearly completed, 15 tons capacity. There is a new smelter going up at the old Malta works. Total capacity of five concerns, 100 tons; or of those at work at close of month, 85 tons.

The Little Pittsburg mine at Leadville is a wonder. It turns out from 20 to 30 tons of rich ore daily. It is currently reported that the total ore sales or profits have been $100,000, mainly in ten weeks. The vein was struck and the first ton of ore was sold in May. There have been 10 feet and over of carbonates in places. Not long ago the mine was bonded for $300,000. Since then the mine has opened out bigger than ever. It is currently reported that the owners have given $35,000 to get released from the bond. It is pretty certain that two of the owners, Taber and Riche, are trying to buy out the third man, Hook, for $90,000. Recently $9000 worth of these soft carbonates were taken from the Little Pittsburg within a few days, at a cost of about $300. The ore usually carries from one up to several hundred dollars per ton in silver and a large per cent of lead.

The Argentine mine (old Camp Bird, etc.), bought last March by the St. Louis smelting parties, can yield 25 tons daily, but, owing to general development, averages but little over half that. The Crescent yields thousands of dollars in profits monthly.

COIN.

SILVER CLIFF, COLO.—A NEW BONANZA.

Special Correspondence of the Engineering and Mining Jo rnal.

Since my last report, concerning the new discoveries about Round Mountain in this county, affairs have taken a different aspect from the one they had then. The new silver-bearing region has already turned out another "White Pine" Nevada horn-silver bed. The pioneer prospectors of the *Cliff*, Messrs. EDWARDS, POWELL & HAFFORD, had found horn-silver impregnated throughout the agatized quartz, of which the *Cliff* consisted, but not in such paying quantities as to warrant the belief that such a vast deposit of chlor-silver was in existence there as has since been opened. They sent some of their rock to the Denver mint for assaying. It happened that Mr. JOHN W. BAILEY, of San Francisco, a gentleman of large means and larger connections, was at Denver. Through some of his friends he became sufficiently interested to obtain bond of some of EDWARDS, POWELL & HAFFORD'S discoveries. The bondholders came down to Silver Cliff (the name the new town has since acquired), and set some men to work upon the Racine Boy claim. Mr. POWELL, prospecting about the brow of the cliff, some 100 feet from the original location made, struck upon horn-silver (Cl_2Ag) in the grass-roots, and thus opened up a bed of the precious metal which puts into the shade the chlor-silver deposits of Nevada. Pieces of Cl_2Ag as large as a man's fist and porously formed, but pure, are taken out by the sackful. In five days the bondholders, with two or three men, sacked up over 100 sacks of ore, assaying 8433 ounces to the ton in silver, and are doing it now at the present writing from morning to night. I myself saw a piece of ore taken out of a stripping 3 feet deep, which weighed at least 150 pounds, and which I estimated to carry 150 ounces of silver. So far as the stripping proceeds, the horn-silver is found in a free milling condition with agatized quartzite in conglomerate state, intermixed with carbonate of lime, and loose in aspect. The place of the find is upon a cliff of 35 feet altitude above the nearest prairie. The elevation terminating at the south in this cliff is not over 50 feet above said gulch, and covers about 80 acres. There have been 10 locations made, covering the hill. The same indications have been traced and found to extend over an area of 1380 acres or 2 sections. The latest discoveries of horn-silver have been made by a Mr. WILLIAM ROBINSON, an old prospector, on Round Mountain itself, situate about one mile northeast from Silver Cliff, and at an elevation above the Cliff of at least 600 feet. There seems to be the greatest upheaval of the region. South-southeast from this discovery, on the Plata Verde claim, and about1600 feet away, another deposit of Cl_2Ag has been found of at least 80 acres surface area, which has been covered by the Horn-silver, Chlor-silver Quincy, Steamboat, Sentinel, and Union claims. Over 100 claims have been located and claimed, and the prospecting excitement is at its hight. The nucleus of "Silver Cliff" town has been established, and every hour sees houses going up southwest of the pioneer discovery on the Racine Boy claim. No serious developments have as yet been made anywhere about this new mineral region; but so far as they go, a vast body of horn-silver seems to impregnate the surface cap-rock of agatized quartz in all directions. I send you by mail a specimen of the Cl_2Ag as found on the Racine Boy claim, which I obtained through the kindness of Mr. ROBERT POWELL, one of the discoverers. What this discovery will amount to, is hard to foretell at this time; yet I think it will prove tremendous in extent and richness of production of free-milling silver ores. As California capital has already interested itself in the discoveries, it stands to reason that its further development will be rapid and effectively pursued. Of course the whole county and those adjoining are in a state of excitement, and people come rushing into the new camp daily from near and far. Our older mines are still. Some are putting up new and larger hoisting machinery, some timber up and develop, and our only reduction works, the amalgamation works of the Pennsylvania Reduction Company, are doubling their capacity. The new smelting works of Messrs. MATER & GEIST at Pueblo, 53 miles east from us, have started up on Leadville ores, and promise to be of great value to our district. My expectations, which made me come to Wet Mountain in 1870 with about 100 families, have been more than accomplished. Custer County, the residue of my 1870 venture, has become a rich and prosperous mining region.

Since the above, this new mining camp, now called Silver Cliff instead of Ruby Camp, is taking giant forward strides. It is as lively as a country fair. The tents and houses grow like mushrooms over night, and at least 200 men are at work in dead earnest. And with good cause, for a bed of horn-silver has been opened, which bids fair to eclipse any thing in the shape of a silver-bearing deposit ever found in America. Returns from Prof. MALLETT'S works in Cañon City of refuse rock from the dumps show 162 ounces in silver per ton. The first-class stuff will probably run up high in the hundreds, possibly in the thousands. This is from the original discovery on the Racine Boy claim. A lot of 1500 pounds from the Hornsilver claim, dumped into a wagon and hauled to MALLETT'S works, returned $130. Several places have been struck showing rock, carrying horn-silver of from 100 to 300 ounces value per ton. The belt seems to be about two miles wide, and has been traced now at least 14 miles N.W. and S.E. There is no more doubt about this being a large tract of chlor-silver infusion, which will turn out millions of dollars worth of silver. Of course the whole district is much excited, and every body is down at Round Mountain prospecting and staking claims.

Some sales have already been effected besides the Racine Boy and the Hornsilver, yet nothing permanent in the way of improvements is being done except on the original discovery, where a California company is beginning to start in upon a more solid and permanent basis. Most of our older mines are at a standstill, and, while some are getting ready for deep mining, others seem to be temporarily dormant. All this district lacks is more reduction works. We can work all winter, and all weathers, and are situated so favorably that 30-ounce ore ought to be marketable. There is not a mine in this region which can not be approached by a wagon. Timber is abundant, and water enough for all milling purposes. Supplies and labor will always be low and reasonable here, and railroad facilities, now at 30 miles, most likely will be at our mines within a year. The great coal-fields of Fremont County are within a day's reach; and the most tremendous deposits of iron ores are but 10 to 15 miles northward from our gold and silver mines. I wonder at the timidity of capital when contemplating our mineral resources here.

HARDSCRABBLE.

SILVER CLIFF, CUSTER CO, COLO., Sept. 23, 1878.

GEORGIA GOLD MINES.

Special Correspondence of the Engineering and Mining Journal.

As the Findley mine is attracting some notice among capitalists, a little information about its condition may prove of interest. In consequence of lack of water, it is not in full operation at present. The scarcity of water is felt over the whole country, only letting some works run quarter time. At the Findley mill the head of water above the dam was reduced probably one half. The new mill at present in process of construction will be exempt from the uncertainty, being run by steam.

The Findley mine comprises four forty-acre lots, and the portion worked is very nearly the highest hill in the neighborhood. This hill is 500 feet high, a great part of which carries gold in some quantity. The large ore mass now being worked is at least 60 feet in thickness, and is composed of innumerable quartz veins of all sizes running through the soft slate. This slate, I am told, carries a small amount of gold—enough to pay for the expenses of working, and sometimes to leave a margin of profit. The average value of the ore, as worked, I was told, would not be less than $2 a ton; the expenses of treating it would average about 30 cents a ton. The amount of this ore in sight is simply enormous, and can not well be estimated.

As the expense of mining and milling the ore, not including wear and tear, is only 30 cents a ton, it is found to be the most economical way of removing top dirt, when it contains a little gold, to treat it as the ore, and make it pay its own expenses, even if it leaves no profit. This transfers it to the river, where a large portion of it remains suspended for many miles, and those portions which are deposited are removed during the freshets which occasionally occur.

In a short time there will be 34 stamps in operation on this property, 10 of which belong to the new mill.

About ten miles from Dahlonega is the Loud mine, a famous placer; the gold found there is quite coarse and very often is crystallized or arborescent; the average size of the gold is about that of a grain of wheat. The gravel varies from nothing up to 4 feet in thickness, covered with from 2 to 20 feet of dirt which carries no gold. There is but a small stream of water at present available, and it is slow work getting down to gravel; there are only four men employed at the mine. The gold is extracted by means of sluice-boxes and a tom, and the average yield is between $2 and $3 per hand. One nugget was found last March, with a little quartz attached, which altogether weighed 174 pennyweights. It was lying on a heap of gravel from some of the old washings; a boy picked it up, but, though it was very heavy, thought it was too large to be a piece of gold, and so threw it down again. He picked it up once more and ran with it to the miners and gave it to the owners of the mine.

As much as $20,000 has been extracted from this mine in four months; that was some time ago, under the directions of Dr. STEVENSON, of Gainesville, who had a twelve-month lease on the property. It took him eight months to prepare for work, and during the rest of the year he took

out the above-mentioned sum. His expenses amounted to $1800. He was only permitted by the terms of the lease to employ ten men.

In White County, about 5 miles northwest of Cleveland, is situated the Sprague mine. At the time of my visit work was almost stopped—a little prospecting being all that was in progress. Both placer and vein mining are carried on. The greatest depth to which a shaft has been sunk is 110 feet; but from what I could learn, I believe that no more work is being done at that depth. Their stamp-mill is run by an overshot water-wheel and works 5 stamps; provision is made, however, for 5 more when necessary.

At Nacooche Valley, also in White County, the Nacooche Gold Mining Company is carrying on some extensive operations. They have a 20-stamp mill just newly erected, run by a 42-inch turbine under a head of 23 feet. Their plates are in six rows, one slightly overlapping the other; at the termination of the plates there is an inclined board slanting in an opposite direction, which causes the pulp as it escapes to impinge on another amalgamated plate before escaping into the tail sluices. They crush in this mill all the surface gravel obtained from their operations on placer deposits, which contains gold in quantity sufficient to leave a small margin over expenses.

Another large operator in that vicinity is General Johns, of New York. He is making very extensive and permanent arrangements for washing the valley of Duke's Creek and neighboring valleys. The gravel averages 3 feet in thickness, and will average 75c. per cubic yard, not including nuggets. He has blasted a sluiceway 12 feet wide through a considerable amount of rock, and built a cribwork dam to confine the creek to its channel in case of freshets. This is the only place here that I have seen where preparations have been made for the thorough washing of large extents of gravel. Dynamite is used for blasting, and it is exploded by means of electricity; this has been the cause of much wonder and dread among the miners engaged in the work—they never having seen any explosive save powder.

In North Carolina, at Charlotte, the Rudisill mine has lately been doing well; that is, better than usual. A yield of $50 per day for the last few weeks, is said to have been the average. The expenses averaged $18 per day.

J. B. Mackintosh.

Dahlonega, Ga., Sept. 23, 1878.

NOTES.

The Egyptian obelisk was brought into an upright position and lowered on to the pedestal on the Thames embankment September 12th.

Dr. J. S. Meyer, of Virginia, Nevada, has, as he thinks, discovered the long-lost Egyptian art of tempering copper so as to produce an edge that will cut like steel.

The new result of the experiments to determine the mechanical equivalent of heat, conducted by Dr. Joule and others, confirms the old one. It gives 772·55 foot-pounds as the equivalent at the sea level.

Comparative Number of Letters of the Alphabet Used in Printing.—Taking 110,000 letters, which gives round numbers for every letter, the alphabet is used in printing in the English language in the following proportions: a, 8600; b, 1600; c, 3000; d, 4400; e, 12,100; f, 4500; g, 1700; h, 6400; i, 8600; j, 400; k, 800; l, 4300; m, 3000; n, 8000; o, 8000; p. 1700; q, 500; r, 6200; s, 8000; t, 9000; u, 3400; v, 1200; w, 2000; x, 400; y, 2000; z, 200.

The East River Bridge.—The Brooklyn *Eagle* of September 12th says: "Work on the great cables is approaching completion, and only about fifty tons of wire remain to be delivered upon the contract of J. Lloyd Haigh, for wire. The strands of the two down-stream cables have been lashed together by means of clamps shaped somewhat like a horseshoe, and next week the work of wrapping the strands from end to end will begin. The wire used for wrapping is No. 10½ galvanized wire—about two sizes smaller than the wire used in the strands. The work of stretching the wire in the final strand of the two up-stream cables is progressing, and will be completed very soon. The sheds and machinery on the top of the anchorages are being cleared away as fast as possible, and when the strand-making is completed, several courses of stone will be laid upon the top of the anchorages and towers. The work on the approaches is going on toward the point where it can be suspended for the winter, when it will probably be stopped."

Discovery of Copper Deposits in Pennsylvania.—Reports of the discovery of some very rich deposits of copper come to us from near Waynesboro, Franklin County, Pa. Some specimens of the surface rock have been examined by a Washington chemist, who states it to be "hydrous carbonate of copper, or malachite, a very rich ore of copper containing about 72 per cent of oxide of copper or 57½ per cent of metallic copper." Since this analysis some new mines, known in the region as the Dr. Snively mines, have been opened, from which pieces of native copper resembling the Lake Superior copper are reported to have been taken. The specimens contain 70 to 95 per cent of metallic copper. One of these pieces is on exhibition at Harrisburg which weighs over 22 pounds. Dr. Isaac N. Snively writes us: "I am satisfied that there will be rich and startling developments in this mineral region from the present indications."—*Iron Age.*

Antagonism to Railways in China and Japan.—When the ambassador recently sent by China to the United States was in Chicago, he was interviewed by one of the reporters of the *Inter-Ocean*, and among other questions propounded was, "whether laws introducing railroads into China may soon be expected?" To this query the reported reply was as follows:

"It would seem rather premature. Our people, I hardly think, are prepared for that; popular opposition would be great. Only recently in Japan, where roads are running, the head of the railway system was killed by the populace."

As similar sanguinary proceedings have, on several occasions, been advocated by incendiary journals in this country, and as they also form one of the most definite recommendations made by a leading oratorical advocate of anarchy, it is instructive to know that one of the reasons for postponing railway construction in China—a land where millions of human beings have lately lost their lives because the lack of railway communication has prevented the rapid movement of food supplies into famine-stricken districts—was the fear of the ruling spirits of that country, that popular antagonism would take the direction which some of the worst men of the United States have endeavored to give it in this republic.—*Rwy. World.*

GENERAL MINING NEWS.

CALIFORNIA.

The *Standard* of the 25th ult. says of the Bodie District:

"Since our last weekly summary important strikes have been made in the Tioga, the Spaulding, and the South Bulwer. The principal mines on Silver Hill, or those which have been most explored, such as Bodie, Standard, Bulwer, Red Cloud, Bechtel, South Bulwer, Spaulding, Sitting Bull, as also a dozen others, all show signs of improvement, and no diminution in their producing capacity is apparent. Machinery is daily arriving and being placed in position on the various mines, and carpenters are busily employed erecting the buildings intended to cover over shafts in readiness for the long winter months soon to be upon us."

STRIKE IN THE ORIENTAL CONSOLIDATED.

The *Stock Report* of September 21st says of this mine, which is located in Sierra County:

"A few weeks ago a rich strike was made on the 350-foot level of the Oriental which is simply marvelous. The main vein at this depth is from eight to twelve feet wide, assaying from $150 to $300 per ton, but the last blast on this level uncovered a vein of white quartz in the center of the main ledge, about 14 inches wide, which assays from $15,000 to $20,000 to the ton. The sight is fairly dazzling to the eyes. The vein has been stripped down twenty feet or more, and experts who have examined it estimate the gold in sight way up in the hundreds of thousands. About 500 pounds were shipped to this city, and were sold at the rate of $22,000 per ton."

THE KLAMATH QUARTZ MINING COMPANY.

The Klamath Quartz Mining Company is listed on the San Francisco Stock and Exchange Board. The claim comprises 3000 feet in the vicinity of the famous Black Bear mine, which has thus far divided over $900,000 in dividends among stockholders. The shaft is 300 feet down from a tunnel in a rich and dry formation, and can be worked 1000 feet deep from the summit level without finding water. There have been no assessments, nor will there be any levied, for the prospects of the property denote that it is to step into the front rank of our dividend-paying corporations before long.

NEVADA.

Original Keystone.—Letter of the 21st says: "Since my last report we have been progressing excellently on the main working shaft. The drift from the prospecting shaft shows good vein matter; have had assays made yesterday giving fair assays in silver." All advices seem to indicate that no ore of value has yet been found at this mine, and the developments are quite insignificant. The stock is selling readily in the Big Board of San Francisco at $7 to $8 per share, several thousand shares having changed hands at that price.

Hussey.—Letter of the 16th says: "Shipped bullion valued at $7393.31. On the 300-foot level we struck a good quality of ore this morning."

Manhattan.—Letter of the 20th says: "For the past week ending this date, the mill has reduced 137 tons of ore, the assay value of which is $23,847.10. Of this amount $3989.83 is from custom ores; $3989.88 is from tribute mines; and the balance, $17,882.45, from the Frost shaft. The 570 west stope shows a marked improvement as we advance west. The drift is being pushed ahead of the stope and carries excellent ore."

Grand Prize.—Letter of the 15th says: "The rock in the shaft continues hard, but we are making good progress; sinking two feet per day. Water does not increase any yet. We will put in a plunger-pump to-morrow, at the 400-foot station, when we will dispense with the steam-pumps at the old shaft. The boilers from the Windsor mill, and the best one from our old hoisting works, have been set up at the new hoisting works, so we have four good boilers there now. Everything now is in good condition at the mine, and by the end of the month we will be supplied for winter with wood, timber, etc."

Independence.—Letter of the 23d says: "Shipped to-day $11,000. Grand Prize 20-stamp mill commenced crushing our ore this morning. Mine is looking well, and producing about 40 tons of ore per day."

Leviathan.—Letter of the 17th says: "Since I last wrote you we have been making our usual good progress in the drifts on the 750-foot level. We are running along close by the ledge on the west side, encountering good-looking streaks of quartz, regular coming from the ledge. The machinery is working well."

NEW PATENTS.

The following is a list of the new inventions relating to Iron, Coal, Mining Machinery, Chemical Apparatus, and the treating of Precious Metals, etc., from *The Official Gazette of the United States Patent Office*, for the week ending August 6th:

No. of Patent.	*Title of Invention.*	*Name of Inventor*	*Residence.*
206,680	Processes of Making Lead Pigment	George T. Lewis	Philadelphia, Pa.
206,683	Wire Coiling Machines	William F. Moody (a)	Chicago, Ill.
206,692	Governors	Charles B. Smith	Newark, N. J.
206,695	Packings for Steam-Engines	Aloha Vivarttas (b)	New York, N. Y.
206,698	Rotary Pumps	H. A. Barber	Watertown, N. Y.
206,705	Portable Railways	Robert Deeley (c)	New York, N. Y.
206,708	Steam-Engines	George E. Dow	San Francisco, Cal
206,720	Triturating and Reducing Cylinders	A. Giddings	Cleveland, O.
206,724	Apparatus and Processes for Making Illuminating-Gas	Magnus Gross	New York, N. Y.
206,727	Pumps	Eugene Hawkes	San Diego, Cal.
206,734	Hoisting Machines	Maximilian Jacker (d)	Marquette, Mich.
206,759	Portable Engine-Trucks	William D. Alford	Cincinnati, O.
206,773	Low-Water Indicators	William A. Cole (e)	Wentlings, Pa.
206,783	Exhaust Mechanisms	V. H. Hallock	Queens, N. Y.
206,821	Telephonic Conductors	E. F. Phillips	Providence, R. I
206,849	Governors for Steam-Engines	Andrew Yount	Fokomo, Ind.
	Week ending August 13th.		
206,888	Oil-Well Pumps	Murdick Lytle	Oil City, Pa.
206,927	Blasting-Wedges	Otto F. Brockausen	Reno, Nev.
206,932	Casing Heads for Oil-Wells	Francis A. Conkle	Philadelphia, Pa
206,975	Cut-off Valves for Steam-Engines	R. Sanderson	Cleveland, O.
206,990	Means for Transporting Petroleum Oil	Rufus A. Wilder	Cressona, Pa.
206,995	Machines for Making Pump-Chains	John Adt	New Haven, Conn.
206,999	Carbureting Lamps	Charles E. Ball	Philadelphia, Pa.
207,023	Apparatus for Amalgamating and Washing Ores	George J. Firman	Norristown, Pa.
207,049	Riveting Machines	Hector MacColl	Glasgow, Scotland.
207,065	Ore-Roasting and Desulphurizing Furnaces	Alexander Ramage (f)	Denver, Colo.
207,082	Portable Steam-Engines	William H. Tappey	Petersburg, Va.

(a) Assignor ½ his right to Thomas B Jeffery, same place.
(b) Assignor to himself and Mark R. Hamilton, same place.
(c) Assignor to L. Pascual, same place.
(d) Assignor to himself and Daniel H. Merritt, same place.
(e) Assignor ½ his right to D. R. Payne, Pickwick, Pa.
(f) Assignor of ¾ his right to William Brown, H. T. Engle, and Robert Raeburn, same place.

PROPOSALS.

For the benefit of many of our readers, we compile weekly such proposals and solicitations for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, with the full name and address of parties soliciting the same:

Proposals invited for—	*Name and address of parties from whom specifications may be had.*	*Latest date on which tenders will be received.*
Court-House, Building of, at Athens, O	A. W. S. Minear, Auditor, Athens, O	Oct. 7
Paving 128th street, from 4th to 6th avenue, with Belgian, and laying cross-walks at intersecting streets	Allan Campbell, Commissioner of Public Works, City Hall, New York City	" 7
Sewer building, regulating, grading and paving	Allan Campbell, Commissioner of Public Works, City Hall, New York City	" 7
Bridge, wood and iron, Pratt, 135 ft. span	W. S. Barbour, C.E., 28 State street, Boston	" 7
Canal and lock	F. Braun, Sec'y Dept. of Public Works, Ottawa, Can	" 8
Wrought-iron bridge over Mill Creek, Eighth street	John E. Bell, Prest. Board of Public Works, Cincinnati, O	" 8
80,000 lbs. candles, etc	A. H. Gilman, Pay Inspector, U. S. Navy, 29 Broadway, New York City	" 9
Material and labor to build an addition to the University Building	Louis Ballauf, Chairman Com. on Buildings, Repairs, etc., Cincinnati, O	" 10
Iron bridge over the East Fork of Bold Face Creek	John E. Bell, Prest. Board of Public Works, Cincinnati, O	" 10
Wrought-iron truss bridge, over Big Cedar Creek, Henry County	R. M. Lehew, Auditor, Mount Pleasant, Iowa	" 10
Building Company Quarters at Fort Monroe, Va	L. E. Campbell, Capt. and A. Q. M., U. S. A., Fort Monroe, Va	" 10
Slater's and galvanized iron work on U. S. Court-House and Post-Office, Atlanta, Ga	Jas. G. Hill, Supervising Architect, Washington, D. C	" 12
Coal, 3000 tons	A. H. Gilman, Pay Inspector, U. S. N., 29 Broadway	" 18
Hides	C. J. Emery, Pay Director, U. S. Navy, Boston, Mass	" 21
Wood for fuel, 600 cords hard, 100 kindling	Alex. J. Perry, Dept. Q. Gen. U. S. A., Governor's Island, N. Y	" 23
Constructing culverts or drains 763 ft	John E. Bell, Prest. Board of Public Works, Cincinnati, O	" 24
Boring artesian wells	Committee Artesian Wells and Water Works, Charleston, S. C	Nov. 1
Railway construction and working, 2000 miles	F. Braun, Sec'y Dept. of Public Works, Ottawa, Canada	Dec. 1,
Railway construction 310 miles	F. Braun, Secretary of Department of Public Works, Ottawa, Canada	Jan. 1, 1879
Locks and keys for mail bags	D. M. Key, Postmaster General, Washington, D. C	Mar. 20, "

Cleveland Breakwater Extension.—The bids for the extension of the Cleveland Breakwater were opened on the 24th ultimo, at the office of the United States Engineer, at Cleveland, O. The bids for the iron were five in number, ranging from $2935.97 to $3167.74; for other material and workmanship there were fourteen bids, ranging from $56,126.95 to $93,129.14.

It is stated that the management of the Karns City and Butler (N. G.) Railroad, and of the Parker and Karns City, now operated together, is to pass into the hands of the Pittsburg, New Castle, and Narrow-Gauge Railroad Company, and a connection made between the two from Harmony, Pa., to Butler. The distance to be built is only about twelve miles.

A proposition was received from the I. P. Morris Company, in which they offer to erect a pumping apparatus, consisting of one engine of the Leavitt type, with boilers, and all pipes, cocks, and valves inside the engine-house, and including the brick work of foundations, the whole to be complete and capable of pumping 14,000,000 gallons of water in twenty-four hours, at a cost of $130,000. They guarantee to raise 100,000,000 pounds of water one foot high with 100 pounds of coal, the duty performed by the engine to be determined by a trial test of 72 hours. Should the engine fail to perform the duty guaranteed, they agree to forfeit $1000 for every million short of the required duty.

Delaware River Improvements.—Bids were opened on the 3d inst. by Colonel J. N. Macomb, United States Engineers, at his office, 1615 Chestnut street, for removing, by dredging, 8800 cubic yards of sand and clay from the channel at the month of Salem River, N. J., and for removing about 16,000 cubic yards of sand, gravel, and mud from the channel of Cohansey Creek, N. J. Three bids were received for each work. For the first, M. F. Brainerd, of Albany, N. Y., agent, offered to do the work at 22 cents per yard; F. B. Colton, of Philadelphia, at 28 cents per yard; and the American Dredging Company, of Philadelphia, at 27½ cents per yard. For the improvement of Cohansey Creek the bidders were the same parties—F. B. Colton, at 25 cents; M. F. Brainerd, agent, at 24½ cents; and the American Dredging Company, at 28½ cents per yard. The bids will be forwarded to Washington, and the successful bidder awarded the contract by the Chief Engineer U. S. A.

The Proposed Erie Railway's New Coal Road.—MILFORD, Pa., September 30.—There is no longer any doubt that the Lehigh and Eastern Railroad, to connect the Eastern States with the coal-fields of Pennsylvania will be speedily built. This road has been in contemplation for several years. It is claimed by the company that the proposed route will be considerably shorter than any other route, and that coal can be shipped to Boston and other Eastern cities at a greatly reduced price. The Western terminus will be at Tomhickon, Pa. From that place the route extends northeast, crossing the Pocono Mountain, five miles west of Stroudsburg, Pa., thence passing in an almost air line through the central part of Pike County to Port Jervis, N. Y., where a connection will be made with the New York, Lake Erie, and Western road. Several surveys have been made, but it is now asserted by the contractor that the present route will be established. From Tomhickon to the Lehigh River, a distance of 25 miles, the survey has been completed, and work will commence this coming month. The estimated cost of building and equipping the road is $7,000,000, $5,000,000 of which, Contractor Williams says, is already in hand.

Increasing the Philadelphia Water Supply.—At a meeting of the Joint Sub-Committees of Councils on Water and Finance on the 2d inst. in Philadelphia, the following bids were received for supplying additional pumping machinery for the purpose of increasing the water supply of the city.

Mr. David Monges, Treasurer of the Lehigh Zinc Company, offered to furnish the city, for the sum of $75,000, a large engine now at their works at Friedensville, Lehigh County, just as it stands, capable of pumping 28,000,000 gallons of water a height of 208 feet in 24 hours, with a consumption of not more than 22 tons of coal. This offer does not include boilers or pumps, but only the engine proper. The cost of removal to, and erection at Philadelphia, is estimated at $25,000.

Messrs. Wm. Cramp & Sons also presented a proposition, stating that they could furnish pumping machinery, foundations, and boilers, air-vessel complete, with valves and all attachments inside of house, capable of supplying 14,000,000 gallons per diem to the Belmont Reservoir, for $96,000. They guarantee to keep the machinery in complete order for one year, the whole to be ready at the Spring Garden works within six months from the date of acceptance.

STATISTICS OF COAL PRODUCTION.

This is the only Report published that gives full and accurate returns of the production of our Anthracite mines.

Comparative statement for the week ending Sept. 28th, and years from January 1st:

TONS OF 2240 LBS.	1878.		1877.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co.	40,599	1,488,878	.....	1,284,546
D. L. & W. RR. Co.	41,337	1,484,231	7,270	1,318,622
Penn. Coal Co.	25,231	608,568	1,751	717,415
L. V. RR. Co.	10,955	572,203	4,759	611,684
P. & N. Y. RR. Co.	737	22,616	.....	32,931
C. RR. of N. J.	30,022	669,892	3,456	874,164
Penn. Canal Co.	8,755	245,195	3,545	241,242
	157,663	5,091,583	20,781	5,080,604
Lehigh Region.				
L. V. RR. Co.	23,835	1,705,682	112,936	2,383,441
C. RR. of N. J.	18,608	930,479	54,797	1,074,571
D. H. & W. B. RR.	1,276	23,580	1,884	19,032
	43,719	2,659,741	169,617	3,477,044
Schuylkill Region.				
P. & R. RR. Co.	909	3,416,149	198,366	4,915,701
Shamokin & Lykens Val.	20,078	531,903	6,283	436,468
	20,987	3,948,052	204,649	5,352,169
Sullivan Region.				
Sul. & Erie RR. Co.	894	23,703	1,175	13,145
Total	223,266	11,723,079	396,222	13,922,962
Increase	.....	.....	.....	.....
Decrease	172,956	2,199,883	.....	.....

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

Receipts and shipments of coal at Chicago Ill., for the week ending Sept. 28th, and year from January 1st.

	Week. Tons.	Year. Tons.
Receipts	39,917	1,218,678
Shipments	7,948	185,777

Coals Cleared on the Canals of the State of New York for the week ending Sept. 21st, and year from the opening of navigation:

Tons of 2000 lbs.	1878.		1877.	
	Week.	Year.	Week.	Year.
Anthracite	15,208	433,559	43,260	713,899
Bituminous	5,052	131,500	10,446	207,009
Total amount cleared	20,260	565,059	53,706	920,908

The increase of shipments of Cumberland Coal over the Cumberland Branch, and Cumberland and Pennsylvania railroads amounts to 59,918 tons, as compared with the corresponding period in 1877.

Perth Amboy Business:	Tons.
Received for the week	6,813
Shipped for the week	16,114
On hand Sept. 28th	70,260

Belvidere Delaware Railroad Report for week ending Sept. 28th:

	Week.	Year. 1878.	Year. 1877.
Coal for shipment at Coal Port (Trenton)	470	7,573	12,748
Coal for shipment at South Amboy	2,403	332,084	415,360
Coal for distribution	3,589	125,589	125,320
Coal for Company's use	1,981	59,759	52,137

The Production of Bituminous Coal for the week ending Sept. 28th, was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2,240 lb	43,560	1,167,610
Barclay Region, Pa.		
Barclay R. R., tons of 2,240 lbs	6,512	225,669
Broad Top Region, Pa.		
Huntingdon and Broad Top R. R.	3,406	108,401
*East Broad Top	1,310	43,230
Clearfield Region, Pa.		
*Snow Shoe	397	17,108
*Tyrone and Clearfield	25,618	911,524
Allegheny Region, Pa.		
*Pennsylvania R. R	3,198	145,250
Pittsburg Region, Pa.		
*West Penn R. R.	3,853	133,738
*Southwest Penn. R. R.	667	19,018
*Penn & Westmoreland gas coal, Pa. R. R.	15,314	476,474
*Pennsylvania R. R.	6,561	294,241

*For the week ending Sept. 21st.

The Production of Coke for the week ending Sept. 21st:

Tons of 2000 lbs.	Week.	Year.
West Penn R. R.	1,607	61,515
Southwest Penn. R. R.	12,719	556,418
Penn. & Westmoreland Region, Pa. R. R.	1,947	55,515
Pittsburg, Penn. R. R.	8,870	80,823
Total	25,143	754,265

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Oct. 4, 1878.

Anthracite.

Upon every side we get the report that there is a better business doing, and that prices are stronger. But then, the comparison is made with the very stagnant condition of things that ruled during the summer. As compared with the corresponding period of other years, business is still remarkably dull, especially in this market. It is said that a very active business has been done in Philadelphia. Inland consumers and dealers either do not want much coal, or the approach of the close of navigation must drive them into the market soon. Retail dealers report a good business, but say that consumers are not, as a rule, purchasing as liberally as in former years. This is accounted for in several ways: first, by many households having carried over a supply of coal from last year; second, the coal combination is an organization with which most consumers are familiar, and they believe that it is but a temporary institution, and they do not want to be caught with heavy stocks should the organization be abandoned, for they would then expect lower prices; third, there is a large class of people that can not purchase as large quantities of coal as usual, and who, under the higher prices they are compelled to pay for the article, will economize as much as possible.

The question of continuing the combination after December 31st is still an unsettled one. The dissatisfied ones appear to be the Lehigh Valley Railroad Company and the Reading Railroad Company. These companies do not object to getting high prices, but they do object, and seem to have good ground for it, to so small a business. According to the statement of the accountant of the Board of Control, from January 1st to September 21st, as compared with the like period of 1877, the production of anthracite coal decreased 2,574,047 tons, of which quantity the two companies mentioned lost 2,002,353 tons, while the three Lackawanna companies, the Pennsylvania Coal Co., the Delaware and Hudson, and the Delaware, Lackawanna, and Western, lost but 63,729 tons. It is not surprising, therefore, that combination continues in popularity with some, if not all, of these companies; and it is not surprising that the managers and stockholders of the Reading and the Lehigh Valley should consider they are paying too heavy a tax for this paralyzing friendship.

We have spoken of the curtailment that has taken place in the consumption of anthracite coal, owing to its high price. We are informed that the Crown Point, Port Henry, and Hudson furnaces are using 25 per cent coke. As prominent officers in some of the coal companies are interested in at least one of the above concerns, they must forcibly realize the truth of our remarks, even though they may not openly acknowledge it.

The production of anthracite coal last week was 223,266 tons, as against 352,050 tons the previous week, and 396,222 tons the corresponding week of 1877. The total production from January 1st to September 28th was 11,723,079 tons, as compared with 13,922,962 tons for the like period of last year, showing a falling off this year of 2,199,833 tons.

Bituminous.

There is a better business doing in bituminous coal and considerably more inquiry. The number of manufacturing concerns that have been consuming anthracite coal and that are now making inquiries for bituminous is constantly increasing. The shipments are well maintained, and the industry, as a whole, will hold its own, if not show an increased production, this year. Vessels are in liberal supply and freights easy, and are likely to be so long as the anthracite production is curtailed.

New York.

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

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
WYOMING COAL.	$	$	$	$	$	$
Lackawana, at Weehawken	3 60	3 60	3 65	3 80	4 20	3 65
*Pittston, at Newburg	3 55	3 55	3 65	3 75	4 05	3 50
L. Val. Coal Co., at Amboy	.....	3 75	3 50	3 60	4 10	3 50
Kingston at Hoboken	3 50	3 60	3 70	3 85	4 20	3 60
Wilkes-Barre at Pt. Johnson	3 60	3 60	3 70	3 85	4 20	3 60
Plymouth Red Ash at Port Johnson	.....	.....	3 70	3 85	4 30	3 60
Swoyers at Eliz. Pt. or S.A.	3 75	3 75	3 60	3 75	4 20	3 60
LEHIGH COAL.						
L. V. Coal Co., at P. Amboy	4 10	..	3 90	3 90	4 10	3 50
Cross Creek, at Port John.	4 00	3 90	3 90	3 90	4 20	3 60
Buck Mount. Vein at Elizabeth Port or S. A.	4 25	4 00	3 90	3 90	4 20	3 60
SCHUYLKILL COAL						
At Pt. Richmond, Phila.						
Hard White Ash	3 50	3 50	3 50	3 55	3 95	3 40
Free-burning W. Ash	.....	.....	3 40	3 50	3 95	3 30
Schuylkill Red Ash	.....	.....	.....	3 75	4 00	3 30
Lorberry	.....	.....	3 80	3 95	4 00	3 40
Lykens Valley Vein	.....	.....	3 80	3 95	4 00	3 60
†*Alongside in N.Y. Harbor.*						
Hard White Ash	4 20	4 20	4 20	4 20	4 40	3 80
Free-burning W. Ash	.....	.....	3 90	4 05	4 40	3 80
Schuylkill Red Ash	.....	.....	.....	4 35	4 50	3 90
Lorberry	.....	.....	.....	4 60	4 60	4 25
Lykens Valley Vein	.....	.....	4 60	4 70	4 70	4 35

* Fifty cents per ton additional for delivery in New York.

† On coal delivered f. o. b. at the Philadelphia and Reading Coal and Iron Co.'s Wharf at Williamsburgh, the current date of harbor freight will be allowed from the prices here given.

Wholesale Prices of Bituminous Coal.

DOMESTIC GAS COALS.

Per ton of 2240 lb.	At the Shipping Ports.	Alongside in New York.
Westmoreland and Penn	$4 25	.....
At Greenwich, Philadelphia	.....	$5 50
At S. Amboy	5 00	5 50
Kanawha at Richmond	4 10	5 40
Red Bank Cannel, Pa., at Philadelphia	8 00	8 50
Youghiogheny, Waverly Co., at Balt	4 00	5 65
Despard, West Va	4 50	6 00
Murphy Run, West Va., at Baltimore	3 75	5 85
Fairmount, West Va., " "	3 75	5 70
Newburg Orrel. Md. " "	3 75	6 00
Cannelton Cannel, West Va	.....	10 00
" Splint " at Richmond	6 00	7 00
" Gas Coal at Richmond	4 00	5 65
Peytona Cannel, W. Va., at Richmond	.....	10 00

MANUFACTURING AND STEAM COALS.

Cumberland at Georgetown and Alexandria	2 75@2 90	4 35@4 50
Cumberland, at Baltimore	2 90@3 00	4 35@4 50
Cl'rfi'd "Eureka" and "Franklin."		
At mines	0 75	.....
At Baltimore	3 25	4 50
At Philadelphia	3 25	4 50

FOREIGN GAS COALS.

	Sterling.	Am. cur'ncy
Newcastle, at Newcastle-on Tyne	7s.6d.	$2 50@ $3 50
Liv. House Orrel, at Liv.	25s.	13 00
Ince Hall Cannel "	35s.6d.	18 00
" Gas Cannel "	25s.6d.	10 00@ 10 50
Scotch Gas Cannel, at Glasgow, nominal	25s.	7 50
	Gold.	
Bl'k House, at Cow Bay, N.S.	$1 75	$4 50
Caledonia, at Pt. Caledonia	1 50	4 25
Glace Bay at Glace Bay	1 50	4 00
Lingan, at Lingan Bay	1 50	.....
Intern'l Mines, at Sydney	1 75	4 50
Pictou, Vale Mines, at Pictou	2 00	4 70

Retail Prices.

Per ton of 2000 lbs.

Anthracite.

	G. & Egg.	Stove.	Chest.
Pittston coal delivered	$5 00	$5 00	$5 00
Lack. coal, delivered below 59th St.	4 50	4 75	4 50

Bituminous.

Liv. House Orrel	$18 00	American Orrel	$11 00
Liv. House Cannel	18 00	Red Bank Cannel	7 00
Am. "	11 00	Cumberland	9 00
Ca'n'lt'n Bl'k, or splint.	10 00		

Baltimore. Oct. 1, 1878.

[Specially reported.]

Wholesale Prices per ton of 2240 lbs.

In cars at Depot N. C. R. R.

HARD WHITE ASH, FREE-BURNING WHITE ASH, SHAMOKIN, ETC.

Lump and Steamboat	$3.85	Stove	$4.25
Broken	3.85	Chestnut	3.80
Egg	4.00		

LYKENS VALLEY RED ASH.

Broken	$4.15	Stove	$4.45
Egg	4.30	Chestnut	3.90

From wharf or yard to the trade, 50c. per ton additional.

Afloat by cargo per canal barge, 15c. per ton less than in cars at depot.

Boston. Sept. 28, 1878.

COAL.—At the sale of Scranton on Wednesday, 50,000 tons were disposed of. The prices were as follows: September grate, $3.55@$3.72½; egg, $3.65@$3.70; stove, $4.07@$4.07½; chestnut, $3.52½. The advance on stove is 7c. over last month; on grate, 5c.; chestnut, 15c. The market continues steady and unchanged. The demand is light, but stocks are small, and the prospect is that prices will hold firm, if they do not advance. The schooner Jeddo, from Port Caledonia, C. B., brought 190 tons coal, Mann & Soule. The schooner Active, from Dorchester, N. B., brought 214 tons coal, Samuel W. Job & Co. The schooner Ancona, from Hillsboro, N. S., brought 240 tons coal, Boston Gas-Light Company. The schooner Harold, from Sydney, C. B., brought 135 tons coal, Daniel W. Job.

We quote Boston wholesale prices as follows:

Anthracite, broken	$4.55	Caledonia	$4.00
" egg	4 60	Newcastle	4.00
" stove	5.00	Cannel, English	18.00
Franklin	5.75	" Library	15.00
Cumberland	4.50	" Buckeye	11.00
Clearfield	4 50	Penn	5.25
Westmoreland	5.25	Youghiogheny	5.25

—*Commercial Bulletin.*

Chicago. Oct. 1, 1878.

[Specially reported by Messrs. RENO & LITTLE.]

The following are the present prices of coal per ton of 2000 lbs. delivered:

Retail prices of coal delivered per ton of 2000 lbs

Lackawanna Stove	$6.25	Erie and Brier Hill	$5.00
" Chestnut	6.00	Wilm'gton & Ill.	$3 00@3.50
" Grate	6.00	Blossburg	5.50@6.00
" Egg	6.00	Piedmont	7.00

Stocks of all kinds of coal liberal. Trade dull.

Cincinnati. Oct. 1, 1878.

[Specially reported by the Consolidated Coal & Mining Co.]

Per bushel of 72 lbs.

	Retail delivered.	Wholesale afloat.
Youghioghney	11c.	7½c.
Camden	9c.	5½c.
Cannel	17@18c.	13c.

Anthracite, delivered, $7@$8 per ton of 2,000 lbs.

Hamilton, Ont. Sept. 30, 1878.

[Specially reported by H. BARNARD.]

Retail prices delivered per ton of 2000 lbs.

Scr. or Wilkes-B. Grate.	$4.75	Lehigh Lump	$6.00
" " Egg	4.75	Brier Hill	5.00
" " Stove.	5.25	Massillon	4.50
" " Nut	4.75	Smithing	5.50

Louisville. Oct. 2, 1878.

[Specially reported by Messrs. BYRNE & SPEED.]

The demand at present is very good, in the city and on railroads.

Wholesale per bushel of 72 lbs.

Pittsburg	6c.	Kentucky, in river	5½c.
Raymond City	6	Kentucky, on cars	6

Retail.

Pittsburg	10c.	City made Coke	7c.
Raymond City	9	Gas Coke	8c.
Kentucky	8	Cannel Coal	17
Hard and soft Coke	8	Anthracite, per ton	$7 00

Montreal. Oct. 1, 1878.

[Specially reported by Messrs. ROBERT C. ADAMS & Co.]

Wholesale per 2240 lbs.

Scotch Steam	$3.50	Cape Breton Steam	$2.75
Pictou	3.25	Newcastle Smith's	4.00

Anthracite at retail, per 2000 lbs. delivered.

Stove	$5.50	Chestnut	$5.00
Egg	5.15		

Milwaukee. Oct. 1, 1878.

[Specially reported by Messrs. R. P. ELMORE & Co.]

Retail price per ton of 2000 lbs.

Lehigh prepared, chippings	@$7.00
" " lump	@ 7.00
Lackawanna prepared (all sizes)	@ 6.00
Briar Hill	@ 5.00
Steam cokes	$3.75@ 4.75

New Orleans. Oct. 1, 1878.

[Specially reported by Messrs. C. A. MILTENBERGER & Co.

PITTSBURG COAL.

At wholesale (by boat-load)	27c	per bbl. of 180 lbs.	
To steamboats	45c.	"	"
" manufactories	45c.	"	"
" families	50c.	"	"

In hhds. (for shipment) $5.00 per hhd. from 5 to 6 bbls.

ANTHRACITE COAL.

Per ton of 2000 lbs.

At wholesale	$7.00 to $8.00
To families etc.	9 00 to 10.00

ST. BERNARD (KY.) COAL.

To steamboats	40c.	per bbl. of 180 lbs.
" families	45c.	" "
Virginia cannel to families	$1.00	" "

Philadelphia. Oct. 3, 1878.

The Schuylkill region started on the 1st of the month. Scarcity of feed-water interferes somewhat with the shipments. The receipts at tide water are light, the local trade needing coal, and at prices far higher than can be obtained East. New York absorbs much of what reaches tide-water also, at better rates than Eastern shipments. Some call the trade very active, and rejoice at what they consider a great improvement in the demand, but it is a fallacy. Such improvement as they notice would be still better if the mines were to work five days per month instead of ten; and, no doubt, if reduced to one day's work per month, it would be tremendous. The restrictions are fast destroying the trade, instead of improving it. Putting up prices, and reducing the production largely at the same time, is an absurdity. Broken is scarce, and some manufacturers, being unable to get it as wanted, are driven to bituminous coal. This year will end with results no better than the last, and probably worse, and a production 20 per cent less—an extraordinary way to improve the coal trade.

Vessels are in excess of the demand, and freights remain low for the season—$1.10 to Boston, and $1 to Rhode Island.

Pittston, Pa. Oct. 1, 1878.

Pennsylvania Coal Company's Coal in Yard.

Retail per ton of 2,000 lb.

Lump, Egg, and Stove	$2 25
Chestnut	2 00
Pea	1 00

Delivered, 50 cents per ton additional.

Richmond. Oct, 1, 1878.

[Specially reported by S. H. HAWES, Dealer in Coal.]

Per ton of 2240 lbs. f.o.b.

Kanawha Cannel	$9.00	New River Bituminous	$3.30
Coalburg Splint	4.50	Clover Hill Coal	2.50
Lewiston "	4.50	Norwood Gas and Steam Coal	2.70
Kanawha Gas Coal	4.10		

Sandusky. Oct. 1, 1878.

[Specially reported by Messrs. BLACK & CLARKE, Agents Con Coal and Mining Company.]

Per ton of 2000 lbs.

ANTHRACITE.

	Grate.	Egg.	Stove.	Chest.
Lehigh	$6 00	$6 00	$6 25	$5 75
Wilkes-Barre	4 80	4 90	5 15	4 65
Pittston	4 80	4 90	5 15	4 65

BITUMINOUS.

Massillon	$2 85	Straitsville	$2 50
Hocking Valley	2 50	Piedmont	4 10

Prices retailed delivered 50c.@75c. above car prices.

San Francisco. Sept. 26, 1878.

COAL.—Imports from January 1st to September 1st, 1878:

	Tons.		Tons.
Anthracite	9,472	English	19,612
Australian	90,065	Mt. Diablo	65,401
Coos Bay	21,677	Rocky Mountain	371
Cumberland	802	Ione	621
Bellingham Bay	2,820	Carbondale	2,024
Vancouver Island	87,780	Ounalaska	300
Seattle	69,645		

There is but little spot coal offering upon the market, so that the only cargo of Australian now in our harbor unsold is much sought after, and, although it is not Wallsend, yet $6.50 has been offered and refused for it. The arrivals embrace 2200 tons Seattle, which we quote at $6 ex ship. The Camperdown, from Newcastle, N. S. W., has 1916 tons; the Hecla, from Nanaimo, has 1360 tons, quotable at $6. The market continues to be abundantly supplied with anthracite and Cumberland, but these descriptions are at present slow of sale, at low and nominal rates. The bark Enoch Talbot, from Seattle, has 1935 tons. The cargo of Australian above referred to has been sold on private terms. The Lockley Hall is to hand from Newcastle, N. S. W., with 1711 tons.—*Commercial Herald.*

FREIGHTS.

Ocean Freights.

Ocean Freights on coal, iron, etc., per ton of 2000 lbs. to and from foreign and domestic ports, for four weeks ending Oct. 3d, 1878, are given below.

Date.	From	To	Cargo.	R'te
Sept. 3	Hoboken	Key West	Coal	2.25
" 5	San Francisco	Nanaimo	Coal	3.00
" 7	Georgetown	Aspinwall	Coal	4.00
" 9	Philadelphia	Aspinwall	Coal	4.00
" 12	New York	Yarmouth, N.S.	Coal	1.25
" 13	Boston	San Francisco	Iron	9.00
" 13	Wood's Dale	Philadelphia	Guano	1.00
" 14	Piermont	Baltimore	Iron ore	80
" 17	Baltimore	Trinidad	Coal	3.00
" 17	New York	Alexandria	Ph'sp'te	90
" 17	New York	Baltimore	Ph'sp'te	90
" 28	Poughkeepsie	Richmond	Iron ore	75
" 28	Hoboken	Boston	*	1.60
Oct, 3	New York	Richmond	Iron ore	90

* Railroad iron.

Lake Freights on Coal and Iron Ore.

Representing the latest actual charters up to Oct. 2d.

From	To	Rate per ton.	From	To	Rate per ton.
Ashtabula.	Milwauk'e.	30	Cleveland.	Chicago...	30-40
Bay City..	"	60	Cleveland.	Milwaukee	30
Black Riv..	"	40	Escanaba.	Cleveland*	90-$1
"	Milwaukee	45	"	Ashtabl'a*	90
Buffalo	Cleveland*	40	Fairhaven.	Chicago...	60
"	Chicago...	25	Marquette	"	$1.20
"	Milwaukee	25	"	Ashtabl'a*	1.00
"	Detroit...	15	Oswego ...	Chicago...	80
"	Alpena....	30	"	Milwaukee	86
"	St. Clair ..	65	"	Detroit. ...	45
Charlotte..	Chicago...	70	Sandusky..	Toronto .	90
Chicago...	Milwaukee	25	Spigel.....	Chicago*..	50
"	Green Bay	30-35	Toledo	Milwaukee	50
Cleveland .	Toronto. ..	80	"	Cleveland*	40

* Iron ore.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to Oct. 3d, 1878.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken.
Albany	.....	1.60	.....
Augusta	.....	1.40	.....
Bangor, Me	.....	1.40	90
Bath, Me	.....	1.25	90
Beverly, Mass	.....	.....	90
Boston, Mass	1.10@1.15	1.25	90@95
Bridgeport, Conn.	.....	1.25	60
Bristol, R. I.	1.27½	.....	70
Cambridge, Mass.	1.27	.....	90
Charleston	90@107½	.....	.....
Camoridgeport	1.25	.....	90
Charlestown	1.10§	.....	90
East Cambridge.	1.31	.....	90
Fall River	1.05	1.25	70
Galveston	.....	2.75	.....
Halifax	.....	.....	1.50
Hartford	1.45	1.25	.....
Hingham	1.25	.....	.....
Hoboken	.....	1.15	35
Hudson	1.45	.....	.....
Jersey City	.....	.....	35
Lynn	1.25	.....	90
Marblehead	1.12½	.....	.....
Milton	.....	.....	.....
Middletown	.....	.....	90
Nantucket, Mass.	.....	.....	90
Newbern	85	.....	.....
New Bedford	1.05	1.25	70
Newburyport	95@1.00†	1.45	1.00
New Haven	1.05	1.25	60
New London	.....	1.25	60
Newport	1.05	.....	70
New York	80@85@95	1.25	35
Newark	.....	1.35	.....
Norfolk, Va	50	45	.....
Norwich	1.12@1.00‡	1.40	70
Norwalk, Conn	80	1.35	55
Pawtucket	1.10‡	1.40	75
Petersburg	70	.....	.....
Philadelphia.	.....	75	.....
Portland	95†	1.25	.....
Portsmouth, N.H.	.....	1.40	1.00
Providence	1.00@1.05	.....	85@90
Quincy Point	.....	.....	90
Richmond, Va	60	.....	.....
Rockland	.....	.....	90
Rockport	1.30	.....	.....
Roxbury	.....	.....	95§
Saco	.....	.....	1.05
Salem, Mass.	1.15@1.28	1.40	95
Savannah	1.25	.....	.....
Somerset	.....	.....	70
St. John, N. B.	.....	.....	1.10
Staten Island	91	.....	20
Trenton	.....	1.05	.....
Troy	.....	1.60	.....
Washington	57½	60	.....
Williamsburg	.....	.....	35
Wilmington	.....	75	.....

Boston to Alexandria and Georgetown, $1.45. Washington to Wareham, $1.45. Perth Amboy to Boston, $1.00.
*And discharging and towing. † And discharging. ‡ And towing. § 3c. per bridge extra. ¶ And pilotage.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Oct. 4, 1878.

American Pig.—We learn of a sale of 200 tons of Allentown No. 1 Foundry at $17, and, in addition to that, numerous lots ranging from 10 to 200 tons. The demand, however, is very quiet, and prices are no better than they have been. As we have frequently said, additional furnaces will have to go out of blast, or, with the present and prospective business, we must see lower prices before spring. The Durham furnace of Cooper, Hewitt & Co. has blown out. We quote No. 1 Foundry at $16@$17; No. 2, $15@$16, and Forge, $14@$15.

Scotch Pig.—Small sales of Eglinton, aggregating about 150 tons, have been made during the week. The failure of the Glasgow Bank will undoubtedly have considerable influence upon the Scotch iron trade, and prices will probably decline, but there are no failures expected among the Scotch iron-masters. We quote Eglinton at $21.50@$22.50; Glengarnock, $23@$24; Coltness, $23.50@$24.50.

Rails.—We learn of no business. There is a good inquiry for steel, and a fair demand for iron. We quote iron at $32@$36, and steel at $42@$45.

Old Rails.—Sales of 1000 to 1500 tons, Philadelphia delivery, are reported. We quote at $17.50@$18.

Wrought Scrap.—300 tons on private terms are reported as sold. We quote at $20@$21.

Baltimore. Sept. 30, 1878.

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

The iron market is quiet, with prices firm at about quotations:

Balt. Char.	$26.00@$28.00	M. & White	$13.00@$16.00
Va. "	26.00@ 28.00	C'lC.B.Blooms	50.00@ 52.00
Anth. No.1	19.00@ 20.00	" " Billetts	52.00@ 55.00
" " 2	18.00@ 19.00	Refi'd Blooms	43.00@ 55.00
" " 3	16.00@ 17.00		

Buffalo. Sept. 30, 1878.

[Specially reported by Messrs. PALEN & BURNS.]

Prices per gross ton delivered on cars at Buffalo:

	4 mos.
No. 1 Foundry	$17.50
No. 2 "	16.50
No. 3 Forge	15.00
B 1	17.00
American Scotch A 1	19.50
" " B 1	18.50
" " No. 2	18.00
" " No. 3	.....
Best selected Connellsville coke, per net ton	4.75

Chattanooga. Oct. 1, 1878.

[Specially reported by J. F. JAMES, Dealer in Iron & Metals.

The prevalence of the yellow fever here, with its consequent ravages, is the all-prevailing topic. Business in every branch is entirely suspended. The mills, foundries, and manufactories are also closed, and our beautiful city is almost depopulated. Shipments of pig-iron from the furnaces below are difficult to make, in consequence of the general confusion existing at various junctions and points of transfer. Orders from the West will be filled at earliest date. Our hope for a change is an early and long-continued frost. Prices as follows:

While the yellow fever rages in Chattanooga, my headquarters are Norwalk, Ohio, where all my mail is forwarded for attention until further orders. Please mail my paper there.

Tenn., Ala. & Ga. Charcoal, No. 1 Foundry	$16 00@$17 00
Tenn., Ala. & Ga. Charcoal, No. 2 Foundry	15 00@ 16 00
Tenn., Ala. & Ga. Charcoal, Gray Forge	13 00@ 15 00
Tenn., Ala. & Ga. Coke, No. 1 Foundry	18 00@ 19 00
Tenn., Ala. & Ga. Coke, No. 2 Foundry	16 00@ 17 00
Tenn., Ala. & Ga. Coke, Gray Forge	14 00@ 15 00
Charcoal or Coke, white and mottled	13 00@ .....
Old rails	$18 00@$19 00
Old car wh'ls.	16 00@ 17 00
Wr'ght scrap, No. 1	16 00
Wr'ght scrap, No. 2	$11 00
Cast scrap	10 00
Muck bar	30 00@ 32 00

IRON ORES.

Red hematite or fossiliferous f. o. c. at mines, about 55 per cent metallic iron	$1.25
Brown hematite about 55 per cent metallic iron	1.75

Cincinnati. Oct. 1, 1878.

[Specially reported by Messrs. TRABER & AUBERY, Commission Merchants for the sale of pig iron, blooms, ore, etc.]

Below please find closing quotations of our pig-iron market. The demand for the better grades of C. C. and coke-smelted irons is improving, and prices are firm.

CHARCOAL.

H'n'g Rock	No. 1 Foundry & B 1	$21 00@$22 50—4 mos
"	No. 2 "	20 00@ 21 00—4 mos
"	Soft Silver Gray	19 00@ 20 00—4 mos.
"	Mill	18 00@ 19.00—4 mos.
Tennessee	No. 1 Foundry	21 00@ .....—4 mos.
"	No. 2 "	20 00@ .....—4 mos.
"	Mill	18 00@ 19.00—4 mos.

STONE COAL.

Ohio	No. 1 Foundry	$17 00@ .....—4 mos.
"	No. 2 "	16 00@ .....—4 mos.
"	No. 3 "	15 00@ .....—4 mos.
"	No. 4 "	14 00@ .....—4 mos
"	Mill	16 00@ .....—4 mos.

COKE.

Ohio & W. Va.	No. 1 Foundry	19 00@ .....—4 mos.
" "	No. 2 "	18 00@ .....—4 mos.
" "	Stove	16 00@ 17 00—4 mos.
" "	Mill	17 00@ .....—4 mos.

CAR-WHEEL.

H'n'g R., C. B	Hecla, Vesuvius, Etna, Buckhorn, Jefferson.	$30 00@ 35 00—4 mos.
Maryland, "	Cedar Point	35 00@ .....—4 mos
Missouri, "	Maramec	28 00@ ... .—4 mos

BLOOMS.

Charcoal	$45 00@$50 00- cash

SCRAP IRON.

Cast	40c. @ 45c.—cash
Wrought	62½c.@ $1.00—cash

Columbus, O. Oct. 1, 1878.

[Specially reported by Messrs. KING, GILBERT & WARNER, Dealers in Pig Iron and Ores.]

The usual time, four months, allowed on quotations.

FOUNDRY IRONS

No. 1 Hanging Rock Charcoal	$22 00@$22 50
No. 2 " " "	..... @ .....
No. 1 Hocking Valley soft and strong from pure limestone ores	18 00@ 18 50
No. 2 Hocking Valley soft and strong from pure limestone ores	17 00@ 17 50
No. 1 American Scotch	18 00@ 18 50
No. 1 Moxahala	18 00@ 18 50
No. 2 "	17 00@ 17 50
No. 1 Shawnee	18 00@ 18 50
No. 1 Eliza (Jackson County)	18 00@ 18 50
Silver Gray	16 50@ 17 00

MILL IRONS.

Gray neutral	16 00@ 17 00
Mottled and white neutral	15 50@ 16 00
Gray cold short	16 00@ 16 50
Mottled and white cold short	15 00@ 15 50

Cleveland. Oct. 1, 1878.

[Specially reported by Messrs. C. E. BINGHAM & Co.]

Per gross ton, on four months' time. Subject to change without notice.

FOUNDRY IRON.

No. 1	L. S. Charcoal	$23 00	Am. S., No. 1, Ch. Val. $20 00
No. 2	" "	22 00	" " B—1, " " 18 00
No. 1	Anthracite	20 00	" " No. 2 " " 18 00
No. 2	"	19 00	No. 1, Massillon 19 00
No. 1	Bituminous	20 00	B—1, " 17 00
No. 2	"	18 00	No. 2, " 16 00

CAR-WHEEL AND MALLEABLE IRON.

No. 3,	L. S. Charcoal	$24 00	Nos. 5 & 6, L. S. Char. $24 00
No 4,	" "	24 00	

BESSEMER IRON.

Nos. 1 & 2, L. S. Char	$23 00

FORGE IRON.

No. 1, Gray	$18 00	White and Mottled	$16 00

Louisville. Oct. 1, 1878.

[Specially reported by Messrs. GEORGE H. HULL & Co.]

The demand is not so good, but prices remain firm at full figures. The usual time, four months, is allowed on quotations below:

FOUNDRY IRONS.

	No. 1.	No. 2.
Hanging Rock Charcoal	$21 00@$22 00	$19 00@$20 00
Southern Charcoal	18 00@ 18 50	16 50@ 17 00
H'n'g Rock, Stc'l & Coke	19 00@ 20 00	18 00@ 18 50
Southern Stonecoal & Coke	18 50@ 19 00	17 00@ 17 50
"Amer. Scotch"	$18@$19	Silver Gray $17@$17.00

MILL IRONS.

No. 1 Charcoal, Cold-short & Neutral	$16 00@$17 00
No. 1 Stc'l & Coke, Cold-short & Neutral	16 00@ 16 50
No. 2 Stc'l & Coke, Cold-short & Neutral	15 00@ 15 50
No. 1 Missouri and Indiana, Red-short	20 00@ 21 00
White & Mottled, Cold-short & Neutral	14 50@ 15 00

CAR-WHEEL AND MALLEABLE IRONS.

Hanging Rock, Cold Blast	$29 00@$30 00
Alabama and Georgia, Cold Blast	28 00@ 29 00
Kentucky, Cold Blast	25 00@ 28 00

Philadelphia. Oct. 3, 1878.

[Specially reported by JUSTICE COX, JR., & Co., Iron Merchants, 333 Walnut street, Philadelphia.]

Pig-Iron.—The demand for pig-iron at low prices continues. One or two strong companies are refusing the low prices offering, or only accepting them for prompt cash and delivery. We report sales of about 3000 tons, and quote: No. 1, $17 to $19; No. 2, $16 to $18; Grey Forge, $15 to $16; all as to brand and delivery.

Manufactured Iron.—The demand for bars is improving, but nothing better as to price. In plate most mills have all they can do for the present, and only take orders at an advance for prompt delivery. Some mills, fearing a dullness in November, are offering to deliver iron at present prices, provided they can get orders at once willing to take the chances of the market. We understand some orders have been placed with that promise. There is more demand for skelp, and prices are said to be stiffer. We quote: Bars, 1 6-10 to 2c. per lb.; plate 2 2-10 to 6c. per lb.; skelp, 1 9-10 to 2c. per lb.

Rails.—Nothing new in either steel or iron rails, only small lots of the latter are moving. We quote: steel, $42 to $44; iron, $32 to $35, all at mills.

Old Rails.—There is quite a demand. We report sales of about 3000 tons, and quote $18.50 to $19.50, as to delivery and terms.

Old Wheels.—Quiet, at $17 to $19.

Scraps.—Dull, at $12 to $16 for cast, and $20 to $24 for wrought.

St. Louis, Mo. Sept. 24, 1878.

[Specially reported by Messrs. SPOONER & COLLINS, Commission Agents for all kinds of Iron.]

Pig-iron business is only fair. Future prospects are improving. Prices remain unchanged. Our foundries and mills are busy, and we think we can rely upon a good fall trade. Old rails are firm at quotations, and very scarce.

COLD BLAST CHARCOAL—ALL NUMBERS.

Hanging Rock	$28@$33	Assorted Bar Iron	$1.75 rates.
Tennessee	25@ 30	No. 1 Wr'ght Scrap,	70c. cwt.
Kentucky	25@ 30	Heavy cast "	60c. "
Missouri	25@ 30	Light " "	40c. "
Georgia	25@ 30	Old rails	$19 00@$20 00
Alabama	25@ 30	Old carwheels	17 00@ 18 00

	No. 1.	No. 2.	Mill.	White and Mottl'd
Missouri stone coal	$22 00	$21 00	$19 00	$17 00
" charcoal	20 00	19 00	18 00	16 00
Tennessee charcoal	20 50	19 00	17 50	16 00
Tenn. coke very soft and strong	20 00	19 00	17 00	15 00
Hanging Rock charcoal	24 00	23 00	21 00	20 00
" " cold short	23 00	21 00	20 00	.....
	ExNo.1	No. 1.	BNo.1.	No. 2.
Alice Hanging Rock coke.	$23 00	$22 00	$21 00	$19 00
Moxahala Black Band ores	23 00	22 00	21 00	19 00

Richmond, Va. Oct. 1, 1878.

[Specially reported by ASA SNYDER, Esq.]

Amer. Scotch Pig Iron			$21.50@$22.50
Anthracite	"	No. 1	19.00@ 20.00
"	"	No. 2	18.50@ 19.00
"	"	No. 3	17.00@ 18.00
"	"	Mottled	15.00@ 16.00
Coke	"	No. 1	19.00@ 20.00
"	"	No. 2	18.00@ 19.00

Va. Cold Blast Charcoal Pig Iron,	cold short	19.00@	22.00
" " " " " "	neutral	27.00@	28.00
" Warm " " " "	cold short	18.00@	20.00
" " " " " "	mill	17 00@	18 00
Old Rails		16.50@	17.50
Wrought scrap No. 1		16.00@	17.00
Cast scrap—Machinery		15.00@	16.00
Richmond Refined Bar Iron		2.00@	2.10
Horse-shoes		4.00@	.....
Mule-shoes		5.00@	.. ..
Old Dominion nails (standard size)		2.25 keg.	

Freight by sail to New York, $1.60 for 2240 lbs.

METALS.

New York, Friday Evening, Oct. 4, 1878.

There has been a very good business done in copper and a fair business in a small way in other metals. We were unable to get full cable quotations from London to-day, but expect that the failure of the Glasgow Bank must have a bad effect upon the prices of metals.

RECEIPTS OF METALS AT NEW YORK FOR THE FOUR WEEKS ENDING OCTOBER 3D AND YEAR FROM JANUARY 1ST, 1878.

	Sept. 12	Sept. 19.	Sept. 26	Oct. 3.	Year from Jan. 1
Copper, bbls	716	293	1,033	324	19,201
Copper, boxes	....	.....	....	.....	113
Copper, cakes	.....	190	....	781	12,830
Lead, pigs	1,877	1,641	1,410	838	227,874
Spelter, pieces	1,052	633	628	....	34,527
Quicksil'r, flasks	....	.....	....	250	1,221

Gold Coin.—During the week under review the price of gold has ranged from 100⅝ to 100½ and closed at 100½.

Copper.—The event of the week has been the sale of from 6,000,000 to 6,500,000 lbs. of copper to manufacturers for delivery through the balance of the year at 15½c., and 1000 tons for export at 15c. This movement has been looked for for some time, and although the manufacturers had it in their power to force the companies to sell them, as well as their foreign competitors, at 15c., yet again have they been drawn into the trap. The market is but nominal at 16c. at the close, and, as the larger buyers have all been supplied, we may look for a quiet business in copper and a further decline before the end of the year. Under date of London, September 20th, we have received the following:

"Copper is unaltered, but perhaps a trifle more disposition to purchase than in the early part of the week, and smelters are booking a few good orders, both for manufactured and raw, although the prices which they obtain leave but little, if any, profit on the figures they have to pay for their furnace material. In Chili bars, we hear of 100-ton lots, on spot in Liverpool, at £60 cash, and 50 tons of Urmeneta, by a vessel expected to arrive in that port in the course of a few days, at £60½ per ton. Metal, at the lowest figure we have named, is not very plentiful, and where buyers are particular as to the brand, they, as may be seen above, have to pay a fair premium, in order to supply their wants. Wallaroo cake, £69@£69½, and Burra, £68@£68½, with nothing doing."

Tin.—There is no large business doing, and only a moderate business in a jobbing way. There arrived by the Gordon Castle 590 slabs. We quote Straits at 13½c.; L. & F., 13½@13⅝c.; Refined, nominal at 13⅞c.; and Banca, 17c. Cable quotations, earlier in the week, were, at Singapore, $17.70; Penang, $17.25; exchange, 3s. 9⅝d.; London, £55 10s. Under date of London, September 20th, we are written:

"Tin very irregular, and after opening at 57⅝s., with a few sales thereat, prices suddenly dropped to 57s., owing to the tactics of some dealers operating for a fall, who offered to sell at that figure for October delivery. Finding no takers, they sold at 56¾s., and subsequently at 56½s., delivery any time this year at their option, but for three months fixed prompt, 57¼s. was paid. Business reported was altogether about 100 tons."

Tin Plates.—At the close the market was rather quiet, although during the week under review there have been sales in all of about 7000 boxes of coke tins on private terms. Great stress is put on advices of an agreement entered into in England to restrict one third the manufacture of plates. The particulars of this arrangement have not yet arrived here, but we have had similar reports so often during the past few years, followed by the inevitable result of all combinations, viz., failure, that we do not place confidence in the success of this effort. We quote: Charcoal, bright, ⅛ X, Melyn grade, at $5.87½@$6, and Allaway grade, at $5.75@$5.87½; charcoal ternes, Allaway grade, $5.25@$5.37½; coke, bright, B. V. grade, at $4.70@$4.75; coke roofing, 14 × 20, $4.70.

Messrs. Robt. Crooks & Co., of Liverpool, under date of Sept. 19th, say:

"Odd lots of 14×20 coke tins are still to be had at from 6d. to 9d. under the price of makers, who are feeling this competition very keenly, without, so far, trying to meet it. There is some talk of restricting make. Whether this will come to any thing or not can hardly yet be determined. Charcoal tins and ternes are dull, without very much giving way, while coke ternes are nominally unchanged."

Lead.—Sales of about 200 tons, in lots, at 3⅝@3½c., are reported. At the close the price asked is 3½c., the result of one large holder having withdrawn from the market. The works of the Richmond Company, in Nevada, have been burned, and it is supposed that it will be some months before this company can again become a producer of bullion. This curtailment of production is used as an argument to advance the price of lead.

The outlook is, however, that we shall not miss this lead, but that we shall still continue to accumulate stock. The San Francisco *Commercial Herald* of Sept. 26th says:

"The Colima for New York via Panama, carried of pig lead, 166,000 lbs., and the Malay to Auckland, N. Z., 43,120 lbs. same. The bark Coloma, for Hong Kong, Sept. 20th, carried of pig lead 481,740 lbs.: the steamship Colima via the Isthmus also carried *en route* to New York, base bullion, 349,016 lbs."

Spelter and Zinc.—Both of these articles are quiet. The former is quoted at 4⅞@5c., and the latter at 5¾c.

Antimony.—This article has been well concentrated, and there has been a liberal business done. We quote Cookson's at 12½c., and Hallett's at 12⅜c.

Quicksilver.—The San Francisco *Commercial Herald* of September 26th says: "The spot market continues dull and languid. Our latest London quotation was of the 12th inst., £6 17s. per bottle; with us, 41c. is the nominal price. The City of Chester is to hand with 37 flasks. The Newbern, for Mexico, carried 325 flasks.

"The quicksilver exports by sea for the past week are as follows:

	Flasks.	Value.
To Mexican ports, per Newb'n, Sept. 24th	325	$10,324
Previously since January 1st	22,773	757,622
Totals since January 1st, 1878	23,098	$767,946
Totals same period 1877	39,142	1,379,620
Decrease this year	16,044	$611,674

"The receipts for the week amount to 1136 flasks."

Bullion.—The London market has again shown weakness since the sale on Wednesday of the Indian Council bills at a decline equivalent to over a half cent an ounce, and the rate to-day is but 51⅜d. per ounce—a lower figure than has been made since the panic two years ago. There are as yet no signs of an improvement in the market, but rather of a further decline. Certainly if our government were not utilizing the product of our country, we should see silver materially lower. The price here is 111¼ per oz., while San Francisco quotes at 13 per cent discount.

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

Date.	London Pence.	N. Y. Cents.	Date.	London Pence.	N. Y. Cents.
Sept. 28	51⅝	112⅛	Oct. 2.	51½	112¼
Sept. 30	51 9-16	112⅜	Oct. 3.	51½	112
Oct. 1	51 9-16	112⅜	Oct. 4.	51⅜	111¾

BULLION SHIPMENTS.

We give below a statement showing the latest bullion shipments in addition to those announced in our issue of Sept. 28th:

September	16th	Indian Queen	Nev	$4,221.98
"	18th	Leopard	"	8,816.64
"	18th	Hussey	"	7,393.31
"	19th	Hillside	"	5,500.00
"	20th	Tybo Cons	"	16,561.10
"	21st	Northern Belle	"	12,416.57
"	21st	California	"	68,523.84
"	21st	Cons. Virginia	"	54,049.31
"	24th	Manhattan	"	11,600.00
"	16th	Standard	Cal	18,947.56
"	23d	Bodie	"	41,400.00
—	—	Multon Mining and Water Co	"	78,657.00

The Bodie District Output.—The shipments of bullion from the Bodie mine from the 1st to the 25th of September amounted to $163,533.34, and from the Standard mine the shipments for the same period amounted to $87,860.69. The total shipments for both mines up to date this month aggregate $250,343.03.

ARIZONA BULLION SHIPMENTS.

The Yuma *Sentinel* of September 22d reports the following shipments for the week ending September 20th, 1878:

Peck	$7,235
B. & K.	1,508
10,928 lbs., Concentrations, Stonewall	90,000
1600 lbs., Concentrations, Pinal Mill	2,000
1500 lbs., Concentrations, Globe ore	3,000
Tip Top	13,157
Hackberry	12,950
Total	$129,850

The shipment of 10,928 lbs. of Stonewall Jackson ore is of the same rich stuff that has always attracted so much attention in San Francisco, and which has realized from $7 to $10 per lb. Our estimate of $90,000 for this lot is probably below rather than over the real value. The 1600 lbs of Concentrations are from Baldwin's Pinal Mill, and were made from one of the old Silver King dumps. They are valued at $1 per lb.

"Last week we noted shipment hence of $79,723 bullion; that figure included 25,000 pounds of Silver King concentrations, which we valued at that many dollars. Returns of sales of that lot show that it realized at the rate of $3700 per ton, or $1.85 per pound. Therefore we can add $21,250 more to that week's shipment, making the total for the week ending September 13th, $100,397. Even this does not include proceeds of over 2000 pounds of Silver King 'nuggets,' which are melted at the refinery, and from which we have heard no returns; they have usually realized $8 or $9 per pound."

The Silver King mine has recently received returns from 20 tons of ore shipped to New York The shipment netted $73,000 In addition there are $40,000 worth of concentrations on the way from the mine, and the mill is still pounding away on richer ore than ever before. The August yield of the Silver King was about $94,000. That for September will be even greater.

The bullion product of the Black Hills for this year is expected to amount to $8,000,000. $250,000 were shipped on the 19th of September.

The United States Mint Coinages for September were as follows:

	Pieces.	Values.
Gold:		
Double eagles	248,600	$4,972,000
Eagles	14,350	143,500
Half eagles	81,700	408,500
Quarter eagles	21,000	52,500
Total	365,650	$5,576,500
Silver:		
Standard dollars	2,764,000	2,764,000
Total coinage	3,129,650	$8,330,500

The Business at the New York Assay Office for September was as follows:

Deposits of gold:		
Miscellaneous	$318,000	
United States bullion	900,000	
Total		$1,218,000
Deposits of silver:		
Miscellaneous	77,000	
United States bullion, Colorado	430,000	
" " Lake Superior	3,500	
" " Montana	71,500	
" " Nevada	3,500	
" " New Mexico	27,500	
" " Utah	32,000	
		645,000
Total deposits		$1,863,000
Gold bars stamped	$927,594	
Silver bars stamped	422,705	
		1,350,299
Transmitted to mint of the United States at Philadelphia, for coinage, gold		$1,025,142

The Redemption of Subsidiary Coins.—A singular feature of the law affecting the redemption of small coins is furnished by the fact, that while copper, bronze, and copper-nickel pieces can be exchanged for greenbacks if presented in sums of $20, the subsidiary silver coins, as the law now stands, can not either be exchanged or redeemed.

The Attorney General has, also, recently rendered a decision as follows: "I am of opinion that the section of the Revised Statutes, referred to in your letter, is to be construed as permitting the payment of $5 in subsidiary silver coin only when the debt for which it is thus made a legal tender does not exceed the sum of $5."

Our Coin and Bullion Exports and Imports.—The excess of exports over imports of gold and silver (coin and bullion) appears to have been as follows:

Month ending August 31st, 1877	$418,640
" " 1878	320,228
Eight months ending August 31st, 1877	$25,463,551
" " " 1878	621,283

These statements indicate a decreasing outflow of specie and an increased flow of American securities toward this country.

PACIFIC COAST BULLION PRODUCT.

The San Francisco *Bulletin* publishes a statement from official sources, showing the monthly products of certain producing Pacific Coast mines for the month of August, 1878, from which we extract the following:

GOLD MINES.

Black Bear Quartz	$13,222	Milton Water and Gravel	$78,657
Bodie (estimated)	575,000	Murchie	3,480
Empire (Nevada County)	4,220	New York Hill	14,120
Father de Smet (Dakota)	28,000	Original Amador	5,600
Golden Terra	8,000	Plumas Eureka	35,840
Homestake	56,933	Sierra Buttes	30,000
Idaho (Nevada Co)	50,000	Standard; silver, $5120	106,517
Keystone (Amador County)	26,506		
Klamath	8,400	Total seventeen gold mines	$1,069,839
La Grange	25,350		

The above is the first report received from the Bodie mine, in Mono County, the Golden Terra, Homestake, Keystone, Klamath, La Grange, Murchie, and New York Hill mines. The others have reported before, although the Original Amador, Plumas Eureka, and Sierra Buttes did not make a report for July. We have added the Standard mine to the gold list, because the bullion carries only a very small amount of silver. It is from the above circumstances that the gold product for August is so much larger than for previous months. The silver mines make the following report for August:

SILVER MINES.

Alexander	$15,087	Northern Belle	$52,612
Comanche (Cal.)	17,368	Ontario	138,670
Christy (Utah)	24,957	Raymond & Ely	28,122
Endowment	12,839	Silver King (Ariz.)	86,000
Hackberry	29,000	Star	19,824
Indian Queen	4,505	TipTop (Arizona)	37,628
Leeds (Utah)	20,192		
Leopard	21,143	Total sixteen silver mines	$638,633
Manhattan	90,816		
McCracken Consolidated (Arizona)	39,870		

The Endowment was not in the July list. The Leopard is added to the silver mines, because the amount of gold in the product last month was very small. The McMillan mine, of Arizona, has made no report for two months. The returns of the gold and silver mines are as follows:

GOLD AND SILVER MINES.

	Gold.	Silver.
California	$145,993	$110,507
Consolidated Virginia	124,571	115,344
Independence	4,291	30,265
Totals	$274,855	$256,116

The Justice and Trojan Mines did not produce any bullion last month. Despite the great uproar in Comstock shares,

only two mines in the whole list, from Utah to Silver Hill, covering a distance of four miles, are producing a single dollar; and the product of these two is insignificant compared with what it has been. The base metal mines make the following statement for August:

BASE METAL MINES.

	Gold.	Silver.	Lead.
Eureka Consolidated	$121,457	$156,146	$70,669
New Coso	.....	16,700	3,000
Tybo Consolidated	7,382	45,104	8,450
Totals	$128,839	$217,950	$82,119

Following is a recapitulation of the August product of the above mines:

Gold mines	$1,064,719	
Gold with silver	274,855	
Gold with lead	128,849	
Total gold		$1,568,413
Silver mines	638,633	
Silver with gold	261,236	
Silver with lead	217,950	
Total silver		1,117,819
Value of lead	82,110	82,119
Totals	$2,668,351	$2,668,351

But for the Bodie mine, the yield for August would have been the smallest this year. The bullion yield of mines, reported for the first eight months of the current year, has been as follows:

1878.	Mines.	Product.
January	28	$4,849,800
February	30	4,651,700
March	34	4,928,400
April	25	4,161,400
May	40	2,385,300
June	36	2,550,200
July	33	2,131,900
August	39	2,668,400
Total		$29,237,100

Over forty per cent of the above total represents gold, and the remainder is in silver, with the exception of $782,000 lead.

The falling off in the totals is due to the reduced yield of the bonanza mines.

FINANCIAL.

New York Stocks.

NEW YORK, Friday Evening, Oct. 4, 1878.

Quite a decline has taken place in the coal stocks since our last; the transactions have been rather above the recent averages, the total sales for the six days amounting to about 142,000 shares. Delaware and Hudson Canal stock closes at 52¼, against 53 last week, the sales amounting to 7062 shares. Delaware, Lackawanna, and Western stock has been very active, nearly 130,000 shares changing hands, at from 56¾ to 54¼, closing at the latter figure. New Jersey Central closes at nearly the lowest of the week, the extreme prices recording 37½@35, with the final price ½ per cent in advance of the lowest quotation. This company, to secure the payment of 5000 bonds of $1000 each, on September 1st, 1873, mortgaged to Samuel Knox and John Kean, as trustees for the benefit of bondholders, all their franchises, rolling-stock, depots, etc., etc.; also 15,000 shares of the capital stock of the New York and Long Branch Railroad Company, par value, $1,500,000; also 132,000 shares of the capital stock of the Lehigh and Wilkes-Barre Coal Company, par value $6,000,000; also 8000 shares of the High Bridge Railroad Company, par value $800,000; also 2000 shares of the Longwood Valley Railroad Company, par value $200,000; and also 30,000 shares of the capital stock of the American Dock and Improvement Company, par value $3,000,000. The mortgage, which was recorded at the Register's office on February 15th, 1877, was, on the 27th ult., canceled of record.

COUPONS AND INTEREST on the bonds of the following companies will fall due during the present month:

Albany and Susquehanna R. R. Co.—Cons. mortgage coupons and reg. interest; 2d mortgage, coupons; paid by Del. and Hudson Canal Co.

Allegheny Valley R. R. Co.—Coupons.

Baltimore and Ohio R. R. Co.—6 per cent sterling bonds, coupons.

Chesapeake and Ohio Canal.—Maryland loan, coupons.

Columbus and Hocking Valley R. R. Co.—Coupons.

Delaware, Lackawanna, and Western R. R. Co.—Morris and Essex R. R., Newark and Bloomfield R. R., and 1st mortgage bonds of Syracuse, Binghamton, and New York R. R., coupons or interest.

Delaware and Hudson Canal Co.—Bonds of 1894; coupons. Bonds of 1894 reg.; interest.

Huntingdon and Broad Top Mt. R. R. Co.—1st mortgage gold, coupons.

New Jersey R. R. and Trans. Co.—Coupons.

Oxford Iron Co.—Coupons.

Rome, Watertown and Ogdensburg R. R. Co.—Coupons due.

Vulcan Iron Works.—Coupons.

Piedmont R. R. Co.—Coupons.

AUCTION SALES:

Phœnix Iron Co.—$1000 of the first-mortgage 6 per cent bonds, at 90½ per cent.

Trenton Coal Co.—$1000 7 per cent mortgage bonds at 90½ per cent.

Gregg Brick Co.—10 shares at 50.

COAL STOCKS.

Name of Company.	Capital Stock.	Shares. No.	Shares. Par Val.	Last Dividend. Mo.	Y.	Rate per Ann. A't.	Rate per Ann. Per c'nt	Quotations of New York stocks are based on the equivalent of $100. Philadelphia prices are quoted, so much per share. Sept. 28. H.	Sept. 28. L.	Sept. 30. H.	Sept. 30. L.	Oct. 1. H.	Oct. 1. L.	Oct. 2. H.	Oct. 2. L.	Oct. 3. H.	Oct. 3. L.	Oct. 4. H.	Oct. 4. L.	Sales.
	$		$	Mo.	Y.	A't.	Per c'nt												25	
Consol. Coal.	10,250,000	102,500	100	Jan.	77	2½	...													
Del. & H. C..	20,000,000	200,000	100	Aug	76	4	9	53	50¾	52¾	52¼	52¼	51⅞	52¼	51⅝	51⅝	51¼	52¼	51	7,062
D., L. & W. RR	26,200,000	524,000	50	July	76	2½	5	56¾	54¼	56¾	55½	55⅝	55	56⅛	54¾	55	54¼	55½	54⅝	129,475
Lehigh C. & N	10,448,550	208,971	50	Nov	76	1½	5½	18¼	18¼	18¼	18	17¾	17⅝	18⅛	17¾	17⅝	17⅜	17⅞	17⅝	8,147
Leh. V'y R. R	27,228,855	540,858	50	July	78	1	....	.....	.....	39½	39¼	39	38⅛	39⅜	39¼	38½	38⅛	38⅝	38¼	1,211
Maryl'd Coal	4,400,000	44,000	100	Jan.	76	1½	1½	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. J. C. R. R.	20,600,000	206,000	100	Apr	76	2½	2½	37⅛	36⅞	37⅛	36⅛	36⅛	36	36¾	35¾	35⅝	35	35¼	35	5,452
Penn. Coal...	5,000,000	100,000	50	May	78	3	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn. R. R...	68,870,200	1,337,404	50	May	77	1½	8	35	34¾	35¼	34¾	35	34⅜	35⅛	35	34½	34¼	34½	34¼	58,82-7
Ph. & R. R. R	34,278,175	685,563	50	Jan	76	+2½	10	16⅜	16⅛	16¼	16⅛	15¾	15½	16¼	15⅝	15⅝	15	15½	15¼	21,025

The Delaware and Hudson Canal Co. has paid in dividends to date $38,821,104, and the Philadelphia and Reading $43,012,497.

Total Sales.....231,199.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in here, at Philadelphia and Baltimore for the week ending the 4th inst. are given in the following tables. The Philadelphia quotations will have a * affixed. The Baltimore quotations are indicated thus †.

Stocks.	Par Value.	High'st	Lowest	Closing	Sales: Shares.
American Coal Co.	$25	.....	.....	30	.....
St. L., I. M. & S. R. Co..	100	9⅝	6¼	8½	5,600
Spring Mt. Coal Co.	50	.....	.....	50	.....
*Cambria Iron Co..	50	.....	.....	55	14
*Penn. Salt Mf'g Co.	50	.....	.....	70	.....
*Westm'land C. Co.	50	.....	.....	55	.....
*Buck Mt. Coal Co..	50	.....	.....	38	.....
*Schuyl. Nav. Co...	50	.....	.....	.....	.....
†B. & O. RR. Co. 1st pf	.....	.....	.....	95	.....
†B. & O. RR. Co. 2d pf	100	.....	.....	85	.....
" " " " com	90	93⅛	90	93	.....
†George's C'k C. Co	100	.....	.....	86½	.....
†S. Clara M'g Co...	100	.....	.....	25	.....
†Atlantic Coal Co.	10	.....	.....	1.00	.....

Bonds.	Princ'l. When Due.	Int'est. When Due.	Hig'st.	Lowest	Amount.
D., L. & W., 7s, conv	1892	J. & D.	.....	103	.....
" " " " 2d mtge.	1881	M. & S.	.....	103¼	.....
N. J. C., 1st mtge. new	1890	F. & A.	.....	113	.....
" " " " 1st mtge., con	1899	Q.	88	.....	†12,000
" " " " convt.....	1902	M. & N.	71½	71	*8,000
Lehigh & W. B., con	1899	Q.	66	.....	‡50,000
Am. Dock & Imp. 7s	.....	J. & J.	60	.....	5,000
St. L. I. M. & S.. 1st mt	1892	F. & A.	105	104	15,000
Ches. & O., 1st mtge	1899	M. & N.	.....	26¾	.....
D & H C Co., 1stm. rg	1884	J. & J.	.....	100	.....
" " " " " "	1891	J. & J.	.....	102	.....
" " " " " m. loan cp	1894	A. & O.	.....	99	.....
" " " " " " rg.	1894	A. & O.	.....	100	6,000
" " " " " new mge.	.....	.....	.....	.....	.....
*L. V. R., 1st m. 6s. cp.	1898	J. & D.	.....	111¾	.....
" " " " rg.	1898	J. & D.	.....	112	.....
" " " 2d m. 7s, rg.	1910	M. & S.	.....	115	.....
" " " con. m. 6s, rg	1823	J. & D.	100¾	100¼	6,000
" " " " 6s cp.	1923	J. & D.	100¼	100	7,000
*Pa. RR., 1st m. 6s, cp	1880	J. & J.	104⅞	.....	9,000
" " g. m., 6s, cp.	1910	J. & J.	.....	107½	.....
" " " 6s, rg.	1910	A. & O.	.....	107	.....
" " con. m. 6s, rg.	1905	Q.	.....	94½	.....
" " " 6s, cp.	1905	J. & D.	96	.....	5,000
" " new loan, 5s	.....	.....	111¼	111	35,600
*P. & R. R., 1st m. 6s, R. C. 43-44.....	1880	J. & J.	.....	104	.....
P. & R. R., 1st m. 6s, R. C. 48-49.....	1880	J. & J	.....	.....	.....
P. & R. R., 2d m. 7s cp	1893	A. & O.	113	.....	1,000
" " " scrip....	1882	J. & J.	57	56¾	750
" " " in. m. 7s, cp	1896	J. & D.	.....	.....	.....
" " " c. m. 7s, cp.	1911	J. & D.	102¾	102½	7,000
" " " 7s. rg.	1911	J. & D.	103	102¾	14,000
" " " cvt. 7s, R. C	1893	J. & J.	.....	54	.....
" " C. & I. Co., Deb 7s, R. C.....	1892	M. & S.	.....	.....	.....
& R. C. & I. Co., m. 7s, R. C.....	'92-3	various	.....	.....	.....
L. Nav. Co., 6s, rg. m.	1884	J. & O.	.....	104	.....
" " RR., rg. m.	1897	F. & A.	105¼	.....	2,200
" " cvt. co. G. R.	1894	M. & S.	95¼	.....	1,000
" " "Gold R. C.	1897	J. & D.	95½	95	4,500
" " con. m. 7s, rg.	1911	J. & D.	.. ..	70	.....
*P. & N. Y. C., 7s, R. C.	1896 / 1906	J. & D.	.....	114½	.....
*Pa Canal, 6s. cp..	1910	J. & J.	.....	61½	.....
*Schuyl. Nav., 1st m. 6s. rg.....	1897	M. & O.	.....	.....	.....
*Sus. Coal, 6s, rg...	1911	J. & J.	.....	.....	.....
†Balt. & O. RR., 6s..	1880	J. & J.	102	.....	1,000
" " " " 6s..	1885	A. & O.	.. ..	103	.....

Total transactions for the week.....$190,050

* Assented. † 9000 assented, selling at from 73¼ to 73. ‡ 45,000 assented, selling at from 45 to 45½.

Philadelphia Stocks.

PHILADELPHIA, Friday Evening, Oct. 4, 1878.

Nearly 90,000 shares of coal stocks have changed hands at Philadelphia during the past week. Prices at the close are generally lower. Lehigh Coal and Navigation stock has shown marked activity during the business of the week, the sales reaching 8147 shares, closing at 17⅝ against 18¼ a week ago. Lehigh Valley has been sparingly dealt in and closes lower. The stock of the Pennsylvania Company is barely maintained, the final price showing a decline equal to one per cent. The sales amount to 58,827 shares. Reading is a little lower, closing at 15¼ against 16⅛ last week, the sales amounting to 21,000 shares. This company has just completed plans for the construction of several well-built colliers intended to convey coal and American products to the Mediterranean. The steamers will bring back the products of the countries bordering on that sea.

COUPONS AND INTEREST on the bonds of the following companies will fall due during the present month:

Lehigh Coal and Navigation Co.—Loan of 1884; interest.

Little Schuylkill R. R.—7 per cent mortgage; loan of 1877; interest.

Morris Canal and Banking Co.—Boat loan; interest paid by Lehigh Valley R. R. Co.

Pennsylvania R. R. Co.—Gen. mortgage reg. bonds; interest.

Philadelphia and Erie R. R. Co.—6 per cent dollar bonds; interest paid by the Pennsylvania R. R. Co.

Philadelphia and Reading R. R. Co.—Loan mortgage; coupons.

United New Jersey Railroads.—Reg. bonds of 1894; interest.

Camden and Amboy R.R. Co.—6s of 1875; interest.

Elmira and Williamsport R.R. Co.—Perpetual 5s; interest.

Oil Creek and Allegheny River R.R. Co.—1st mortgage, 7s; interest.

Reading Coal and Iron Co.—7s of 1892; interest.

The following companies have their dividend periods during the month:

Camden & Atlantic R.R. Co.
Pennsylvania Salt Mfg. Co.
Westmoreland Coal Co.
Pennsylvania Steel Co.
Cambria Iron Co.
Nescopec Coal Co.
Camden & Amboy R.R. Co.
Lehigh Valley R.R. Co.
Diamond Coal Co.

Gas Stocks.

NEW YORK, Friday Evening, Oct. 4, 1878.

The market shows a slight improvement over last week. There is no change worthy of note in the bids, but holders are inclined to advance the prices.

The Chicago Gas Question.—"At a meeting of the Gas Committee on the 1st inst., the passage of a resolution directing the Comptroller to advertise for bids for lighting, extinguishing, and cleaning the street lamps, with the condition that the price should not exceed that paid under the last contract, was recommended.

"Alderman Phelps presented a communication from the Chicago Gas-Light and Coke Company, rejecting the city's proposition for furnishing gas, and offering to furnish gas, and attend to the lighting, extinguishing, etc., of the lamps, for $26 per lamp, until May 1st, 1879, and to supply the public buildings and tunnels at $2 per 1000 cubic feet, the bills to be paid quarterly or to draw 6 per cent interest.

"The report and communication were both temporarily postponed."

The New City Gas Company, of Montreal.—Under pressure of considerable amounts of stock for sale, the market for this stock has declined during the week from 141 to 138. A good deal of stock has changed hands at fluctuating rates, the market closing dull at the lower figure.

Pacific Coast Gas Stocks.—We note recent quotations of the stock of the San Francisco Gas Co. at 105, and of the Oakland Gas Co. at 39.

Nevada City struck against the price of gas charged by the Gas Company, and threatened to discontinue lighting the streets. Thereupon the Gas Company reduced the price to $6 per 1000 feet.

The Isabella Gas Company, of Frederick, Md., has reduced the price of gas to $2 per thousand feet. The Petroleum Gas Company expects to start business there shortly.

Eastern Gas Stocks.—The Boston *Herald* has the following: "Just now this class of stocks, formerly among the most popular, is greatly out of favor. Only a few are sold, because of lack of buyers. We note that Boston was at 765 asked and no bid within the week, but to-day advanced to 772½; a short time since this stock was above 800. Cambridge has fallen from 130 recently to 118⅞; Jamaica Plain, 120¼ to 114½; Dorchester, 97¾ to 96. Others would decline in like proportion if pressed to an actual sale. The cause is supposed to be the general sentiment with the public that other and cheaper means of light can be substituted for gas. Already very many in different towns and cities have changed to kerosene, as a matter of economy, and there is renewed interest in the new electric light as not unlikely to come into use in many places, where a large flood of light is needed. As yet, however, the latter must be considered rather an experiment than otherwise, and there is certainly great doubt whether it can be made a substitute for gas; in fact, gas is quite likely to long retain advantages superior to any means of artificial light yet discovered. Still its position as a monopoly may be fairly said to have reached its zenith and commenced to retrograde."

GENERAL MINING STOCKS.

Dividend Paying Mines.

Name and Location of Company.		Feet on Vein.	Capital Stock.	Shares. No.	Par Val	Assessments. Total levied to date.	Date and amount per share of last.	Dividends. Total paid to date.	Last Dividend.	Rate p. An	Highest and Lowest Prices per Share in Currency at which Sales were Made. Sept. 28. H.	Sept. 28. L.	Sept. 30. H.	Sept. 30. L.	Oct. 1. H.	Oct. 1. L.	Oct. 2. H.	Oct. 2. L.	Oct. 3. H.	Oct. 3. L.	Oct. 4. H.	Oct. 4. L.	Sales.
Alps	Nev.	8 00		30,000		204,000	May. 1878 $1 00	37,500	Apr. 1876	$0 50	..	..	....	....	....	....	....	....	....	....	....	....	
American	Col.		1,000,000	100,000	10	*		80,000	Sept. 1878	0 10 12	....	....	....	....	....	....	....	....	....	....	3	....	10
Belcher, G. S.	Nev.	1,040	10,400,000	104,000	100	1,288,200	July 1878	1 00	15,397,200	Apr. 1876	1 00 12	....	....	....	....	....	....	....	....	....	....	....	
Bobtail, G.	Col.	2,500	1,136,630	227,326	5	*		56,831	Nov. 1877	25	....	....	....	....	....	....	....	....	....	....	....	....	
Bobtail Tunnel, G.	Col.		100,000	20,000	5	52,000	July 1873	0 30	48,000	June 1878	50	....	....	....	....	....	....	....	....	....	....	....	
Bodie, G.	Cal.		5,000,000	50,000	100	25,000	Feb 1878		550,000	Sept. 1878	5 00 20	....	....	....	....	....	....	....	....	....	....	....	
California, G. S.	Nev.	600	54,000,000	540,000	100				29,160,000	Aug. 1878	1 00 24	14¼	13½	....	....	14¼	....	15	....	14¾	14¼	14¼	14⅜	325
Calumet & Hecla, C.	Mch		2,000,000	80,000	25	1,200,000			13,450,000	Aug. 1878	5 00 20	182	....	....	....	....	....	....	....	182½	....	....	....	34
Central, C.	Mch		500,000	20,000	25	100,000	June 1862	0 65	1,260,000	Feb. 1878	5 00	....	....	....	....	....	....	....	....	....	....	....	
Chollar Potosi, G. S.	Nev.	1,400	2,800,000	28,000	100	1,750,000	Sept. 1878	5 00	3,040,000	Feb. 1872	1 00	....	....	....	....	....	....	....	....	....	....	....	
Copper Falls, C.	Mch		1,000,000	20,000	50	535,000	May. 1876		100,000	Nov. 1871	1 00	....	....	....	....	....	....	....	....	....	....	....	
Cons. Virginia, G. S.	Nev.	710	54,000,000	540,000	100	474,600	June 1873	3 00	40,500,000	June 1878	1 00 12	16	14⅞	....	....	16	15⅝	16¼	15¾	16⅜	15¼	15⅛	15	600
Confidence, G. S.	Nev.	130	2,496,000	24,960	100	256,320	Apr. 1878	0 50	78,000	May. 1865	8½	8½	....	....	....	....	....	....	....	....	....	....	....	
Cons. Her. & Roe.	Col.	16,500	1,000,000	100,000	10	*			120,000			....	....	....	....	....	....	....	....	....	....	....	....	
Crown Point, G. S.	Nev.	600	10,000,000	100,000	100	1,773,370	June 1878	1 00	11,588,000	Jan. 1875	2 00 24	..	....	....	....	....	....	....	....	....	....	....	....	
Daney	Nev.	2,000		108,000	....	7,200	July 1877	0 20	50	July 1863	1 10	....	....	....	....	....	....	....	....	....	....	....	....	
Eureka Cons., G. S. L.	Nev.		5,000,000	50,000	100	100,000	 1876	1 00	2,950,000	Aug. 1878	3 00 24	....	....	....	....	....	....	....	....	....	....	....	....	
Eureka G. Mg., G.	Cal.	1,680	2,000,000	20,000	100				2,149,000	Apr. 1878	0 25	....	....	....	....	....	....	....	....	....	....	....	....	
Franklin, C.	Mch		500,000	20,000	25	300,000	June 1876	5 00	585,000	Nov. 1871	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Gila	Ariz			100,000		5,000	Apr. 1878	0 25	5,000	Aug. 1875	0 25	....	....	....	....	....	....	....	....	....	....	....	....	
Gould & Curry, G. S.	Nev.	612	10,800,000	108,000	100	2,666,000	Apr.. 1878	1 00	3,826,800	Oct. 1870	10 00	....	....	....	....	....	....	....	....	....	....	....	....	
Grand Prize	Nev.	1,500		100,000		100,000	July. 1878	1 00	400,000	Feb. 1878	1 00	....	....	7	....	....	....	....	....	....	....	....	....	5
Hale & Norcross, G. S.	Nev.	400	11,200,000	112,000	100	2,914,000	Aug 1878	1 00	1,598,000	Apr. 1871	5 00 12	....	....	....	....	....	....	....	....	....	....	....	....	
Hukill, G. S.	Col.	3,288	1,000,000	100,000	10	*			200,000	Sept. 1878	0 10 12	4¼	....	....	....	4.20	....	....	....	4.35	....	....	....	22
Independence	Nev.	1,500		100,000	....	55,000	Feb.. 1878	15	15,000	Aug. 1878	25	3½	....	3.40	....	3.55	3½	3.80	....	....	....	3.65	3½	300
Kentuck, G. S.	Nev.	95	3,000,000	30,000	100	300,000	Aug. 1878	1 00	1,252,000	Mar. 1870	5 00	....	....	....	....	....	....	....	....	....	....	....	....	
K. K. Cons.	Nev.			50,000		150,000	May. 1877	1 00	50,000	Sept. 1873	0 25	....	....	....	....	....	....	....	....	....	....	....	....	
Leeds	Uth.	3,000		60,000					60,000	Sept. 1878	0 15	....	....	....	....	....	....	....	....	....	....	....	....	
Leopard, L. G. S.	Nev.	1,500	5,000,000	50,000	100	150,000	June 1878	50	162,500	Dec. 1876	0 50	....	....	1.80	....	....	....	....	....	1.75	....	....	....	200
Manhattan	Nev.			50,000					400,000	Feb. 1877	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Merrimac, S.	Mas.	1,500	500,000	100,000	5	*	June		120,000	Mar.	12	....	....	....	....	....	....	....	....	....	....	....	....	
Minesota, C.	Mch.		1,000,000	20,000	50	436,000	1869	1 00	1,820,000	Mar. 1876	0 50	....	....	....	....	....	....	....	....	....	....	....	....	
Modoc	Cal.	4,000		100,000		300,000	July 1878	0 50	50,000	Dec. 1876	0 50	....	....	....	....	....	....	90c	....	80c	....	....	....	200
Moose	Col.	39,000	2,000,000	200,000	10	*			550,000	Mar. 1878	0 25 10	....	....	....	....	3.10	3	....	....	....	....	3	2.90	800
National, C.	Mch.		500,000	20,000	25	195,000	Oct.. 1875	1 00	360,000	Oct. 1873	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
N. Y. & Colorado, G.	Col.		1,000,000	50,000	20	*			20,000	Mar. 1877	0 20	....	....	....	....	2	1.95	....	....	....	....	....	....	200
Northern Belle, S.	Nev.	1,800	5,000,000	50,000	100				1,425,000	Feb. 1878	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Ontario.	Uth.	3,000	10,000,000	100,000	100				1,700,000	Sept. 1878	1 00 12	39¾	....	39¾	....	....	....	39¾	....	39⅜	....	40	39¾	375
Ophir, G. S.	Nev.	675	10,080,000	100,800	100	3,236,000	June 1878	1 00	1,394,400	Mar. 1864	4 00	....	....	....	....	....	....	....	....	....	....	....	....	
Pewabic, C.	Mch.		500,000	20,000	25	185,000	June 1868	3 00	460,000	July 1873	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Phœnix, C.	Mch.		1,000,000	20,000	50	817,500	Sept. 1870	3 00	20,000	Jan. 1876	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Plumas	Cal.		1,000,000	100,000	10	*			70,000	Sept. 1878	10	4.30	....	4¼	4.10	4.20	....	4.30	4.20	4.20	....	....	....	750
Polar Star, G. S.	Col.	1,300	500,000	50,000	10	*			5,000	Jan. 1878	0 10	....	....	....	....	....	....	....	....	....	....	....	....	
Quincy, C.	Mch.		200,000	20,000	10				2,230,000	Feb. 1878	5 00	....	....	....	....	....	....	12½	12	....	....	....	....	234
Raymond & Ely, G. S.	Nev.	5,000	3,000,000	30,000	100	600,000	Aug. 1878	1 00	3,075,000	Sept. 1873	3 00	....	....	....	....	....	....	....	....	....	....	....	....	
Ridge, C.	Mch.		500,000	20,000	25	200,000			90,000	Feb. 1875	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Rye Patch	Nev.	1,800		30,000		97,500	Nov. 1876	0 50	105,000	Dec. 1877	0 25	....	....	....	....	....	....	....	....	....	....	....	....	
St. Joseph, L.	Mo.	2,000 acs.	1,000,000	100,000	10				250,000			....	....	....	....	....	....	....	....	....	....	....	....	
Savage, G. S.	Nev.	800	11,200,000	112,000	100	3,972,500	Sept. 1878	1 00	4,460,000	June 1869	3 00	....	....	....	....	....	....	....	....	....	....	....	....	
Seaton, G. S.	Col.	1,700	500,000	50,000	10	*			10,000	May 1877	0 10 12	80c	....	....	....	75c	....	....	....	....	....	....	....	200
Sierra Nevada, G. S.	Nev.	3,650	10,000,000	100,000	100	2,050,000	July 1878	1 00	102,000	Jan. 1871	1 00 10	....	....	....	....	....	....	....	....	....	....	....	....	
Silver King									400,000	Aug. 1878	0 50	....	....	....	....	....	....	....	....	....	....	....	....	
Standard	Cal.			50,000	....	50,000	July 1878	1 00	450,000	Aug. 1878	1 00	....	....	....	....	....	....	....	....	....	....	....	....	
Tip Top	Ariz	1,500		100,000		120,000	Aug. 1878	50				1.90	....	....	....	....	....	....	....	2	....	2	....	375
Yellow Jacket, G. S.	Nev.	1,200	12,000,000	120,000	100	3,798,000	Sept. 1878	1 00	2,184,000	Aug. 1871	2 50	....	....	....	....	....	....	....	....	....	....	....	....	

Non-Dividend Mines.

Allouez, C.	Mch.		1,000,000	20,000	50	940,000	May 1876	5 00																	
Alpha, G. S.	Nev.	300	3,000,000	3,000	100	240,000	Mar. 1878	1 00																	
Alta	Nev.	600		108,000	....	885,000	July 1878	1 00																	
Am. Flag, G.	Col.	5,300	600,000	60,000	10	*												25c	16c	19c	....	19c	....	....	....	18c	17c	....	....	2,800
Andes	Nev.	2,000		100,000	....	325,000	Apr. 1878	0 25																	
Baltimore Cons.	Nev.	1,050		84,000	....	1,015,000	Apr. 1878	0 50																	
Benton	Nev.	600		108,000		37,800	Aug. 1878	0 35																	
Bechtel	Cal.			60,000	....	60,000	Aug. 1878	0 50																	
Bertha & Edith, G.	Vir.	645 acs.	3,500,000	350,000	10	*														5c	....	5c	....	5c	....	5c	....	5c	....	3,800
Best & Belcher, G. S.	Nev.	545	10,080,000	100,800	100	438,590	Apr. 1878	1 00																	
Boyle	Nev.	600		108,000	....	16,240	Aug. 1878	0 15																	
Buckeye	Col.		2,000,000	400,000	5	*												55c	....	60c	....	....	....	58c	57c	....	....	57c	55c	2,300
Bullion, G. S.	Nev.	943½	10,000,000	100,000	100	2,952,000	Aug. 1878	1 50																	
Caledonia, G. S.	Nev.	2,188	10,000,000	100,000	100	1,440,000	May. 1878	0 50																	
Cashier	Col.		500,000	250,000	2	*																			
Challenge	Nev.	900		5,000																					
Cleveland, G.	Col.	3,715	250,000	25,000	10	*																			
Cons. Imperial, G. S.	Nev.	468	50,000,000	500,000	100	675,000	Apr. 1878	0 20														1.80	....	....	....	....	....	....	....	10
Con. N. Slope & E. C. T.	Col.	15,000	500,000	10,000	50	*																			
Dahlonega	Ga.		250,000	250,000	1	*														17c	15c	20c	16c	20c	18c	18c	....	19c	17c	33,700
Dana, C.	Mch.		500,000	20,000	25	68,000	Jan.. 1863	0 50																	
Dawson, S.	Ont.		1,200,000	60,000	20		1878																		
Day	Nev.	1,500		100,000	....	30,000	Apr. 1878	0 30																	
Dayton	Nev.	1,600		100,000	....	750,000	Apr. 1878	0 25																	
De Frees	Ariz	1,500		100,000	....	100,000	Aug.	0 10																	
Duncan, S.	Ont.		1,200,000	60,000	20	75,000	July 1876	41⅔										3¾	....					3⅛	....	....	....		200
Exchequer, G. S.	Nev.	400	10,000,000	100,000	100	380,000	Jan.. 1878	1 00						9	....					10½	....								20
Findley, G.	Geo.		200,000	200,000	1									50c	....	51c	50c	51c	50c	51c	50c	50c	....						3,800
Gold Placer, G.	Col.		5,000,000	200,000	25							24c	21c	22c	21c	22c	18c	19c	16c	20c	16c	20c	18c	23,100	
Granville, G.	N. C.	357 acs.	1,000,000	100,000	10	*						1	....	....	....	....	....	....	....	....	....	....	....	....	....	300
Humboldt, C.	Mch.		500,000	20,000	25	100,000	Sept 1878	0 15																	
Hussey	Nev.	4,500		100,000	....	70,000	June 1876	0 15				74c	70c	65c	....	....	....	....	....	....	....	....	....	....	....	1,100
International, S.	Ont.		1,200,000	60,000	20																				
Julia, G. S.	Nev.	3,000	11,000,000	110,000	100	635,000	Sept. 1878	1 00				8½	....	....	....	....	....	....	....	....	....	....	....	....	....	20
Justice, G. S.	Nev.	2,100	10,500,000	105,000	100	2,658,500	Aug 1878	1 05																	
King's Mountain, G.	N. C.		1,200,000	120,000	10	*	....	1877						1.65	....	....	....	1.65	....	....	....	....	....	....	....	200
Kossuth	Nev.	2,700		108,000		421,200	Aug.	0 15																	
Lacrosse	Col.	3,900	1,000,000	100,000	10	*						29c	28c	29c	....	28c	26c	28c	25c	29c	26c	30c	26c	55,100	
Leviathan	Nev.	2,000		100,000		240,000	May. 1878	05				1.80	1.75	1.65	1.60	1.80	....	1.60	1.40	1.65	1.50	1½	....	1,375	
Luzerne	Col.	4,200	5,000,000	500,000	10	*																			
Madison, C.	Mch.		500,000	20,000	25	123,000	Sept 1876	0 10																	
Mariposa preferred	Cal.	44,337	5,000,000	50,000	100	1,425,000	June 1877	1 00				3	....	4½	....	4.45	4⅜	....	....	3¾	....	3	....	1,050	
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June 1878	1 00						4	3.60	3½	....	....	....	....	....	....	....	1,400	
McCracken	Ariz	4,500		100,000	....	50,000	July 1878																		
Martin White	Nev.			100,000		500,000	July 1877	1 00																	
Memphis	Col.	6,000	300,000	60,000	5	*		0 50																	
Mesnard, C.	Mch.		500,000	20,000	25	160,000	Apr. 1876	0 50																	
Mexican, G. S.	Nev.	600	10,080,000	100,800	100	217,400	May. 1878																		
Minnietta Belle	Cal.	1,500		100,000	....	75,000	Apr. 1878	0 50																	
Mt. Bross Tunnel	Col.	8,600	2,000,000	200,000	10	*	1878																		
Navago		1,500		100,000	....	125,000	May 1878	0 25																	
New York	Nev.	1,000		100,000	....	730,000	Aug. 1878	0 30																	
Occidental	Nev.	1,700		40,000	....	72,500	Feb. 1877	0 25																	
Orig. Keystone	Nev.	1,500																							
Overman, G. S.	Nev.	1,200	3,840,000	38,400	100	3,404,280	Sept. 1878	3 00																	
Osceola, C.	Mch.		1,000,000	40,000	25	2,567,880	Nov. 1877	3 00																	
Petherick, C.	Mch.		500,000	20,000	100	165,533	Mar. 1876	0 50																	
Pleasant View, G.	Col.	1,200	200,000	20,000	10	*																			
Quicksilver preferred	Cal.	8,500	4,291,300			*												33	....	33⅓	....	12½	....	....	....	13	....	....	....	110
" common	Cal.	acres.	5,708,700	100,000	100																				150
Rockland, C.	Mch		500,000	20,000	25	495,000	Jan.. 1874	1 00																	
Reg. Belcher, G. S.	Nev.	160	640,000	6,400	100	244,800	Apr. 1876	5 00																	
Silver Hill, G. S.	Nev.	5,400	10,800,000	108,000	100	1,242,000	July. 1878	0 50																	
Star, C.	Mch.		500,000	20,000	25	285,000	Mar. 1876	0 50																	
Superior, C	Mch.		500,000	20,000	25	340,000	Mar. 1878	0 25																	
Tioga	Cal.	1,500		100,000	....		July 1878	0 10																	
Trojan	Nev.	1,500		100,000	....	215,000	June 1878	0 25																	
Union Cons. G. S.	Nev.	850	10,000,000	100,000	100	310,000	Apr.. 1874	0 25																	
Utah	Nev.	1,000		20,000	....	66,000	Aug. 1878	2 00																	
Ward	Nev.	1,200		110,000	....	33,000	May. 1878	0 30																	
Wells Fargo	Nev.	1,500		108,000	....	216,000	Sept	0 50																	

Total Assessment levied to date.....$52,528,240

G. Gold. S. Silver. L. Lead. C. Copper. * Non-Assessable.

Total Dividends paid to date.....$230,275,332

Total Sales for the week. ..... 162,710.

AUCTION SALES:
Metropolitan Gas-Light Co.—95 shares at $125@$124.
New Haven Gas-Light Co.—320 shares at 35.
Newark Gas-Light Co.—132 shares at 63.
Atlantic City Gas and Water Co.—$1000 of the 7 per cent mortgage sinking-fund bonds, due 1902, $500 each, at 55 per cent.
Lycoming Gas and Water Co.—$8500 6s, second-mortgage bonds at 25 per cent.

COUPONS AND INTEREST on the bonds of the following companies will fall due during the present month:
Cedar Rapids (Iowa) Gas-Light Co.—Coupons.
Clinton (Mo.) Gas-Light and Coke Co.—Coupons.
Citizens' (Brooklyn) Gas Co.—Interest.
Hyde Park (Chicago) Gas-Light Co.—Coupons.
Memphis (Tenn.) Gas-Light Co.—Coupons.
Nebraska City Gas-Light Co.—Coupons.
Northwestern Gas-Light and Coke Co.—Coupons due.
Yonkers (N. Y.) Gas-Light Co.—Coupons.
Boston Gas-Light Co., 6's 1880.—Interest.

Copper Stocks.

Reported by WILSON W. FAY & Co., Brokers in Mining and Miscellaneous Stocks, Room 7, Traveller Building, 31 State street.

BOSTON, Wednesday Evening, Oct. 2, 1878.

There is no special change in the state of the market from last week with the exception of the decline in the silver stocks after their spurt, and the falling off in Quincy. The prices in the main hold up firmly, and notwithstanding the dull market the stocks have managed to hold their own and in a few instances have worked up from one to two per cent.

Calumet and Hecla has advanced and sold up to 182½, but is a little off at the closing, being 182 bid and 182¼ asked.

Copper Falls remains inactive at 1½@1⅝ and a sale at 1 9-16.

Central is quiet at 35 asked, but can undoubtedly be bought below that figure.

Franklin has been quite dull for the past two weeks, not a single transaction taking place in it.

National has sold at 37c. (ass. paid), and closes 25c. bid and 37c. asked.

Osceola has advanced to 13 bid and 13¼ asked, and a sale at 13.

Pewabic sold at auction an odd lot of 26 shares at $1, that being the only transaction in it during the week.

Quincy, for some unknown reason, sold from 13 down to 12, but closes a trifle firmer at 12¼ bid and 13 asked.

Ridge is quiet at 1⅛ bid and 1⅜ asked.

Duncan is rather tranquil at 3¾ (sales), and 3¾ bid and 4 asked, having sold down to 3⅝.

Some of the more confident holders of the stock talk it as high as $8 within three months, while others say it will be down to $1 within the same period.

International is steady at 47½ bid and 55 asked, the last sales being at 50c. This stock is one of those things which most people think worthless, and which is probably the cheapest thing on the list.

The loss is limited in any event to 50c. per share, the stock is also unassessable, and should Duncan take a start upward, as it is liable to do at any time, the International will follow on in proportion. It is, therefore, in our opinion one of the best things for a small investment that has been offered on the market for some time.

Gold and Silver Stocks.

NEW YORK, Friday Evening, Oct. 4, 1878.

There is no abatement in the interest taken in mining investments. It is to be regretted, however, that, while there are mines earning dividends with prospects of continuing to do so for a long time, so much money should be invested in the low-priced stocks of the San Francisco board. Many of these have never earned dividends, and have but little prospects of doing so; but on the grounds that they are low and have no end of room to advance and but little to decline, they are taken up by small speculators upon the advice of interested parties. Many clerks and others of small means have been induced to put their all into them. The day of reckoning will come when the assessments are announced, as they will be on most of these stocks. It must be remembered that to be interested in a mine located on the Comstock does not necessarily insure riches. With its millions of invested capital, there is not, at the present time, a single mine upon this great lode paying a dividend.

The owners of mines are at last realizing that good mines, reported upon by reliable experts, and floated by parties of unquestioned reputation, can find a market here, and now we are promised several which will undoubtedly be very good investments.

The dealings in the San Francisco stocks have been as follows: California, 325 shares, at $15@$13¾; Consolidated Virginia, 600, at $14⅞@$16⅝@$15; Grand Prize, 5, at $7; Independence, 300, at $3.40@$3.80@$3.50; Leopard, 200, at $1.80@$1.75; Modoc, 200, at 90@80c.; Tip Top, 375, at $1.90@$2; Consolidated Imperial, 10, at $1.85; Exchequer, 20, at $9@$10½; Hussey, 1100, at 74@65c.; Julia, 20, at $8¼; Kossuth, 150, at 60c.; Leviathan, 1375, at $1.80@$1.40. The anxiety of the Eastern public to deal in some of the San Francisco low-priced stocks has resulted in creating such a demand for them that they have advanced in some cases from no other reason. The success of Leviathan will result in bringing on a number of other stocks. They will be washed around and we shall be told that "our customers are crying for them," and unless the public sees how the game is being played, it will begin to take the stocks.

The dealings in the stocks of the regular list have been as follows: American, 10, at $3; Hukill, 22, at $4.75@$4.20; Moose, 800, at $3.10@$2.90; New York and Colorado, 200, at $2@$1.95; Plumas, 750, at $4.30@$4.10; Seaton, 200, at 80@75c.; Ontario, 375, at $39¾@$40; King's Mountain, 200, at $1.65. In Mariposa preferred there have been sales of 1050 shares, at $3@$4.50@$3, and in the common stock, 1400 shares, at $4@$3½. Late advices are favorable to the discovery of ore in the company's tunnel, and cross-cutting has begun.

In the low-priced stocks the dealings have been as follows: American Flag, 2800 shares, at 25@16c.; Bertha & Edith, 3800, at 4@5c.; Buckeye, 2300, at 60@55c.; Dahlonega, 33,700, at 20@16c.; Finley, 3800, at 50@51c.; Gold Placer, 23,100, at 24@16c.; Granville, 300, at $1; and Lacrosse, 55,100 shares at 25@30c.

The Plumas Company announces a dividend of 10c. per share, payable October 15th. Should the monthly dividend continue as large as the one just announced, it would equal over 29 per cent per annum on the selling price of the stock. Hukill has declared its regular monthly dividend of 1 per cent. The Ontario Company has declared a regular and an extra dividend.

In our issue of July 20th we quoted a correspondent, relative to the title of the Adlaide mine, at Leadville, Colo. He said: "Our best attorneys think the Camp Bird will hold all mineral under Adlaide location." We publish elsewhere a copy of location, and the certificate of the Recorder of Lake County as to the priority of this (Adlaide) claim over all others. Both of these documents were furnished us by one of our correspondents, and both bear the seal of the county.

The Adlaide Consolidated Silver Mining and Smelting Co. has a capital stock of $2,500,000, divided into 100,000 shares of $25 each. The property of the company consists of the Adlaide and Terrible mines, at Leadville, Colo. At the present time the Terrible is producing about 16 tons per day, and the Adlaide 25 tons; and it is expected that the output of the Terrible will soon be increased 10 or 15 tons a day, bringing the company's production up to over 50 tons a day. It is estimated that there are 1500 tons of ore on the dump, which will be smelted by the new furnace which this company has just started. Dividends will probably be paid at an early day. A small quantity of this stock was sold here at $3 per share in June. It is selling now at between $4 and $5 per share.

Mr. John C. F. Randolph returned to this city on Saturday, and presented a voluminous report upon the Penobscot mine. Copies of this report may be had at the office of Messrs. Trask & Francis, No. 70 Broadway.

We regret that our limited space will not permit us to publish the report in full at this time. For those who have been so lucky as to secure stock in this enterprise, we quote the following from his report:

"My belief is that the ore developed between the Snowdrift shaft and the Air shaft, making all deductions for mining and milling, greatly exceeds in value the price paid for the whole property and its present capitalization. The vein is a strong one, quite easily worked, and I think likely to be dry for 100 feet more, and possibly to a greater depth. The property is one in every way worthy of your market, and it is a matter of congratulation that the first mine in Montana asking the privileges of your board should be of so promising and *bona fide* a character. A point which should not be overlooked is the fairness of its capitalization. After seeing so many bad things capitalized for one or two million dollars, many times their actual or even their prospective value, it is a relief to examine a property capitalized for evidently less than what it is worth. As shown, the company has still 1500 feet of the Snowdrift property, for prospecting and development, and 854 feet of the Penobscot claim undeveloped."

The subscription books of this company were closed last week, and the price of the stock has been steadily stiffening, several sales having been made at $5½ per share, and the tendency being still upward.

The Dardanelles and Oro placer claims, of which mention has been made several times in this journal, have been taken up by the Dardanelles Consolidated Mining Co., with a capital stock of $3,000,000, divided into 30,000 shares of $100 each. For a working capital 5000 shares have been reserved in the treasury and will be offered for sale. A portion of the money secured from the sale of this stock will be applied to increasing the water supply, which will be for the season beginning in December about 3000 inches and for the following one about 5000 inches. The production of these claims during the late season was 50½c. per miner's inch per day. As a season of at least five months should reasonably be counted upon, very good results may be looked for.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS						Opening Oct. 4.
	Sept. 27.	Sept. 28.	Sept. 30.	Oct. 1.	Oct. 2.	Oct. 3.	
Alpha	18¾	20½	22¾	22	19½	18½	18
Alta	.....	17	16¼	17	16½	16½	15
Belcher	11⅝	11½	12⅝	11⅝	10½	10¼	8½
Best & Bel.	34	37	37½	34¾	32	28¾	29
Bullion	18	23	23½	21¼	18⅞	16	16
Caledonia	5½	5⅝	6¼	6⅝	6⅜	6	5½
California	14	14	14	14½	14⅝	14¼	14
Challar-Pot	63	66	66	63	58	55	52-48
Confidence	12¼	12½	13	12½	12½	12¾	.....
Con. Va.	15¼	15½	16	16¼	15½	14¾	14½
Crown P'int	11	11⅛	12⅞	11½	10¾	9¾	9
Eureka Con	46	45	45	45	46	45	45
Exchequer	8	8⅞	10¼	9⅜	9	7¾	.....
Gould & Cur	22½	25	27	23	22¾	19½	18
Grand Prize	5¾	6	5⅜	5⅝	5½	5¼	.....
Hale & Nor.	33	37	34½	29½	29¾	21⅛	23-22
Julia Con.	7	7	7⅜	7⅛	6½	6	6
Justice	10¼	10⅛	11¼	11¾	11	10⅛	10
Kentuck	8¼	8¾	9¾	10¼	9¼	9⅛	9½
Mexican	87	98¼	91¼	88	84	66¾	70
North. Belle	10⅛	10¼	10¼	11	11	10¾	11
Ophir	83	91½	78	75	71½	55	53-56
Overman	24½	24	25½	26	24	21	21
Ray. & Ely	3¼	8	.....	7	6½	6½	6½
Savage	24½	27	27	24	23	19½	18
Seg. Belcher	.....	42	44	.....	37	40½	40
Sierra Nev.	260	260	255	253	245	221	*
Silver Hill	3½	3⅝	3⅝	4	3⅞	3⅞	5⅞
Union Con.	172	180	189	182	191	167	†
Yel. Jacket.	30	32¾	34½	33¼	31½	27	28½

* 220@195. † 160@143.

We note a decided decline in nearly every item in the above list, the decline being almost gradual throughout the operations of the week. The course of the new bonanzas, Sierra Nevada and Union Consolidated, has corresponded to this general tendency of the list, and it is probable that the course of these two stocks has thus influenced the market. Our latest exchanges received from the Pacific coast report a very active market, and an advance in nearly every stock listed, the sales in the San Francisco Stock Board for the week ending the 24th ult., amounting to the large total of $7,400,000, distributed throughout dealings in 121 active stocks, the majority of which are selling at $2 per share and under, or say, changing hands at an average of less than two per cent on their enormous capitalization. Kentuck is a prominent exception to the general course of the list, opening to-day at $9¼ against $8⅛ a week ago. Northern Belle is a little better.

The price of Eureka Consolidated is fairly maintained. The information from this mine continues of an encouraging character. The old bonanzas show but little change either in products or prices. The stock of the Bodie Company tends upward at San Francisco, and we have yet no information which satisfactorily explains the recent decline. The present nor the past condition of the mine shows nothing which warranted any such fluctuations as occurred.

The *Commercial Herald* of the 26th ult. says of the market: "The cry of 'bonanza' fills the air of the San Francisco mining stock arena—bonanzas everywhere—and, of course, up go the stocks to most unreasonable figures. The various leading stocks are unquestionably under admirable control, and the sharp manipulation of a few will, perforce, carry others with them. That the prospects are very favorable for the discovery of new bodies of ore seems to be well assured; still they are very slow in bringing them to light. We have, of course, all sorts of exaggerated rumors about these uncovered deposits, which all go toward swelling the transactions to most astonishing proportions, where the few always reap the benefit from the aggregated small cash placements of the many. The present excitement equals the palmy days of the Consolidated Virginia and California discoveries, and the end is not yet. Advantage is taken of this favorable state of the market to levy assessments right and left, for what is a 'two bit' or 'four bit' assessment when the present upward movement seems yet far from having spent its force?" A dispatch from Virginia City of the 24th says: "The Savage water is 120 feet below the 2000 level. Specimens of ore taken from the foot of the Sierra Nevada incline are on exhibition at the California Bank this morning, and are creating intense excitement. They assay three hundred dollars. The incline gets in richer ore as it goes down, and there is every sign of permanency. There is considerable talk of a big ore body in Alta, but the recollection of the big swindle of last winter, in the same stock, keeps buyers back, and there is a disposition to 'copper' the whole proposition. Ophir continues looking well, and the feeling here to-day is of the best."

ASSESSMENTS, with dates when delinquent: Original Gold Hill, 20 cents, October 23d; Summit, 10 cents, October 21st; Modoc Con., 50 cents, October 20th; Black Hawk, 25 cents, Oct. 20th; Day, 25 cents, October 20th.

State of Colorado, County of Lake, ss.:

Know all men by these presents, that we, the undersigned, have this 2d day of August, 1876, claimed by right of location fifteen hundred feet, linear and horizontal measurement, in length, and three hundred (300) feet in width on the Adlaide Lode, along the vein thereof, with all its spurs, dips, variations, and angles, together with the amount of surface necessary for working the same, and allowed by law. Two hundred (200) feet of said lode so located, lying and being north of the discovery shaft on said lode, and thirteen hundred feet being south of said shaft, said lode being situated in Stray Horse Gulch, California Mining District; the location and bounds of said claim being marked and described more particularly as follows, to wit:

The discovery shaft being a little below Stray Horse Gulch, in or near said Gulch, commencing at stake No. 1 at discovery; thence running west 150 feet northerly to stake No. 2; thence easterly 300 feet to stake No. 3; thence southerly 750 feet to stake No. 4; thence southerly 750 feet to stake No. 5; thence westerly to stake No. 6 300 feet; thence northerly 750 to stake No. 7; thence to the place of beginning. We, the undersigned, being citizens of the United States, claim the above property, in the County of Lake and State of Colorado.

A. B. Powell,
Frank Walls.

Recorded September 6th, A.D. 1876, at 6 P.M.

State of Colorado, County of Lake, ss.:

I, Jos. H. Wells, Clerk and Recorder in and for said county in the State aforesaid, do hereby certify that the above and foregoing is a true and correct copy of the Certificate of Location of the "Adlaide" Lode, as appears of record in Book 9, page 344, Lake County records, as now remains in my office.

Seal of Lake County, State of Colorado.

Given under my hand and official seal this 4th day of September, A.D. 1878.

Jos. H. Wells,
Clerk and Recorder.

State of Colorado, County of Lake, ss.:

I, Jos. H. Wells, Clerk and Recorder in and for said county, in the State aforesaid, do hereby certify that the "Adlaide" Lode, Ledge, or Deposit is the first and the oldest location as a lode or ledge that appears of record in my office of any location situated on or near Stray Horse Gulch in California Mining District, said location, as stated in Certificate of Location on the 2d day of August, A.D. 1876, and was recorded in my office September 6th, A.D. 1876, at 6 P.M.

I further certify that the reason as (stated in the relocation certificate) recorded in my office is as follows, to wit: "This relocation, being made to correct errors in courses and distances, and to connect with U. S. locating monument by survey."

Seal of Lake County, State of Colorado.

Witness my hand and official seal this 4th day of September, A.D. 1878.

Jos. H. Wells,
Clerk and Recorder.

FINANCIAL.

OFFICE OF THE PLUMAS NATIONAL QUARTZ MINING CO., 77 Cedar Street, New York, Oct. 1st, 1878.

The Dividend for the month of September, of Ten Cents per share upon the Capital Stock of the Plumas National Quartz Mining Company, has this day been declared payable in Gold Coin on and after the 15th inst., at the office of the Transfer Secretary, No. 77 Cedar Street, Room 15. Transfer Books will close on the 8th and re-open on the 16th inst. By order of the Board.

A. P. MARSHALL,
Transfer Secretary.

OFFICE OF THE HUKILL GOLD AND SILVER MINING CO., 17 Broad Street, New York, Oct. 1st, 1878.

The 19th regular MONTHLY DIVIDEND OF ONE PER CENT, on its Capital stock will be paid at the office of the Company, as above, on and after Thursday, Oct. 10th. The books will close on the 5th, and re-open on the 15th inst.

S. V. WHITE, Treasurer.

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