ENGINEERING and MINING JOURNAL.

VOL. XXX., No. 1.

RICHARD P. ROTHWELL, C.E., M.E., } Editors.
ROSSITER W. RAYMOND, Ph.D., }
WILLIAM H. WAHL, Ph.D., Department of Progress in Science and the Arts.

NOTE.—Communications relative to the editorial management should be addressed to RICHARD P. ROTHWELL, P.O. Box 4404, New York.

Communications for Mr. RAYMOND should be addressed to ROSSITER W. RAYMOND, P.O. Box 1465, New York. Articles written by Mr. RAYMOND will be signed thus * ; and only for articles so signed is he responsible.

SUBSCRIPTION PRICE, including postage, for the United States and Canada, $4 per annum ; $2.25 for six months ; all other countries, including postage, $5.00 = 20s. = 25 francs = 20 marks. All payments must be made in advance.

REMITTANCES should always be made by Post-Office Orders or Bank Drafts on New York, made payable to THE SCIENTIFIC PUBLISHING COMPANY.

THE SCIENTIFIC PUBLISHING CO., PUBLISHERS,
27 Park Place, New York.

CONTENTS.

MR. F. A. BASSLER will sever his connection with the Philadelphia & Reading Coal and Iron Co. on the 31st inst. In him the Reading loses a valuable and faithful employé. He has been identified with the coal trade for many years, and is generally and favorably known. Mr. BASSLER is a gentleman of intelligence who has given much study to the economy of this great industry, and has been usually in accord with the views expressed by this journal. We have had the benefit of many friendly counsels with him, and have received from him much valuable information on the trade, which we have imparted to our readers. Mr. BASSLER will probably continue in the coal trade, where he is sure always to command the confidence of a large circle of friends.

THE LOELLA CASE—HENRICH TO THE FRONT.

We have received a letter from Mr. CARL HENRICH, M.E., of Leadville, concerning our recent review of the Iron-Loella case, and the allusions to him which it contained. Doubtless Mr. HENRICH will feel himself much aggrieved when we decline, as we hereby do, to print his letter. It is certainly not our usual custom to refuse a hearing to the opposite party in any controversy ; and we shall not in this case refuse to print whatever may be, by others than Mr. HENRICH, intelligently and courteously said in contradiction of our views. But this gentleman's case is peculiar. We have been deluded twice already into publishing what he was pleased to consider his opinions ; and we dread the weird spell of the thing. For every time he changes his "opinions," he may call on our sense of justice to let the world know it, and his "reasons" for it. A third phase of his mental progress was brought out on the recent trial of the Loella case, in which he appeared as an expert, to instruct the court and jury. Now already he has entered the fourth quarter—the waning one—of his lunar changes. In his letter to us, he declares that certain geological breaks (which he swore last month were *certainly* anterior to both the porphyry-deposition and the vein-formation) "are proved to have occurred *certainly* before the deposition of the lodes, and *most probably* before the deposition of the porphyry." This hints at a theory not once whispered by Mr. HENRICH or any other witness on his side during the trial.

Now for Mr. HENRICH'S sake, and for our readers' sake, we propose to wait until his views are settled before we print them.

Another reason for our declining to print this letter is, that it is so dreadfully sarcastic—quite withering, in fact. One would hardly suspect that a person so constantly occupied in correcting his own statements would have so much energy left for the correction of other people's. He thinks our sense of fair play ought to allow him to plunge into our helpless bosom his glittering blade, and then "drop the matter." But we mean to drop it now, before the murderous performance. Not that we shall escape the bloody vengeance. Mr. HENRICH can print in some other paper, or in a pamphlet, or he can hire a hall and deliver in his best manner the wrath and scorn which we pusillanimously refuse to put in the ENGINEERING AND MINING JOURNAL. But our readers at least will not assist at the gory scene. They have a right to ask that they may be excused, having had their full share of HENRICH already. Indeed, some of them distinctly say that the next time they hear from him they hope it will be something posthumous. Then, they say, his views would be settled, and his true and unretractable last words would be worth something. They may be mistaken ; at all events, Mr. HENRICH need not be alarmed at their suggestion. It will tempt nobody to kill him. *

THE CLASSIFICATION OF ORE-DEPOSITS—PROF. NEWBERRY'S PAPER

We have just republished, from the *School of Mines Quarterly* for March, a paper on the "Origin and Classification of Ore-Deposits," by Prof. NEWBERRY, which contains much useful information, very clearly stated. There are many persons who still talk vaguely about fusion and eruption as processes directly involved in the formation of ore-deposits. It is very common to find practical miners who think they recognize effects of "fire" in the peculiar appearances which have undoubtedly resulted from oxidation through the agency of water. This is one of the delusions which Prof. NEWBERRY'S article will help to dispel. As a complete essay on the subject of which it treats we find it, however, open to some criticism, which we shall frankly express with due regard to the ability of the paper and the eminence of its author.

The classification employed by Prof. NEWBERRY contains little that is new. The one class of "chamber-deposits," which he says he has been led to add to the catatogue of forms, "as a distinct and important addition to those given by other writers," has long been recognized, though not under this name. Prof. NEWBERRY will find in the text-book of COTTA a distinct description of the accumulations of lead and zinc-ores in limestone as a separate group. We must differ from him in the opinion that a want of information regarding their true nature "has led to much litigation and heavy losses in mining." The cause of the litigation has not been ignorance concerning the form of the deposits, but the difficulty of applying to such deposits the vague phraseology of the Revised Statutes. On the other hand, the heavy losses connected with "chamber mines" have been rather in speculation than in mining. Excessive prices have undoubtedly been paid for such mines, under false impressions of their continuity ; but in the actual work of mining, they have been profitable, while the ore lasted ; and the explorations for new bodies would have gained little guidance from a completer knowledge of the theory of such formations ; since the theory, as stated by Prof. NEWBERRY, leads to no rule for prospecting.

Prof. NEWBERRY makes a separate class of "contact-deposits" as distinct from all the stratified deposits on the one hand and from mineral veins on the other. This innovation seems to us scarcely logical. Contact-deposits are either beds or veins. If they are veins, they constitute simply a variety under the general head of mineral veins. In numerous instances, fissure-veins are known to cross the stratification for part of their course or dip, while in other parts they lie for considerable distances intercalated between the country strata, or between two different rocks. Prof. NEWBERRY'S description of the Leadville deposits illustrates this defect in his classification. He says Leadville ores are "undoubtedly accumulated in vacant spaces formed by the solution of the limestone ;" but he overlooks the fact, not uncommon in Leadville mines, that the vein may leave the limestone altogether and present porphyry on both walls. Moreover, this phenomenon of a so-called "contact-vein" forsaking the immediate contact and running along in its neighborhood, has been frequently described by foreign authors ; and we see no good to be gained by overthrowing the classification which they have established. The distinction between beds and veins proper is about the only one in common use that rests upon a radical difference in the method of formation ; and we must object to the introduction of any class which, comprising both beds and veins, obliterates this difference.

There is undoubtedly room for a new classification, based on the present state of our knowledge as to the chemical processes involved in the genesis of ore-deposits. On this head Prof. NEWBERRY says very little. We should be glad to see such a discussion of the chemistry of ore-deposits, other than those of iron ore, as Dr. HUNT has given concerning iron ores. But a classification based on this, while it would be extremely valuable, would probably not drive out the present one, which, resting

largely on the form and position of deposits, is intimately connected with the methods by which they are exploited, and is thus very convenient to the mining engineer, although almost worthless to the geologist, mineralogist, and chemist.

Returning to the explanation given by Prof. NEWBERRY of the formation of chamber-mines, we have but one criticism to make upon it. Prof. NEWBERRY'S sweeping statement that the limestone carrying such deposits has at some time been honey-combed by chambers and galleries, and *subsequently* broken through and upheaved, permitting the entrance of ore into fissures thus formed, goes too far. He says: "It has been suggested that the caves now holding ore were excavated by the metalliferous solution; but we find some of them entirely empty, with their sides incrusted with spar, and having all the characters of ordinary limestone caves, and even where the ore occurs, the walls of the cavity have the same character, are hard and unimpregnated with ore. Hence we must conclude that the chambers were formed, like modern caves, by surface water; and when the country was upheaved and the rock shattered, only part of them were opened, and that these received the solution and ore, while the unopened ones remained empty." Among the mines which he cites as types of this class are those of Eureka, Nevada; and without questioning his conclusions as to mines which we have not personally studied, we must take leave to say that the description we have quoted does not agree with the facts presented at Eureka. The mines of Ruby Hill do not contain entirely empty caves; and the limestone of the cave-walls is not solid, but crushed, fissured, and re-cemented. Moreover, the unquestionable proof of the tremendous crushing of the zone of limestone containing these ore-deposits renders it inconceivable that caves previously formed in this zone could have survived. The limestone has been squeezed out at some places till there is not half an inch of it; and the material thus compressed has been shoved upward, widening the zone toward the surface, until at the outcrop it covers hundreds of feet. To conceive that a body of rock subjected to such pressure could continue to carry caves of a hundred or more feet in diameter, is beyond our power. The force which solid limestone was unable to resist could not be resisted by a hole. But it is not necessary to believe, in this case, that the caves were excavated by "the metalliferous solution," if by that is meant the original solution which deposited the sulphides. In the Eureka mines, this original solution evidently penetrated the whole of the crushed limestone zone; and the subsequent accumulation of oxidized ores in the caves and fissures, tending toward the foot-wall of those mines, is plainly the result of secondary action, oxidizing and redistributing the ores. This secondary action is due to surface water percolating downward; and it must be confessed that the conditions of this particular limestone body, after its upheaval and after the exposure of its immense outcrop, were more favorable to the reactions to which Prof. NEWBERRY justly ascribes cave-formations than any probable previous conditions would have been. Moreover, the position and shape of the caves and ore-bodies, tending in depth, we believe without exception, toward the foot-wall quartzite, indicate that they were formed by downward percolation, *after* the upheaval. This relation to the foot-wall has proved an important guide in exploring for new ore-bodies.

That ores such as these mines originally contained, namely, arsenical pyrites and galena, can not be transformed through the agency of surface waters into iron oxide, carbonate, sulphate and arseniate of lead, without some redistribution, is a well-understood principle. It follows from the increase in the bulk of the ores so oxidized, and the more or less soluble character of the products of the oxidation.

We do not doubt that there may be deposits of this class which answer Prof. NEWBERRY'S description. But the Eureka mines, as he would probably admit upon a closer consideration, do not, in the one particular we have mentioned, bear him out.

We are inclined to question Prof. NEWBERRY'S statement that gash-veins occur only in limestone. Of course, after making this a part of the definition of gash-veins, he can fairly say of similar deposits in any other rock that they form another class. But is it necessary to exclude gash-veins in coal, sandstone, etc.? And if, as Prof. NEWBERRY declares, gash-veins derive their contents from the adjacent rock, why may they not be placed under the head of veins of segregation? With regard to the lead-bearing limestones of the Mississippi Valley, our author seems (perhaps it is only seems) to consider their deposits as all gash-veins. The accounts given in the various State geological reports, and the paper by Mr. GAGE, in Vol. III. of the "Transactions of the American Institute of Mining Engineers," show a greater variety than this. We wish Prof. NEWBERRY had been, in the same connection, more explicit concerning the origin of the lead-ores in this formation. He says they are "indigenous, having been derived from the leaching of the adjacent rock;" and he makes this the chief distinction between these and the "chamber-deposits." But does he mean that the lead-ores were indigenous in the adjacent rock also? Were the limestone strata lead-bearing when deposited? This, or something like this, is the theory of WALLACE concerning the Alston Moor deposits; but we have not found respectable authorities adopting it; and we feel sure that Prof. NEWBERRY would not be willing to join WALLACE in his desperate attempt to explain the entire absence of lead in the limestone to which he ascribes its origin, by the suggestion that the lead is there, only in some form which chemical analysis is unable to detect!

On the other hand, if the lead-ores have entered certain portions of the Mississippi Valley limestones since their original formation, then the concentrated deposits of lead-ores in those limestones are either simultaneous in origin with the original impregnation, or they are the accumulations due to secondary action; and in either case, the distinction between them and the "chamber-deposits" becomes exceedingly obscure.

A minor matter to be criticised is Prof. NEWBERRY'S ambiguous use of the word "laterally," where "longitudinally" would have been more in accordance with his meaning. One instance will sufficiently illustrate this point. He says fissure-veins "are without definite limits laterally or vertically." Here the use of "vertically," though not strictly accurate, is not likely to occasion serious misunderstanding. But "laterally is distinctly misleading.

Notwithstanding the objections we have taken, we regard the article of Prof. NEWBERRY as a useful popular exposition of the subject. From the stand-point of science, he could, and we hope he will, furnish something much better, namely, a comprehensive and thorough treatise on the origin, nature, and classification of ore-deposits. There is abundant material in monographs and reports which has not yet been digested and incorporated into the current knowledge, even of our mining engineers; and the books of WHITNEY, COTTA, ELIE DE BEAUMONT, and BURAT, however good they may have been a few years ago, are getting a little too old even to be rehashed with benefit. They contain much that is valuable; but how much there is, that they do not contain! As for the text-books on geology, they give us almost nothing on this branch of the subject. An exception must be made in favor of the works of BISCHOF and ROTHE on chemical geology, the former of which has been, while the latter ought to be, translated into English. *

GREAT BRITAIN'S IRON AND STEEL EXPORTS.

From the circular prepared by Messrs. W. W. & C. RICHARDSON, of London, from government returns, we take the following:

RAILWAY IRON EXPORTED TO	Month ended May 31.			5 Months ended May 31.		
	1878.	1879.	1880.	1878.	1879.	1880.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
United States	18	1,720	29,439	152	2,904	93,873
Russia	8,366	8,156	92	12,996	10,629	327
Turkey	.....	.....	.....	7	746	4
British India	7,530	8,261	7,592	51,766	46,347	60,974
British North America	5,061	9,001	5,215	10,583	11,921	17,742
Egypt	117	.....	320	2,368	1,330	3,582
Australia	8,476	7,074	8,292	38,070	34,772	29,823
Brazil	763	3,499	1,815	8,005	16,521	9,904
Holland	33	1,054	504	37	1,111	1,520
Spain and Canaries	2,244	1,204	174	9,764	6,583	4,393
Sweden and Norway	2,262	1,053	340	17,535	9,500	871
Chili	.....	11	40	345	605	406
Denmark	907	4	1	2,473	75	42
Peru	2	542	220	2,040	1,531	687
Germany	795	631	49	24,379	1,855	49
British Possessions in South Africa	315	1,047	309	5,427	2,956	3,424
Italy	3,120	4,180	3,344	4,599	7,814	7,138
Other countries	454	2,394	3,056	6,061	11,404	24,263
Total	40,463	49,831	60,802	196,607	168,607	259,022
Total exports from Great Britain of iron and steel to all countries	220,619	291,911	360,603	916,705	1,019,000	1,743,330
Estimated total of iron rails	13,808	3,743	8,764	66,022	18,004	58,364
" " steel rails	20,067	40,165	44,735	91,783	118,070	166,977
Total of rails	33,875	43,908	53,499	157,805	136,074	225,341
Exports of the following to the United States:						
Pig-iron	3,090	5,305	73,758	10,761	19,994	442,005
Old iron for re-manufacture	105	3,260	28,775	674	6,938	167,226
Steel unwrought	503	496	5,838	2,131	2,458	24,590
Tin plates	8,994	11,775	13,804	41,992	56,001	71,134
Hoops and sheets	68	323	6,992	257	680	26,998
Bar, angle, bolt, and rod	190	184	6,566	2,196	1,142	39,929

The above totals still show an increased business as compared with last year, but this increase is still attributable to the shipments to America. The shipments of railway iron are, with this exception, and a large falling off in the business with Russia, without any notable change as compared with last year. The shipments of all kinds of iron and steel to the United States during May amounted to 165,172 tons, or at the rate of nearly 2,000,000 tons per annum, while the shipments for the first five months of this year aggregated 865,755 tons, or at the rate of 2,077,812 tons per annum. Even these large figures do not cover the foreign shipments to this country. It is, therefore, not surprising that our iron trade has been greatly disturbed during the past few months. Large shipments from Europe, in competition with our irons at the prevailing prices, can only be abnormal, and when all old contracts are completed, the shipments must fall off to a very large extent.

NEW PUBLICATIONS.

ON HARDENING IRON AND STEEL: ITS CAUSES AND EFFECTS. *By* Prof. R. AKERMAN, *Stockholm. Reprinted from the "Journal of the Iron and Steel Institute," No. II., for* 1879. *By Authority of the Council. Printed by Ballantyne, Hanson & Co., Edinburgh and London.* Pamphlet, 8vo, 38 pages.

Professor AKERMAN, as a preface to his pamphlet, states that hardening of steel, as is well known, has been employed from time immemorial. It is also a long time since it became known that the strength and tenacity of iron could be increased by the same operation.

The knowledge of the effects of hardening steel and iron, especially the latter, are not as well known or diffused as is desirable, although the question acquired an increased interest from the Terrenoire Exhibit of Siemens-Martin castings at the Paris Exhibition. The author then treats first of:

The Different Modes of Occurrence of Carbon in Iron, which he states may be separated into two principal varieties, namely, graphite and combined carbon. The graphite found in iron is mechanically incorporated with the iron. On the other hand, the combined carbon does not occur in the iron always in the same way. After giving the results of treatment by hydrochloric acid for the determination of the combined carbon, the author says it appears that we may conclude from these circumstances that drawing (rolling or hammering), and, above all, hardening, cause a more intimate union between the iron and the carbon, this union being relaxed by the renewed heating and subsequent slow cooling of the iron. It thus appears that the carbon commonly called combined ought properly to be divided into two kinds; namely, first, the carbon most intimately combined with the iron, which we, in accordance with RINMAN'S proposal, shall call *hardening-carbon*, inasmuch as it characterizes the well-hardened steel; and further, the carbon incompletely combined with the iron, which may be said to be in a sort of passage to graphite, and which RINMAN called *cement-carbon*, because it occurs in largest proportion in the undrawn blister or cement-steel.

As in pig-iron, with strong and long-continued heating, carbon is separated in the form of graphite, so annealing favors the formation of cement-carbon in steel. On the other hand, by the rapid cooling of the molten pig and the violent contraction thus occasioned, the amount of combined carbon in the iron is increased; and in the same way, a rapid cooling or violent compression otherwise attained causes in the graphite-free steel a more intimate union of the cement-carbon with the iron, or its conversion into hardening-carbon.

Methods of Hardening.—The author proceeds to show that the effect of hardening depends mainly upon the amount of combined carbon in the iron, upon the differences of temperature between the iron or steel and the hardening fluid, and further, on the rapidity of the cooling.

The Effects of Hardening.—Under this heading, the distinction between hardening iron and steel is indicated. At the Philadelphia Exhibition, in accordance with the proposal made by the International Committee, Germany, Austria, and Sweden retained the old idea of steel with certain exact distinctions made between those varieties of iron and steel which, in a finally refined state, have been completely fused, and those that have not been so, the former being named ingot-iron and ingot-steel, and the latter wrought-iron and wrought-steel. On the other hand, in Great Britain, the United States, France, and Belgium, there has not been the same unanimity. For instance, a soft steel is spoken of, and by this term one person may understand a soft ingot-iron, which, by hardening, never becomes properly hard, and another may understand by the same term a true steel, which, however, is not harder than is necessary for it to just "take temper." Tables are given showing the mean results of breaking tests of puddled iron from Buere on ordinary iron ("fer ordinaire"), unhardened and hardened in dilute sulphuric acid; and on fine iron ("fer fin"), unhardened and hardened in dilute sulphuric acid.

The Intimate Causes of Hardening, the Employment of the Terrenoire Process, and the Advantages of the Hardening of drawn Ingot Iron are all treated in their proper order and place, giving much valuable information. The pamphlet concludes with the following tables: I. Tests of the Tensile Strength of both Unhardened and in different ways Hardened Puddled Iron, Charcoal Iron, and Ingot Metal; II. Averages of Pulling Tests of Ingot-Iron Plates; III. Pulling Tests of Siemens-Martin Metal; IV. and V. Tests of the Tensile Strength of Siemens-Martin Castings, free from Blow-holes; VI. Tests of the Tensile Strength of Bessemer Metal from Westanfors Fagersta.

The English, here and there, is a little peculiar; but we believe that we have caught and fairly expressed in our abstract the views of the author as developed in this painstaking and valuable little pamphlet.

A MINE COLLAPSING.—SCRANTON, June 22.—A mine owned by the Delaware, Lackawanna & Western Coal Company, known as the Dodge mine, on the outskirts of this village, is collapsing. The mine has been in a dangerous condition for two days past, and has been closed on that account. The supporting pillars have been crumbling until they are piles of broken coal, and the roof thus left unsupported is breaking and the water comes in a flood. So rapidly does it accumulate that the pumps are of little service, and it is expected that the whole colliery will be flooded. The miners are greatly distressed over the loss of their tools, which were in the mine.

THE MARYLAND UNION COAL COMPANY.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: In response to inquiries of various parties of your city and elsewhere, concerning the property of the Maryland Union Coal Company, I have to say that it consists of about sixteen hundred acres, situated in the southern end of this coal basin.

In the discharge of my official duties as Inspector of Mines for Allegany and Garrett counties, Maryland, I have just completed a thorough inspection of all the mines in the counties named, and in this connection I have found three openings upon the Maryland Union Coal Company's property of the "Big Vein," two of which are very extensive. I have also found that these are the only mines in the region where this vein is worked to its full hight—twelve feet.

The remaining mine has a large number of pillars to be worked out, and which will yield a vast amount of coal.

In making a thorough examination of the outcrops of the "Big Vein," after the inspection of the interior, I feel fully warranted in indorsing the report of Mr. Stearns, Mining Engineer, which recently appeared in your columns. I found, moreover, beyond a ravine extending through a part of this property, and commonly supposed and reported to be the limit of the "Big Vein" on that side, that the outcrop of this vein appeared around an area of from sixty to seventy-five acres—an area of "Big Vein" coal which I feel warranted in adding to Mr. Stearns's estimate.

The next vein of present importance is the "Six-Foot Vein," which, while fully developed, is practically untouched and underlies the entire property. I have never seen this vein in better condition anywhere. It presents its full size of merchantable coal, unusually free from impurities of any kind. This vein should yield some 7500 tons per acre, when it is considered that it is roofed by a heavy stratum of rock. This vein, being above the water-line under this property, this company possesses advantages for the development of the vein that no other company now mining the "Big Vein" enjoys.

The whole property is underlain by the "Four-Foot Vein," the coal being of excellent quality.

The "Eight-Foot Vein" also extends under the entire area of this property. Little is known in this county, however, of this vein, there being but one opening of it on the land of Dr. Samuel P. Smith, of Cumberland, Md., in the northern end of the basin. At this point, I have made a thorough examination of this coal, and found it of a quality superior to any other small-vein coal, it being, in my judgment, but little inferior to the "Big Vein" coal. The whole of our coal basin is underlain by it, and under this company's property it is only one hundred feet below the water-line—an advantage, to be seen at a glance, which this company possesses over all others

It is a well-established fact that all the veins of coal in this basin are thicker, purer, and of better quality at the southern than at the northern end. The location of this company's property at the southern end makes the advantages thus indicated apply to it in an especial degree.

Taking every thing into consideration concerning the resources and capabilities of this property, the estimate published by Mr. Stearns is entirely too low.

The productive capacity of the present openings upon this property is fifteen hundred tons daily. The reason why they have been but rarely run to their full capacity is found in the fact that Mr. James Boyce, of Baltimore, who operated them for a number of years, never did so when the demand for or price of coal did not justify it—an example well worthy of imitation by other operators. This gentleman has never been considered a competitor for trade in the same sense as other operators; consequently, his resources, instead of being wasted, remain as an element of great value.

The improvements are in all respects adequate to the business, and of very substantial character.

In conclusion, I desire that this letter shall be regarded as an answer to all the inquiries I have received. It is, to the best of my knowledge and belief, a true statement, given after a critical examination of the property referred to. I can see no good reason why, under the characteristic economy which marks the management of this company's affairs, it should not pay good dividends to the stockholders.

I have had thirty years' experience in mining in this county, and am thoroughly acquainted with all the coal properties in this region, and will gladly give any desired information through the columns of your very valuable publication at any time.

Hoping you will gratify the wishes of the large number of parties who desire this information, I am, yours respectfully, THOMAS BROWN,
Inspector of Mines for Allegany and Garret Counties, Md

FROSTBURG, MD., June 24.

NOVA SCOTIA NOTES.

Special Correspondence of the Engineering and Mining Journal.

The Steel Company of Canada is busy running on contracts made when prices were high; and it has orders that will take two months to fill.

NOVA SCOTIA COAL.

The trade by rail with the upper provinces is an increasing one. The box-cars sent down with flour and other goods are returned loaded with coal. Some consumers are getting all their supplies in this way, the soft coal arriving in better order than by water, which entails several handlings.

All the coal mines are busy, but prices have not advanced on last year's rates, while the cost of supplies has been increased by the new tariff. Operators are further met by demands for higher wages from the men who find the N. P. has raised the cost of their necessities.

GOLD MINES.

Although no gold mine in Nova Scotia can be called large, several that are economically handled are paying well, and have aroused greater interest and occasioned more prospecting than for some years past.

STELLARTON, N. S., June 17. ELO.

UP HENSON CREEK AND OVER THE DIVIDE.

Special Correspondence of the Engineering and Mining Journal.

On leaving Lake City, the road enters the Henson Creek cañon, which, although on too small a scale to produce any grand scenic effects, has many spots from which the view is most charming. At one turning of the road, on looking down the stream, one sees the creek rushing through a cañon, which, if small, is also almost perfect in its way; the walls being apparently vertical, while far down below, the green waters of the creek, churned to foam, dash through it to the more placid reaches beyond. The road skirts the left bank for the greater part of the way, and has a fair grade up to Capitol City. This little place surprised me with the best-built hotel-building I have seen in the country. It is built of brick, and has quite a metropolitan appearance. The grade of the road becomes much steeper about two miles above Capitol City, and it took us over two hours to reach Rose's Cabin, about five miles beyond. Getting out of the buck-board at Schafer's Hotel, we were soon assembled around the dinner-table, enjoying a repast so far superior to any thing Lake City could furnish that we were all astonished.

After dinner was over, I went with Mr. Olin O. Larson, Superintendent of the Eldorado & Silver Seal Mining Company, to the Palmetto mine, the best in the district, and examined its workings briefly, having but little time at my disposal.

The mine is situated on Engineer Mountain, at the head of a gulch which runs into Henson Creek from the southeast, about a mile and a half above Schafer's Hotel, and lies above timber-line, the two buildings of the company being immediately adjoining to several large snow-fields, which run up to the summit. One of the houses is a boarding-house, the other being used as a shaft-house. This latter is located at the mouth of the tunnel, and is 35 feet × 25 feet. A tramway leads from the tunnel out to the dump, about 15 tons of good ore being stacked up in the shaft-house itself, ready for shipment. The foreman not being there, I went on with Mr. Larson, and examined the level, where work was prosecuted. This is called the second level, and is about 50 feet below the tunnel-level. The third level and the lower part of the winze are flooded, the night-shift being employed in hoisting water. The winze, which has a good ladder-way to the second level, follows the dip of the vein, which is on the average a little over 75° S. E. The vein is about 30 inches wide at the present workings, with a pay-streak perhaps of 18 inches in width. The ore is very rich, however, averaging, according to assays made by Mr. Stockder, of Lake City, 200 ounces Ag to the ton. The gangue of the vein is quartz, galena, pyrites, chalcopyrite, and, at times, zinc-blende running through it in seams; these ores being nearly always heavily impregnated with stephanite, pyrargyrite, and native silver. A new shaft has been started a short distance from the tunnel, in accordance with the working-plans drawn up by Mr. Stockder, who examined the property for the company. This shaft is to be a vertical compartment-shaft, measuring 12 feet 8 inches by 4 feet 6 inches in the clear. It is to be timbered with 10-inch × 10-inch hewn timber, and there are to be three compartments separated by 4-inch × 10-inch lumber. Two compartments are to be used for hoisting, the third serving as a ladder-way and pumping-shaft. A 15 horse-power engine is to be put up, and the mine is to be vigorously worked during the coming summer. A wagon-road is to be built to Rose's Cabin, and will enable the company to ship its ores far more reasonably than at present, when every thing has to be packed on burros. The shaft is expected to strike the vein at a depth of 400 feet.

I also visited some prospects some two miles up the Mineral City road, which showed very favorably for the work done; at present, however, the development on them is too slight to warrant any assertion as to their value. The country-rock all over Engineer Mountain is diorite, typical in some instances, at others having a porphyritic *habitus*. At one place, near the Eldorado vein, I found a dike in the country-rock, which, besides carrying hornblende and plagioclase, also contained an orthoclastic feldspar of a reddish hue, probably occasioned by the presence of minute scales of hematite. The neighborhood of Rose's Cabin will probably show up better in a year or two, but at present, the Palmetto is the only mine there.

The road to Mineral City and Ouray runs up the South Fork of Henson Creek, turning abruptly to the right, however, about two miles above Henson Creek. The divide is reached a mile farther on, and a panorama is presented to the view that is but seldom equaled. In front of you stretch the San Miguel and Mount Sneffels ranges, while behind you looms up in incomparable grandeur the serrated mass of Uncompahgre Peak, the highest in the whole San Juan country. In massiveness and ruggedness, the mountains here discount the Saguache Range opposite Leadville, and offer much grander scenic effects. The view of the Têton Range in the Upper Snake River valley, in Northwestern Wyoming, is the only one I have seen which can be brought into comparison with it.

Descending the divide, the Annie Woods mine is passed. It lies surrounded by snow-fields on all sides, but is energetically worked "for a' that," and promises to show up well during the coming summer. A little farther down, the trail for Ouray branches to the right of the Mineral City road, and from now on follows the Uncompahgre River. About two miles before reaching Ouray, the trail passes over the Bear Creek Falls on a rudely-constructed burro-bridge. These falls are 250 feet high, and are simply superb. In Europe, they would be celebrated in song and story, and travelers would go a hundred miles out of their way to visit them. Here, they are accepted as a matter of course. I am thankful to say, however, that no beer-garden has been started there yet.

Of Ouray and its surroundings, I shall write in my next.

OURAY, OURAY CO., COLO., June 20. FRED. M. AMELUNG.

THE BLACK HILLS MINES AND MILLS.

Special Correspondence of the Engineering and Mining Journal.

The Black Hills are not at present indulging in the luxury of a mining boom. Regular mining work is the order of the day. However, there are many items of mining interest to be noted, and some interesting developments are making.

A number of "old timers" have left for the southern country, and doleful reports of the hard times and poor mines down there come back to us. Still, there are cases of "Ute fever" constantly occurring, and the patients are much pitied by those of us who can not get away. However, there are plenty remaining to do the work, and just as much work seems to be done. The Black Hills have not yet proved to be a poor man's mining camp. Few poor men have made money by working their mines, except those who had discovered "cement deposits," which are evidently gold-bearing placers cemented into conglomerates. These are easily mined, and often yield very rich ore. The most of them are located near Central City, and at present many are worked with good results. A number have been put on the Eastern market, but we hear as yet of no sales.

They need large mills, but the developments are not sufficient to warrant such an outlay. In one group of these mines, so-called ledge-matter has been struck; that is, gold-bearing slates and quartz in place. These mines are the Fairview, Badger, and Great Eastern, or rather, the Flora Belle, which belongs to the Great Eastern Company. They were first worked for cement, which lies unconformably upon the bed-rock slates. The ore was taken out completely as the workings advanced, and at present the whole side of the hill is held up on a forest of timbers, large posts, many nearly twenty feet long. In removing the cement, they found that the rock below for a considerable width carried gold in paying quantities, and they have taken out and milled a considerable amount of this. In the back part of the chamber, they are putting in artificial pillars of crib-work filled with rock. The Flora Belle is running a tunnel into the hill-side about 150 feet below, in order to tap the vein and test it at that distance from the present workings. If the result is satisfactory, a large mill is talked of. However, they will need extensive developments to put the mine in shape for a large output of ore, as the upper works in it and in the Badger will eventually have to be abandoned. The natural facilities for mining the ore from below are excellent. If the vein has the width and value claimed for it, they will do much better by following some of the magnificent examples of running large veins, which are so near at hand, as a cement roof is a very unstable affair. The Fairview has recently developed what is evidently a continuation of the same vein, and has shown some fine-looking specimens. The indications in this group would at least justify rapid and systematic development at the lower level. This will be partially obtained by the Flora Belle tunnel, the results from which will probably affect the value of the adjoining claims.

The custom mills at Central are kept busy on these ores. On the Homestake belt, there is more than usual activity. The Highland mill is now running 60 stamps on Highland ore, and 60 on Giant & Old Abe. No one who has seen this mill will doubt its claim to be the finest quartz mill in the world, although its counterpart, the Homestake 120-stamp mill, will probably do as good work. The milling machinery for the Highland came from the shops of Fraser & Chalmers, and the engine from the Corliss Company, of Providence. Every thing worked perfectly from the start, and it is certainly a piece of work to be proud of. It was designed by R. D. Millet, constructing engineer and, at present, acting superintendent for the Homestake Company's mines, and built under his supervision by J. K. Owens. The trestle-work for the ore-cars is on the same level as the Homestake trestle, and the cars are run in by the same locomotive. The ore falls on screens, the fine going into the bins, and the coarse stopping at the crushers, through which it also passes into the bins. The whole then passes down through automatic feeders into the batteries. There is a copper plate in the front part of the mortar, and a single unbroken copper table. The pulp falls from this into a copper-bottomed trough, goes through a trap, and then passes out of the building through another copper-bottomed trough. This arrangement may appear too simple to those accustomed to other ores; but it is the result of the experience gained through milling thousands of tons of ore in the older mills of the company, where various devices for extracting a higher percentage of gold were, after trial, rejected.

The three mills under the Homestake Company's management at Lead City, all within a radius of a few hundred feet, are now dropping 320 stamps, or to put it in another way, 240,000 pounds of iron, 90 times a minute. The Golden Terra and Deadwood mills, under the same management, but over in Bobtail Gulch, half a mile away, are dropping respectively 90 and 60 stamps. I may say that the mines under this management were never in better condition, or producing so much bullion as at present. They work with the regularity of iron mines. Their bullion product is regular, and regularly increasing, as shown by the bullion returns. The cause of recent depreciations in these stocks is not understood here, and causes little concern, as those who own them are content to hold them. The Caledonia is the cause of a good deal of dissatisfaction to many stockholders, on account of the recent assessment and the low bullion return. That the mine holds richer ore than is at present milled is not doubted; and the recent rise in the stock indicates some development not known to outsiders. The Standby, in the Southern Hills, is running its 60 stamps. A partial clean-up has been made, which the officers report as satisfactory, but no figures are given. The ore is professedly low grade, but is milled by water-power. One of the custom-mills at Lead City is running on Durango ore. Several new districts, or old ones rejuvenated, are promising to surprise us; but I shall reserve mention of these, and also of developments at Bald Mountain, until another opportunity. Ex.

DEADWOOD, DAK., June 22.

GERMAN IMPORTS AND EXPORTS OF IRON.

The following are given as the statistics of the exports and imports of the German empire for the first quarter of 1880 (in metric tons):

	Exports.		Imports.	
	1880.	1879.	1880.	1879.
Pig and scrap	89,500	109,000	23,700	113,000
Merchant iron	39,150	25,500	2,360	7,600
Rails	57,900	31,900	2,990	3,330
Wire	21,680	13,620	600	990
Unclassed goods	54,200	.....	6,100	.....
Engines and boilers	11,340	.....	4,840	.....

The decrease in imports is attributed to the action of the import duties, the rise in the exports to the general elevation of demand.

Reports from Dortmund continue to be unfavorable, nearly all descriptions of iron being weaker. The Siegen furnaces offer good forge pig at

55s.; and the Syndicate of Luxembourg and Lorraine makers have reduced their price to 56s., in spite of the long contracts they have on hand. Luxembourg and Siegen pig are thus much more nearly alike in price than they are in quality. Merchant irons have lost another 5s., and have come down to 145s.; some Rhenish works taking 140s. Plate and wire have also lost 5s. per ton; but steel rails are able to keep up at 220s., which rate they have held for several weeks past. Hollow ware and commercial castings generally have had an artificial firmness given to them by the agreement of founders to sell at common rates.—*Iron.*

THE GASIFICATION OF CRUDE FUELS—THE DIFFERENCE BETWEEN THEORETIC AND PRACTICAL VALUES.*

By George S. Dwight.

If it is proper for the writer to frankly acknowledge his proprietary interest in a special system which receives prominent mention in the following paper, it is due himself that he disavow any partisan attitude toward a process which he sincerely believes promises great usefulness. At the present time, the Strong system appears the most perfect development of the latest principle for the conversion of crude fuel materials into their useful gases; but that the principle itself is of far higher importance than personal interest, no one more fully appreciates than the inventor and his present representative. And their earnest conviction of its important bearing upon the arts of industry is the best apology for presenting the matter before so distinguished a society.

The whole subject of combustion, calorific values, and waste has been so imperfectly understood, even by the wisest, that no excuse is offered for a treatment of the whole question in the most elementary manner, the only regret being that the preparation of the paper was not in abler hands.

Surely, it would be difficult to select a subject affecting a wider range of human activities and necessities than the better utilization and application of fuels. Contemplate for a moment the mighty energies and influences of that familiar yet mysterious power, which in its interconvertible forms of heat, light, and motion, lends to man's work a limitless strength, transports him over land and sea, girdles the globe with a sympathetic nerve, and, in the plenitude of its power, restores to his winter home the genial warmth of past midsummers, and floods the dark night with cheerful rays!

Aladdin's lamp was but a symbol of the magic resources of a bit of carbon. How to use the carbon so that we may derive the greatest benefit, is a problem well worthy the attentive consideration of every engineer and specialist. The present modes of combustion are so wasteful as to constitute the most conspicuous criticism upon the arts of the age, and are in danger of causing a not remote posterity to curse the present generation for its prodigality of that which is not only an essential material but one having known limits. Vast as are the coal deposits of the United States, they have been calculated as sufficient for the supply of its increasing population for a period of less than two centuries; and yet the adage about "carrying coals to Newcastle" is soon to lose its significance; for American anthracite is already selling in Europe. Let us inquire into some of the causes of the great loss in the use of fuel, and ascertain how far they may be avoided.

Those with which we propose to deal may be briefly defined as arising from the combustion of solid or mineral forms of carbon in atmospheric air. The definition presents a twofold objection to almost all existing methods of burning fuels; the first being the physical or structural condition of the carbon generally used; and the second, the chemical composition of the air or medium in which it is converted.

To explain the first, it is only necessary to remember that the fuel is but an incorporation of gases capable of combustion, which, originally absorbed from the atmosphere by vegetable forms of life, have by the processes of nature, time, pressure, etc., become modified and compacted, and are not available to man except as they are again transmuted to the gaseous condition. And as all changes involve cost, so in this case the conversion can not be effected without the expenditure of whatever quantity of heat is necessary to transform the carbon from the solid condition in which it has been stored up for us into the gaseous one in which we can use it; and the heat so expended is in the sense lost, that it has that specific work to perform and can not be diverted to any other useful purposes. Whether the proportion of heat thus employed has ever been determined, I do not know, but it seems probable that the item varies with different conditions of fuel materials. For illustration, if we take pieces of wood, bituminous coal, and anthracite, and place them side by side upon the red-hot fire, we shall observe that the combustion of each differs from the other in several particulars. While all burn slowly, there is quite a noticeable difference in the matter of time, which is specially significant. It evidently results from the variations between the specimens in density. If we take other pieces of the same weight as before, but subdivide them into smaller fragments, we find the combustion is more rapid, the speed increasing somewhat as the size diminishes, until, in a pulverized form, it is simply like a flash. If in a granulated condition, we heap too large a quantity upon the fire surface, the combustion is retarded and imperfect, with clouds of smoke, simply because, by preventing prompt access of the oxygen to the carbon particles, we have in effect cooled the fuel again. But if we more gradually sift this quantity down upon the glowing coals, it burns swiftly and is in a continuous sheet of flame. These simple experiments illustrate two very important facts, namely, that the conversion of solid carbon to gaseous is both more rapidly accomplished, and, presumably, by a more economic expenditure of heat, somewhat in proportion to the reduced size of the particles. The explanation is simply that in this condition the carbon and oxygen are enabled to unite not only more promptly, but in more exact proportion, than when the fuel is in large, hard lumps, often intermixed with much foreign and inconvertible matter. Does this not give us a very clear intimation that our preference for the larger coals and our neglect of their culm or dust is a mistake?

Let us glance now at the second difficulty attendant upon the conversion of fuels, namely, the chemical composition of the air. This represents a mixture exactly adapted by the Creator for the maintenance of life, and is composed approximately of one fifth oxygen and four fifths nitrogen, the former element being alone useful in the burning of fuels. The nitrogen, constituting the great bulk of the air, is not only inert, but, in fact, worse than useless, because, being non-combustible, it acts as a diluent of the fuel-gases, retarding and, to some degree, preventing the perfect union of a portion of these, and further, as an inevitable presence in their combustion, absorbing into its volume a large share of heat and escaping with it from the furnace. Although the fact is an old one, the assertion is ventured that its full weight and significance has not been fully appreciated. Let us pursue the subject by proofs. If we could eliminate nitrogen from the operation and burn carbon in pure oxygen, we should develop a temperature of 10,126° C. If we burn it in ordinary air, and in that proportion which is found by careful investigation to be the best theoretical minimum (about 12 lbs. air to 1 lb. C.), the temperature is reduced to 2715° C. But it is found that in the most skillfully managed practical operations, this minimum of air can not be approximated; that, in fact, double this weight of air (24 lbs.) is used, and in consequence the temperature suffers a reduction to 1406° C. This last-named temperature is only 13·9 per cent of the first, a loss in close relation to the increased proportion of nitrogen, proving that that element has the depreciative influence already explained. The excessive use of air arises largely from the difficulty of maintaining perfect combustion when fuel is used in its present shape.

On the other hand, if, to avoid this waste, too little air is used, the loss is merely changed in form; for now, because of insufficient oxygen, large volumes of carbonic oxide and the combustible gases sweep out of the area of flame unconsumed. Between these two difficulties the waste of calorific value is quite appalling. It is so great, in fact, that, by the ordinary generator methods, it is really proved that in metallurgy we can afford to barter the direct use of the fuel for the indirect application of the products of its partial combustion, plus the sensible heat of the gas. The principle is, the burning of C to CO in atmospheric air and then burning hot CO in the metal furnace, in connection with blast made hot by the sensible heat of its products of combustion, previously absorbed in so-called regenerators. This utilization of the heat of combustion-products is possible in any system, and therefore not so exclusively related to this one as to affect the principle we are explaining. What a satire this is upon other more general methods of using fuel, will best appear by mentioning that to burn C to CO involves an outlay of 2473 heat-units, while in burning the CO to CO_2, the heat evolved is but 2403 units; and although, by the conversion of the C to CO, we have increased the volume two and one third times, and therefore derive from the CO, when burned to CO_2, 5604 units of heat, this gain only reduces but does not remove the satire. This valuation is based upon the conversion of pure CO, while in the process under consideration the generator-gas contains two or more volumes of nitrogen for every one of CO, and it is a fair inference that such a heavy dilution must depreciate still further the value of the gas. How much of its efficiency the system would lose if deprived of the admirable regenerative plan of Dr. Siemens, can not be accurately stated, but some recent experiments have an interesting bearing upon the question, and may be mentioned.

Generator-gas of excellent composition was stored in a holder and drawn thence cold for various tests, which were made with blast not heated. In a small forge which had been previously kept at a fine welding-heat by the combustion of a gas almost free from N (Strong's water-gas), supplied at the rate of 6 to 7 cubic feet per minute, it was found impossible, after a trial of six hours and with 17 cubic feet per minute of this generator-gas, to attain more than a bright red. It was tried under the boiler of a locomotive with natural draught and with various burners adapted to the experiment, and after much difficulty was ignited, but repeated efforts failed to secure its good combustion; the analyses of the escaping gases showing simultaneously 14 to 20 of both air and CO. It was found impossible to generate steam. In ordinary domestic burners, it was almost impossible to maintain its flame, a slight vibration of the air extinguishing it.

These investigations confirm an opinion, long maintained by the writer, that the mode adopted by the chemist for estimating the depreciative influence of N upon combustible gases with which it is associated is not practically correct. He reckons it an absorbent part of the heat developed by the combustion of its associates, on the basis of specific temperatures; but we find that it acts as a positive diluent, and that dilution may be carried far enough to be a destruction of that which is diluted.

So long as a gaseous mixture contains one per cent of combustible gas, he must, by his theory, credit it with some calorific value, while in fact a considerable percentage must be present to impart any practical value whatever.

The experiments cited show that, between the absorbing and diluting influence of N, very little useful heat was left in the gas when burned without the benefit of hot blast.

Hoping that the foregoing statements have made clear the disadvantage in using fuels, and especially those of a compact or dense form, in common atmosphere, we pass to another phase of the subject. It is a frequent objection on the part of specialists that, as the change of condition from solid to gaseous fuel necessarily involves, as already explained, an expenditure of potential energy, the fuel in its new form possesses less value than in the old. This is undeniably a perfectly correct statement, and yet a literal acceptance of it has led and is still leading to a gross misconception of the entire subject.

The objectors overlook two most important facts: First, that any and all methods of using fuels of whatever description are simply and only gas processes of varying degrees of faultiness. In other words, the fuel-materials as they come to us in the varying forms of oil, wood, or coal, possess no value whatsoever except for the gaseous essences which they contain compacted within their fluids, fibers, or cells, and which, if released, are capable of combining with oxygen in the mystical union which produces heat; and secondly, that the release of the imprisoned carbon and hydrogen can only be effected by the application against these crude materials of a certain amount of heat, and the energy so applied is useful only in converting the fuel to gas, and can not be diverted to any other useful service.

We may assume that whatever outlay of heat has been applied in the operations of nature, in converting these materials from their original gaseous condition to their present fluid or solid one, must be paid again

* Paper read before the Swedish Society of Engineers.

by art, before the gases can be restored for its use. Hence we see that the claim of a loss of heat-units in conversion is not only correct, but that the loss is not peculiar to any special system of combustion, but is an inevitable factor in every fire, whether it be that before which the cannibal roasts his victim, or the colossal furnace wherein modern science works its more beneficent will.

A comparison of these two diverse operations, on the basis of fuel economies and not morality, might shame civilized art that it has so little improved the methods of its barbarous brother. Another source of misapprehension of this whole matter arises from a total misconception of the true significance of the theoretical calorific values of fuels, as determined in the laboratory, and a confusion of these with the values derived from the same materials in practical operations. This matter must be presented with the utmost clearness, as it is of the first importance, if we would intelligently understand the whole subject under discussion. The chemist retires to his laboratory to determine the heating power of various fuels. With rare ingenuity, he designs a calorimeter, and with patient and conscientious precision weighs in delicate balances the materials for the test. He reduces them to powder (mark this), and burns them in a combustion as absolutely perfect as human skill can secure, and with a loss of heat reduced to the lowest minimum possible to science.

He brings into the investigation every essential collateral circumstance, makes repeated trials and computations, and at last tells us what heating power each fuel possesses; for example, that petroleum has a value equal to 20,746 heat-units; charcoal, 14,544; coke, 13,550; American anthracite, 13,535. This means that he has ascertained that a pound of each of these fuels, burned by his peculiar methods, develops heat sufficient to raise the temperature of so many pounds of water as are expressed by the units, 1° Fahr.

The accuracy and importance of this research no one denies, if it is but rightly understood and applied. It has established a standard for technical comparison of the values of different materials; but the very refinement of the methods employed renders the obtaining of any such values in ordinary practice absolutely impossible. The fuels can not be used in the domestic or other industrial arts upon this laboratory system, or with results even remotely approximating them. Therefore, the figures thus obtained are specially important as furnishing an ideal to rebuke our wasteful practice and stimulate improvement. The inquiry now becomes pertinent as to the discrepancy really existing between the calorific powers determined by the chemist, and those actually derived by the metallurgist in his great operations, and those still more vital operations of that yet more important personage, the cook in the kitchen. She certainly is entitled to most respectful mention, the busy and tireless handmaiden but for whose deft management of calorics a hungry race would become savage and civilization collapse! Dr. Siemens, who is at once an authority upon and a distinguished reformer of fuel waste, states:

"Taking the specific heat of iron at ·114, and the welding heat at 2900° F., it would require ·114 × 2900 = 331 heat-units to heat one pound of iron. A pound of pure carbon develops 14,500 heat-units; a pound of common coal say 12,000; and therefore one ton (2240 lbs.) of coal should bring 36 tons of iron up to welding-point. In an ordinary reheating furnace, a ton of coal heats only $1\frac{2}{3}$ tons of iron, and therefore produces only $\frac{1}{36}$th part of the maximum theoretical effect. In melting one ton of steel in pots, $2\frac{1}{2}$ tons of coke are consumed; and taking the melting-point of steel at 3600° F., the specific heat at ·119, it takes ·119 × 3600 = 428 heat-units to melt a pound of steel; and taking the heat-producing power of common coke also at 12,000 heat-units, one ton of coke ought to be able to melt 28 tons of steel. The Sheffield pot steel-melting furnace, therefore, only utilizes $\frac{1}{70}$th part of the theoretical heat developed in the combustion."

Professor Grüner, of the French School of Mines, states that "in the wind furnace, there is utilized, in the fusion of steel in crucibles, but $\frac{1}{3}$th of the total heat-capacity of the fuel, or at most, 3 per cent of the heat generated. In the reverberatory, when steel is melted in crucibles, the the useful effect is 2 per cent of the total heat, or 3 per cent of the heat generated. In the Siemens crucible furnaces, 3 to 3·5 per cent; in Siemens's glass furnaces, operating on a large scale, 5·50 to 6 per cent; in ordinary glass furnaces, 3 per cent; in fusion upon the open hearth of a reverberatory, of glass, 7 per cent; of iron, 8 per cent. In well-arranged Siemens and Ponsard furnaces up to 15, 18, and even 20 per cent of the total heat is utilized. The calorific effect is much greater when the fuel is mixed with the material to be fused. Large iron blast-furnaces utilize, according to their working, 70 to 80 per cent of the heat generated, or 34 to 36 per cent of the total heat which the complete combustion of the fuel would set free."

In the application of fuel to the generation of steam, its highest utilization occurs, if we base its value merely upon its ability to evaporate a certain weight of water. This, as we have seen, is the standard for the laboratory determinations, and is probably the best that could be devised for such purposes. But it is objected to as a basis of comparison in practical operations, and insisted that it should be regarded as quite exceptional. The intimate contact between the heat of combustion and the water, rendered possible by the multitubular construction of the boiler, and which is attainable in few other fuel applications, enables the utilization of 50 per cent, and in special cases even more, of the theoretic heating-power of the coal. But the boiler is only an intermediary between the fuel and the engine; and if we measure the heat by the power generated, which seems just, we find the waste is as great as in other operations. The best compound condensing engine is said to require two pounds coal per horse-power per hour, and hence utilizes but 8 per cent; a good ordinary one of same type requires 5 pounds, and so converts but 3·2 per cent of the theoretic power of the fuel. The gas-motor, becoming so popular, suggests a new standard in this department by raising the question whether the gaseous product of one pound coal does not represent a greater expansive force, applied, as it is, directly to the engine, than the ordinary combustion of the one pound coal, employed indirectly through the medium of steam.

If we look at the domestic uses of fuel, which in fact represent by far the most extensive consumption of the materials, the loss of heat-power is no less appalling. It is estimated that the ordinary grate used in warming English houses gives the tenant not over $2\frac{1}{2}$ per cent of the maximum value of the fuel; and if we consider how much fuel is used in the kitchen, at times when fire is not needed for cooking, it is doubtful if a better result is obtained there. It becomes small consolation to the householder to know that the chemist in his laboratory obtains 40 times the value from a pound of coal, that the cook in his kitchen does. The city of London consumes annually (8,000,000) eight million tons of coal. Assuming, for simplicity, that such quantity of this vast weight is so economically employed in other industrial purposes as to bring the proportions utilized up to 10 per cent of the whole—a liberal estimate—we have still the strange spectacle of the greatest community in the world paying for ten times the quantity of fuel it requires, yet compelling its citizens to handle and rehandle repeatedly this vast aggregate of dirty material at an almost incalculable expenditure of labor, inconvenience, cost, and with an ultimate loss of nine tenths of both the materials and these collateral expenditures. (TO BE CONTINUED.)

COAL, IRON, AND LABOR NOTES.

COAL.

CLOSING OF FURNACES IN THE HOCKING AND SHAWNEE REGION.—COLUMBUS, Ohio, June 30.—A special to the *State Journal* says that of the 11 iron furnaces in the Hocking and Shawnee region all but two have stopped on account of the high price of mining, and these two will stop within ten days.

A NINE-FOOT vein of coal has been discovered in Rocky Cañon, Montana, in the Gallatin Valley. The vein dips at an angle of from 65 to 70 degrees.

THE Muhlenburg Coal Company, of Muhlenburg County, Ky., operating the most extensive mines in the State, and the Green River Coal and Iron Company, of Louisville, Ky., will be hereafter known as the Central Coal and Iron Company, having been consolidated.

THE COAL TRADE OF THE REYNOLDSVILLE, PA., DISTRICT.—Our Reyoldsville paper of June 24th says: The following analysis by McCreath of the Hamilton Colliery coal is a fair representation of the coal of this region: Water, 1·01 per cent; volatile matter, 32·09; fixed carbon, 62·174; sulphur, ·716; ash, 3·01. Coke made in the open air, from the slack of the same mine, shows: Water, ·780 per cent; volatile matter, 1·420; fixed carbon, 88·950; sulphur, ·900; ash, 7·050.

COAL CREEK, INDIANA, June 23, 1880.—The mines have all been idle here since June 1st. Miners have been paid 90 cents per ton up to that date, and ruled by Clay County mines for the last year. The companies proposed to enter into a new agreement here, paying 80 cents per ton until October 1st, 90 cents up to April 1st, 1881, and not to be ruled by Clay County, but by Braidwood and Streator, Illinois. The miners refused to accept the proposed agreement.

Mr. Eldridge, who has been operating the mines near St. Mary's for some time, has had a number of men at work sinking shafts into the coal-veins that are found about four miles from Sterling Run. He has found coal enough in quantity and good enough in quality, and will begin operations in about four or five weeks. He wants to have every thing in running order by the 1st of January, 1881, so that he can move his machinery and men from his present place to Sterling. It has long been known that there was a large coal-field in that section of the country, and now the people of the county may expect to see the town of Sterling a lively business place before the next two years have passed.

The tonnage of this region for the week ending June 10th was 4613 tons. Corresponding time last year, 6202 tons. Loss, 1589 tons. For the week ending with June 27th, 5496 tons. Corresponding time last year, 2944 tons. Gain, 2552 tons. Whole number of tons of the year to date, 182,673 tons. Corresponding time last year, 117,634 tons. Gain, 65,039 tons.

THE St. Mary's *Gazette* says the Northwestern Mining and Exchange Company, of Centreville, is shipping 600 tons of coal daily, and is making arrangements to increase the tonnage.

OPENING UP THE COAL-FIELDS OF THE SAN PETE VALLEY, UTAH.—The Salt Lake *Tribune* of June 23d says the San Pete Valley Railroad is opening up vast coal-fields in San Pete County, which will aid materially in cheapening coal and coke, and thus the entire territory will be benefited. At present, this narrow-gauge road has about 1000 men employed in grading the bed, cutting and hauling ties, and other branches pertaining to railroad building. By the first of next month, the company anticipates having thirty miles of the road graded between Nephi and Wales ready for the ties. The rails have been ordered from the East, and will soon be on the road ready for the locomotives and cars, which are also soon expected. Before the expiration of another month, Wales will be in rail communication with the outer world, and the great coal-fields of San Pete thrown open to the market.

A correspondent of the *Tribune* says the Mulhall & Co. coal mines, situated on the Utah Eastern Railroad, are preparing for active operations, putting a 50 horse-power boiler and engine on the Allen mines. Besides, they are contemplating starting their boring-machine on other properties. They expect to be able to deliver 300 tons of coal per day by July 10th.

COAL DISCOVERY IN COLORADO.—A statement is published that a coal mine has been discovered in Nugget Gulch, four miles from Leadville. The vein is four feet thick and the coal looks first-class. The coal was found at a depth of 118 feet from the surface.

THE MAHONING COAL MINES.—A correspondent of the Pittsburg *Telegraph*, under date of June 29th, says of these mines: A hasty trip among the coal works of the Mahoning Valley—in which are located and operated some 25 large collieries—develops the fact that the output of coal is not as large as is the custom at this season of the year. However, the mines are all in operation, and operators hopeful of increasing trade. The well-known qualities of the Briar Hill coal for furnace, rolling-mill, and manufacturing purposes, place it at the highest figures in the markets; but the expensive cost of mining and high royalty paid, permit cheaper coals, hauled a long distance by rail, to come into the market in competition. The discovery, some years ago, of its fine qualities for working iron, caused the erection of numerous large blast-furnaces and rolling-mills in the valley, which are yearly extending their manufacturing facilities. Some persons contend it is folly for the operators to ship a pound of coal out of the valley,

for the day will come when they will need it all at home. The analysis of this coal exhibits the following component properties:

	Percentage.
Moisture	3·23
Volatile and combustible matter	34·13
Fixed carbon	60·62
Ash (salmon-colored)	2·12
	100·00
Total sulphur, per cent	·44

The mines are all entered by shafts or slopes necessitating steam machinery for hoisting the coal, and as they are more or less troubled with water, large pumps are generally kept going day and night. The vein averages about four feet, but, as it often lies in beds or pockets, crops out to much less, which necessitates extra price for mining. The miners of the valley are generally a steady set of men, many of them owning their own homes near the works, and as a large portion of the coal is taken at the mills and furnaces, work is had by many the year round. The present price for mining is on a basis of 65 cents per ton.

IRON.

THE IRON AND COAL RESOURCES OF WEST VIRGINIA AND EASTERN KENTUCKY.—The Boston *Transcript* says: The project to develop the great coal, iron, and timber deposits of Western Virginia and Eastern Kentucky, which is in the hands of Boston parties, has opened its Boston headquarters at 47 Devonshire street. The enterprise is pushed quietly, but with great vigor. The charters were granted by the last Legislatures of Virginia and Kentucky, and since then the company has been securing the right of way in various counties in both States which the road will traverse. It has also purchased a large tract of land for terminal facilities at York River, and it now has five fully equipped corps of engineers in the field between York River and Louisville, making the preliminary alignment. It is expected that in a few weeks an approximate estimate of the cost of construction will be obtained, when the mortgage bond on the road will be placed in European and American markets as a six per cent gold bearing investment. It is stated by the officers of the company that the local interest in the construction of the road is great; that 300,000 acres of valuable mineral and timber lands have already been donated to the company; also 3,000,000 tons of gypsum and 200,000 tons of coal and 100 miles of railroad ties, and that similar subscriptions are daily made along the proposed route, several counties in Virginia having already voted to subscribe for $300,000 of the stock of the company. The aggregate value of gifts already made, in consideration of the construction of the road, is estimated at $15,000,000, and it is thought by Professor N. S. Shaler, of Harvard, that more than double this amount can be obtained during the next two months. Professor Shaler has just issued a preliminary report treating of the resources of the road by the counties through which the road passes. He states that the road opens up the largest and most valuable timber reserve extant east of the Rocky Mountains, and that it runs through a wider belt of coal-lands than any other road in America; he also gives estimates showing why iron can be more economically manufactured on the line of the road—where the coal and iron meet—than elsewhere."

IRON ORE SHIPMENTS FROM THE LAKE SUPERIOR AND MENOMINEE RANGE MINES.—The *Norway Iron Chronicle* of June 26th says: The following are the shipments of iron ore in gross tons from the port of Escanaba for the season up to and including Wednesday, June 23d, 1880:

MENOMINEE RANGE MINES. Name of Mine.	Gross tons.	Name of Mine.	Gross tons.
Breen	3,474	Cleveland	8,160
Chapin	310	Goodrich	4,679
Curry	9,047	Jackson	18,309
Cyclops	6,383	Jackson South	3,774
Emmett	13,723	McComber	4,819
Keel Ridge	3,010	Michigamme	1,468
Norway	61,841	Mitchell	1,638
Perkins	14,780	National	9,308
Quinnesec	19,249	New York	17,930
Stephenson	5,823	New York (Hem)	1,789
Vulcan	22,511	Palmer	11,224
Lowell	319	Rolling Mill	2,913
		Saginaw	14,053
Total	160,450	Salisbury	5,077
LAKE SUPERIOR MINES.		Superior	17,945
Angeline	4,770	Superior (Hem)	2,832
Angeline (Hem)	1,093	Winthrop	4,350
Barnum	7,868	Republic	4,621
Bessemer	3,307	Total	158,203
Cambria	1,594		
Cheshire	4,682	Total from Escanaba	318,653

STATEMENT of iron ore—quartz and pig-iron shipments from the ports of Marquette and L'Anse from opening of navigation to Wednesday, June 23d, 1880, inclusive:

Name of Mine.	Gross tons.	Name of Mine.	Gross tons.
McComber	4,728	Republic	1,127
Cleveland	44,692		
Lake Superior	22,603	Total from L'Anse	11,972
Winthrop	3,960	PIG-IRON.	
Humboldt	4,578		
Republic	62,223	Carp River Iron Co.'s Furnaces	2,139
Keystone	5,016		
Champion	23,661	Total pig-iron	2,139
Saginaw	764	QUARTZ.	
Lowthian	831		
		Carp River Iron Company	564
Total from Marquette	173,056		
L'ANSE.		Total quartz	564
Michigamme	8,567	Ore to local points	11,867
Keystone	1,788		
Champion	489	Total ore, pig-iron, and quartz.	199,598

THE IRON INDUSTRY ON THE PACIFIC COAST.—The following is taken from a late issue of the *Mining and Scientific Press:* It has long been known that vast deposits of iron ores of various and superior quality exist in California, Oregon, and in Utah and Washington territories, yet the first blast-furnace for manufacturing pig-iron has not been completed in California. Oregon has exhibited more enterprise. In 1865, the Oregon Iron Co. was incorporated to carry on the business of smelting iron ore and manufacturing pig-iron; and the company built its first blast-furnace at Oswego, on the Willamette River, a few miles above Portland. The furnace was finished and the first pig-iron produced in 1867; and the furnace continued in blast 410 days, during which time 2395 tons of pig-iron were manufactured. This first investment proved unprofitable, and the works were sold to the Oswego Iron Company, incorporated in 1868. The works were remodeled in 1878–79, and the new company went into blast April 23d, 1879, and is still in blast. Up to January 1st, it had produced in 206 running days 2300 tons of pig-iron, an average of over 11 tons per day. The company intends to increase its capacity of production to 18 tons daily. It owns fully 2000 acres of land, which include the Prosser ore-bed with its inexhaustible supply. This ore is of the variety known as brown hematite, and averages 40 per cent metallic iron. At the close of last year, the company had mined 8000 tons of ore, and had 7000 cords of wood made into charcoal; this year it has contracted for the delivery of 12,000 tons of ore and 12000 cords of wood to be made into charcoal, and expects to produce 5000 tons of hot-blast charcoal pig-iron. Recently the Placer *Herald* gave an interesting statement of the immense deposits of iron ore which occur near Clipper Gap, in Placer County, only a few miles from the Central Pacific Railroad. It appears that at different times and by different parties efforts were made to secure the erection of furnaces to work the ore and produce pig-iron, but they invariably proved abortive. At last a gentleman named Fitzhugh, who possessed a large experience as proprietor of smelting-works at the East, acquired an interest in the deposits at Clipper Gap, and has since labored assiduously to organize a company of capitalists to utilize the ore, and manufacture iron. Success at last crowned his persistent efforts and a company has been organized. The company has begun the erection of furnaces and all the necessary works for the production of pig-iron, and expects to be in blast before the close of the present year. The blast-furnace in the course of erection will have a capacity of 10,000 tons per annum. The company has bought a section of land, which includes the mine, besides about 6000 acres of timber-land on the Nevada County side of Bear River, from four to six miles distant from the mine. It is its intention at an early day to construct a railroad track from the C. P. RR. to its works, and then on into the region of its timber, the latter road to aid in obtaining its coal or fuel, and the former to facilitate the export of its product and the import of all needed supplies. The ore-beds are vast, and wood for charcoal and limestone for flux are both convenient and superabundant.

IRON ORE FROM THE MEDITERRANEAN.—The *Baltimore Sun* of June 24th says that the British steamships Farnley, from Benisaf, Algeria, and Else Ker, from the island of Elba, both in the Mediterranean, reached Baltimore yesterday with 4000 tons of iron ore. Both cargoes are for the Edgar Thomson steel-works of Pittsburg, which made large contracts early this year. The Mediterranean ore is adapted for producing steel by the Bessemer process, and is imported for that purpose. Its coming is not in connection with the now collapsed boom in iron. Importations of pig-iron and iron bars into Baltimore are not nearly as large as they were up to June, and it is understood that most of that product contracted for through this port has come forward.

THE IRON OUTLOOK IN TENNESSEE.—A pamphlet recently issued, entitled *Knoxville as an Iron Center*, says: A branch of the Memphis & Charleston is completed to Coal Creek, about 28 miles, and to Caryville, 35 miles, into the coal and iron regions of the Cumberland Mountain on the north, while another road runs fifteen miles southward to Maryville, in Blount County, in the direction of the Little Tennessee and Rabun Gap, and through the iron-fields of Blount on to the great iron-banks of Cherokee County, North Carolina. Another road runs from Morristown, on the East Tennessee, Virginia & Georgia Railroad, almost reaching the French Broad Gap, and now connects Knoxville with immense deposits of brown hematite and some specular iron ore in Cocke County. The road to connect Knoxville with the iron and coal on the west, and with the Cincinnati Southern at Emery Gap, 33 miles distant, is but a question of short time, while Eastern capital is already moving to complete the North Carolina road through the French Broad Gap and the iron-fields of Cocke and Western North Carolina. Propositions are also pending to extend the Maryville road through Rabun Gap to Walhalla, in South Carolina, where connections already exist with various places on the coast. The Cranberry road is now under construction from Johnson City, Washington County, through the brown hematite and magnetic ores of Carter County, to the Cranberry magnetic banks of North Carolina, thus giving Knoxville, in a short time, access by a line 141 miles long to the largest and best deposits of ore in the South, if not in America, of a quality not excelled in the known world. Already an important commercial and manufacturing center, the new lines which are inevitable are preparing greater facilities of all kinds and still greater manufacturing capacity.

THE MINES AND FURNACES IN IRONTON, O.—The *Register* of recent date says that the Lowmoor Iron-Works Company has perfected arrangements with its miners for the sliding scale of prices from June 1st. The Lawrence mill is filling an order for 55 tons of drift spikes, to be used in the government improvements on the Kanawha River. There will be about 18,000 spikes of inch square bar-iron, varying in length from 15 to 30 inches. Buckhorn will blow in on cold blast the latter part of this month. Olive furnace is temporarily stopped for repairs. Center furnace has been in blast for over a week, and is doing well. We are informed that on the Lawrence and Belfont lands they have a manganese ore that has about nine per cent of manganese, which is calculated to make the best of metal. The vein is about three feet thick. It will have a thorough trial.

MISSOURI LABOR STATISTICS.—We make the following extracts from the first annual report of W. H. Hilkene, Commissioner of Labor Statistics for Missouri: The bureau having been established quite recently, the report includes only four months—September, 1879, to January 1st, 1880; but notwithsanding this, it is comprehensive and satisfactory.

Business.	Hours of labor per week.	Wages per week.	Days lost in year.	Weekly wages in 1872.
Blacksmiths	59	$10.37	61	$15.30
Bricklayers	59	14.60	131	26.41
Coal miners	63⅜	9.66	104	17.30
Engineers	70	12.80	53	20.94
Iron mines	63½	5.66	90	10.49
Lead mines	64	7.74	61	12.36
Railroading	67¾	15.15	41½	.....
Stone cutters	59	13.95	95	24.36

THE Crane Iron Company, of Catasauqua, Pa., will reduce wages 20 per cent on the 1st of July.

PROGRESS IN SCIENCE AND THE ARTS.

Technology.

Technical Brevities.—Judge Blatchford's recent decision in the case of the United Nickel Company *vs.* Pendleton puts an end for the time being to the efforts of an intolerable monopoly *to control the art of nickel-plating* in this country. The fact that the Adams patent should ever have received recognition in the temple of justice proves that a judge may be learned in the law, but woefully pachycephalic in matters scientific. It occurs to us that a scientific commission, selected for the purpose from the ranks of our most eminent scientists and technologists, might be established in some way to act in cases of this kind in the capacity of *amicus curiæ*. Such a body, above the suspicion of interested motives, might prove very useful.——Providence is made to assume the responsibility for a goodly share of sins of omission and commission in this world, but about the roughest attempt at this kind of imposition is the latest; and singularly enough, it originates with that good man, Dr. McCosh, President of Princeton College. In referring at commencement to the death by typhoid poisoning of eight of the students of the college within the past few weeks and the critical condition of as many more, he closed some very touching and sympathetic remarks by asserting that the calamity was "a dispensation sent to chasten and humble us." If Providence had been awarded the contract for the construction and supervision of the drainage of Princeton College, the imputation would be justified; but Dr. McCosh knows full well that the authorities of the college are alone responsible for the criminal negligence that converted the *college buildings into breeders of filth-disease;* and the fact that the president shirks the responsibility in his attempt to saddle it on Providence, proves that he is not yet sufficiently humbled. After one or two more such dispensations, it may possibly occur to him that they were sent to make him and his associates more careful of the health and lives of the young men intrusted to their charge.——From the reports of the *Railroad Gazette*, we record the building in this country, during the present year up to the middle of June, of 1613 miles of *new railroad*, as compared with 682 miles reported up to the same period of 1879, 432 miles in 1878, 583 in 1877, 687 in 1876 and 312 in 1875. The same average maintained during the rest of the year, will bring the figures of 1880 up to 3200 miles, which is considerably above the figures of the preceeding six years.——In our late references to the uses of a *new metallic compound*, known as "Spence's metal," we stated that among other thing it was applicable to making joints in gas and water mains. The London *Journal of Gas-Lighting*, now affirms that experiment and observation with this compound show that, owing to its brittle nature and its rapid cooling, it will be inapplicable for such purposes.——The *Franklin Institute* still continues to faithfully publish the announcement in its *Journal*, where it has appeared, to our certain knowledge for the past seven years, that Uriah A. Bryden, Esq., of Boston, Mass., has deposited with the Franklin Institute of Pennsylvania the sum of $1000, to be awarded as a premium to "any resident of North America who shall determine by experiment whether all rays of light and other physical rays are or are not transmitted with the same velocity." There has been but one applicant, thus far, for this award, but his memoir was not esteemed to be worthy of it.——The *Vesuvian Railway*, which has lately been opened for travel, is said to be very well patronized. The ascent is on a fearfully steep grade. For the first quarter of the road, it is 40 in 100; then for a considerable distance it averages 63 in 100; and toward the top it tapers down to 48 in 100. The ascent is made in about seven minutes.——It is now believed that the New York terminus of the *Hudson River Tunnel* will be on the west side of Broadway below Bleecker street, where two blocks of land will be secured for a depot, into which will come the trains of the Erie, New Jersey Central, Pennsylvania, Delaware, Lackawanna & Western, and other less important railroads. Other projects involving an extension of the tunnel are talked of, but there is no substantial evidence to support them.——For the first time in the history of this country, it is said, we are to have a census that will give us tolerable reliable *statistics relating to our manufactures* and our methods of production. The specialists chosen for the various branches have been selected with judgment, and the details which they are instructed to collect and report are much fuller than in any preceding census.——The Dundee Harbor Board and Town Council have petitioned Parliament to suspend the standing orders of the House of Commons, to allow the North British Railway Company to present a bill during the present session, for the *restoration of the Tay Bridge*. The petitioners make the point that the bridge was of incalculable benefit to commerce and the traveling public, and urge that its speedy restoration is a public necessity.——Professor Bauschinger has lately tested some iron taken from a chain bridge built in 1829, and found that after 50 years of service its strength and elasticity had not altered perceptibly from what they were reported to be at the time they were put to service. The fact that *age has little effect on the quality of iron* is likewise verified by the result of tests made by Professor Thurston, of pieces of the wire cable of the historic Fairmount Suspension Bridge at Philadelphia, lately taken down after forty years of service. The tested pieces were found to have a tenacity, elasticity, and ductility fully equal to the best wire of the same size found in the market to-day.

Practical Results from Dephosphorization.—From the reports of the discussions of the subject at the late meeting of the British Iron and Steel Institute, it appears that at length the process of dephosphorizing by the use of the basic lining and basic mixtures, has attained to the dignity of a practical and commercial success both in England and in Germany, where it has received special attention.

The results of the practical operation of dephosphorization, from these discussions, would seem to be much more satisfactory as to the quality than as regards the quantity of the product which it has been found possible to turn out. The maximum production thus far from phosphoretic pig has been 541 tons per week from a pair of converters, or about 20 per cent of present American practice. The quality, however, is represented to be remarkable. From the result of analysis of thirty-six blows at the Sheffield works, reported to the Association by Messrs. Holland & Cooper, the average percentage of phosphorus was ·056 per cent, the highest being ·101 per cent and the lowest ·019 per cent. The usual percentage at these works is represented to be ·04 to ·08 per cent.

The Hörde Works in Westphalia, however, appear to have been able to realize the best results in dephosphorization; for the claim is made that at these works, steel has been made containing only ·03 to ·06 per cent of phosphorus, from pig-iron containing more than 2 per cent of phosphorus. It is not surprising, in the light of this achievement, that the German iron-masters should regard this result with special satisfaction. Indeed, for Germany, where phosphoretic ores abound and pure ores are almost unknown, the practical success of the basic process is of the greatest importance.

In this country, nothing seems as yet to have been attempted with dephosphorization. The *American Manufacturer*, in referring to this fact, is disposed to explain it on the ground that our works are now so driven that they are taxed to the utmost of their capacity, and have no time at present to try new experiments, which would certainly curtail their product. When the enlargements now in progress at several of the works are completed, our contemporary thinks there will probably be a few converters to spare, in which the process will be tried, and there is every reason to believe that its success with us will be as great as it has been demonstrated to be in Europe.

Assaying with the Spectroscope.—As the question of employing the spectroscope for the practical assaying of the precious metals is again mooted, and in fact referred to in some quarters as an accomplished fact, it may be well to present in brief a *résumé* of the actual results attained in England and in this country, in the effort to solve this highly interesting problem.

The earliest experiments made with the view of doing quantitative work with the spectroscope were made in London, by Mr. W. C. Roberts, of the London Mint, several years ago, at the instance of Mr. J. Norman Lockyer, the distinguished spectroscopist; but these results, which will be found recorded in the *Chemical News* and *Nature* (London), for the year 1872, were highly unsatisfactory, so far as concerned the practicability of the process.

With much more thoroughness, and with a greatly improved apparatus, designed for the special purpose of these experiments, Mr. Alexander E. Outerbridge, of the Assay Department of the United States Mint in Philadelphia, made a careful investigation of the question some years later, and obtained the following very interesting results:

He found that the spectroscopic method is, in one respect, far too sensitive and minute, and, in another respect, far from being minute enough to answer the purposes of assaying. The experiments made by Mr. Outerbridge were instituted to test the practical value of Mr. Lockyer's, upon which he (the last-named) had founded a theory of possible quantitative analysis with the spectroscope. This observation was as follows: "When a powerful inductive coil is employed, and the distance between the electrodes is gradually increased, certain of the lines in the spectrum break in the middle, and, upon further increasing the distances between the electrodes, the hiatuses in the spectrum lines increase proportionately, until the lines themselves disappear." The value of this method on the working scale was found to be unsatisfactory. Mr. Outerbridge found that the visible differences in the spectra of two alloys of considerable difference in composition were but slightly appreciable, and that when the constitution of the two alloys whose spectra were compared was more nearly identical, the differences in the spectra were quite unappreciable. A variation, for example, of $\frac{1}{1000}$ required an effort of the imagination to detect any difference. Again, the quantity of metal vaporized in the process, Mr. Outerbridge affirmed, was too infinitesimal to give safe results for a large melt, since this would be affected by the least want of homogeneity of the alloy. He found that the loss of metal for each spark was not more than the millionth of a grain.

Another difficulty detected was the fact that while the spectroscope is very sensitive to pure metals, a comparatively large quantity of gold may be present in an alloy and the spectroscope not indicate its presence. He found in this connection that, for example, in an alloy of gold and copper containing from two hundred to two hundred and fifty parts of gold, the spectrum of the precious metal was scarcely visible, and the same want of sensitiveness was observed to hold good with other alloys. His conclusions from the foregoing facts and observations are given in his own language, and though they do not finally dispose of the question, they are certainly decisive in establishing the impossibility of the employment of the spectroscope for quantitative work until some new principle of operation shall have been discovered. Until this takes place, the loose statements of late circulated concerning the probability of assaying by the spectroscope must be accepted *cum grano salis*.

Mr. Outerbridge concludes, "It is not impossible that future discovery may succeed in harmonizing apparent inconsistencies, in eliminating the sources of error, and in reducing the operation to more practical certainty; but in the present state of spectroscopic science, so far as I have been able to perceive, I have arrived at the opinion, not without regret, that *assaying by means of spectrum analysis is impracticable* for the purposes of mint operations."

THE WELSH COAL TRADE.

Messrs. TELLEFSEN, WILLS & Co., of Cardiff, report the state of trade for the month ending June 15th, 1880, as follows:

CARDIFF.—The demand for steam coal continues good, and prices remain unchanged, the supply being fully equal to the demand. The shipments to the end of May were 289,960 tons in excess of those to the end of May, 1879. No. 3 Rhondda coke has continued to fall in price, but No. 3 Rhondda coal still obtains last month's prices. When prices advanced, the price of coke went up much more rapidly than that of the coal from which it was made: the price of coke is now falling rapidly to its normal position.

Freights outward to the Mediterranean and Black Sea have, during the past month, had a downward tendency, on account of those homeward having improved. Those outward to the East Indies have also declined, but homeward freights thence are to be obtained at fairly remunerative rates. The export of iron to America has decreased considerably, there having been very few orders in the market for the States, from either the United Kingdom or other European ports. Rates to the French ports

have advanced some three pence per ton, but there is still a great scarcity of orders for short voyage and coasting freights. There are a number of sailing ships now in our docks ready to accept such employment the moment there is an improvement in the rates. A demand still exists for two or three steamers to take coal hence to Montreal. Baltic freights from this Channel have been unusually dull during the past month, and there seems little hope of a revival.

GENERAL MINING NEWS.

ARIZONA.

HARSHAW.—The Harshaw *Bullion* of the 16th ult. says of the property of this company: The recent development in the 250-foot level of the Harshaw mine establishes the permanency of the vein beyond all question. The width of ore horizontally crossed was over 16 feet, and the assay value (actual average, taken by cross-section) over $90 per ton. At right angles to the dip of the vein, the width of rich ore is over 11 feet. The ore is identical in its characteristics with the surface, namely, free-milling chlorides of silver, without admixture of any other metals except gold. On the slope of the vein this cross-cut opens 413 feet of "pay-backs." In the vertical shaft (No. 6), on the back vein, which is now down 52 feet, two rich pay-streaks have been encountered, both dipping sharply to the northeast; the upper streak is over 12 feet thick, and samples right across its entire face $86 silver. The streak is underlain by 9 feet of vein-matter carrying more or less ore, and this vein-matter is again underlain by 6 feet of free ore, sampling $58 in silver. This shaft is down 52 feet, and no foot-wall has been reached yet. No. 5 shaft is down 75 feet vertically, and the bottom is in the upper stratum of the No. 6 vein. Shaft No. 4, in the front vein, is down 109 feet in rich ore. The west drift from the bottom, to connect with No. 3 (down 75 feet) is in fine ore. Up to last Saturday night, the actual distance sunk and driven by this company since its purchase of the mine last year is over 3000 feet. The average weekly work measures about 125 feet, sinking and drifting. Not a foot of stoping has yet been done in the mine, and the dumps are covered with rich ore.

RICHMOND BASIN.—The *Silver Belt* of the 19th ult. says that it is informed that the Nugget mill will be running next week, also Baldwin or Mexican, giving the Basin the benefit of fifteen stamps. At the Mack Morris, six men in the last three weeks have increased the amount of ore on the dump at least four times the amount heretofore in sight. At the Silver Nugget, assorting and grading ore is the principal feature; it is taking out at least $1000 per day, with four men.

CENTRAL ARIZONA.—A correspondent of the Phœnix *Herald*, writing from the Vulture mine, the property of this company, says that a large body of men have been at work here for the last month, making sheet-iron pipe intended to carry water to the mine, 12 miles distant from the river. I think the pipe is all made and ready for laying. The mill, which is built close to the mine, is the fourth that has been built for the Vulture mine, and is a massive and substantial structure; when completed, the entire building will be 170 feet long and about 46 feet wide. The mine was discovered in 1863, and sold to a company who erected a mill near Wickenberg. The mine was worked with success for a while, but was finally abandoned. The next owners of the mine built a mill a few miles below Seymour, and finally sold the mine to the present company, who put up a twenty-stamp mill in Seymour. The company, finding that it paid to freight the ore twelve miles, were not slow to see the profit and advantage of having a mill at the mine; consequently, an eighty-stamp mill is erecting at the mine. Two inclines are being sunk and are down a good way; each of which is provided with a car which runs on a track and drawn to the surface by horse-power. The old shaft descends perpendicularly about 200 feet, then comes a 75-foot tunnel or level, and at the end of it another shaft goes to a depth of 160 feet, making the total depth 360 feet. There have been thousands of tons of rock taken out from this mine, till that which was once a hill of no mean altitude has been quarried out till now it is an immense hole, two or three hundred feet across.

TOMBSTONE DISTRICT.

From the *Epitaph* of the 19th ult. we extract the following:

GIRARD.—The new steam hoisting-works on this claim are now ready to be set in motion, and it is the intention to start the engine next week. The working-shaft is down 170 feet, and is in lively-looking quartz and some mineral. It is not expected to reach the principal ore-body at a less depth than 200 or 250 feet.

CONTENTION.—At the north end of the drift, on the 262-foot level, the miners have run a cross-cut through an immense ore-body, which constitutes the important strike of the week. The exact width of the ore-body we have not learned; but when our reporter was at the mine, the cut was twelve feet in very rich ore. A cross-cut run east on the first level struck into some small pockets of handsome white quartz, carrying a large percentage of horn-silver. This indicates the existence of an ore-body on the east side of the claim, heretofore unknown.

TOMBSTONE M. AND M. CO.—In the Tough Nut mine, the winze from the 113-foot level, sunk 135 feet due east from the main shaft, is down 65 feet in fine carbonate ore. From the bottom of the northwest shaft, a drift was run west; from this drift a winze was sunk 50 feet. From the bottom of this winze, a prospect-drift is running toward the old Defense shaft. In this last drift, the miners have cut along the side of an ore-body for 20 feet. The outlook at present is the very best, and the ore-dumps are ahead of the supply required daily for the mill.

SULPHURET.—The new steam hoisting-works are completed, and will be started up next week. In the mean time, work is pushed on both the 200 and 250 foot levels. The new shaft is down 165 feet. The distance from the old to the new shaft is 220 feet. Both the levels will have to be driven yet about 75 feet to connect with the line of the new shaft. During the past week, some handsome ore has been taken from the levels.

PECK DISTRICT.

THE SILVER PRINCE.—The Prescott *Democrat* of June 18th says of this mine, which is located in the Peck District: News has just reached town of a rich strike in the Silver Prince. The workmen in the lower tunnel have struck a body of ore four feet wide, and it is steadily widening. One foot of this ore-body exceeds in richness any thing yet struck in the territory. From careful assays, it is found to average about $4 per pound, or $8000 per ton. Rich chlorides and lumps of horn-silver as large as pigeon's eggs are found all through this wonderful deposit. The price which they paid for the property is already in sight, and the indications for opening up one of the finest mining properties on the continent are unexcelled.

CALIFORNIA.

CALAVERAS COUNTY.

The *Chronicle* of the 19th ult. says: At the Gwin mine, work is being pushed energetically and systematically. Rock, to keep the batteries in motion, is taken from the 500 and 600 foot levels, south of the main shaft. At Sheep Ranch, the Wallace & Ferguson and Chavanne mines are looking and paying better than ever. We learn that the product of the Wallace & Ferguson averages about $18,000 per month. Very rich rock is taken from the Chavanne mine, but we are unable to approximate its yield. In Jesus Maria District, the principal mines are the Whisky Slide and Hoosier, upon both of which work is vigorously urged. A mill is on the Whisky Slide, the machinery for which is all upon the ground.

BODIE DISTRICT.

For the latest news from the principal mines of this district, we would refer our readers to the superintendent's reports published under the head of "OFFICIAL LETTERS," in another column.

COLORADO.

BOULDER COUNTY.

A correspondent of the Boulder *News and Courier* reviews the mines of Caribou, in that paper of the 25th ult., from which we make the following extracts:

CARIBOU.—At present, the Caribou has to show a splendid shaft-house, 50 × 160 feet, with probably the finest hoisting-apparatus in Colorado, embracing two friction-spools, 60 horse-power engine, etc. Its main shaft is fully 800 feet deep, with drifts innumerable. It is working about 80 men. The ore is all treated at its own mill at Nederland, six miles below this point, by the chlorination and amalgamation process.

NATIVE.—Forty men are working here. The main shaft is 500 feet deep, with many drifts at various levels.

SHERMAN.—The shaft is 325 feet deep. At a depth of 110 feet, a tunnel-level has been worked 100 feet along the vein, and produced about $250,000 in money. From this level down, the superintendent has sunk the shaft, on good mineral all the way, and the mine is now in capital working order.

SEVEN-THIRTY.—From a shaft 400 feet deep, there is a drift of 360 feet, where the miners are at work taking out rich ore from a large crevice. Besides this, there are drifts of the following lengths, and levels not worked at present, but all showing in stopes and breast, and along the way, good mineral to be attacked in due time: Three hundred-foot level, drift 140 feet long; 235-foot level, drift 325 feet long; 180-foot level, drift 235 feet long; 120-foot level, drift 225 feet long.

CLEAR CREEK COUNTY.

FREELAND.—The Georgetown *Courier* says: The Freeland level, the lowest and main working-level, is in over 1800 feet horizontally, and the breast has reached a perpendicular depth of about 925 feet. There remain about 650 feet of unexplored ground, at this level, between the breast and the western boundary of the company's property; and when the boundary-line is reached, the depth gained from the surface will be nearly 1100 feet. The level is driven at the rate of 140 feet per month; and if the present rate of development is kept up during the coming six months, an average of 3850 fathoms of ground will be opened each month. The Minnie level, 225 feet above, is in about 1750 feet, and 250 feet from the westerly boundary. About ten tons of first-class ore, worth $80 per ton, and 150 tons of concentrating-ore, are mined daily, the product of the mine being limited to the capacity of the company's mill and the old Collom mill, just above Idaho Springs, which treats 35 tons per day. The general plan for sinking a deep shaft, commencing at the Freeland level, has been definitely arranged. The main shaft is to be 6 × 16 feet in size, substantially cribbed with 12-inch timbers, and machinery will be employed capable of going to a depth of 2000 feet. A giraffe capable of holding twelve tons of ore will be used for hoisting. It will run on T-rails laid upon the incline of the lode, and the ore will be discharged into cars and taken to the mill.

FAIRMOUNT.—The *Miner* says that the shaft is 176 feet deep. Philadelphia tunnel, run to strike the Fairmount and Shafter lodes, is in 176 feet; 240 feet more will have to be added before the lodes are intersected. In the main shaft of the Fairmount, there are from 10 to 12 inches of black oxide of copper and pyrites of iron, which runs 11 ounces in gold and 25 ounces in silver. In the winze, there are now about 10 inches of the same quality of ore. In the main shaft, the ore-vein has been pinching up to some extent, but is widening again. Work is prosecuted night and day on this property, 23 men and 2 horses are employed, and Ingersoll drills will be soon used in the tunnel.

GILPIN COUNTY.

HIDDEN TREASURE.—The *Register-Call* of the 21st ult. says that this mine is producing ore from the 1000-foot levels which is yielding under stamp treatment an average of 10 ounces gold per cord. Sinking, it is understood, will be resumed shortly. The company's 20-stamp mill above Black Hawk, last week cleaned up 111½ ounces of gold, the total production of the mine for the week being 153 ounces of gold, having a currency valuation of $2448, from mill-dirt alone. The output of smelting iron for the period under review is fully up to the former standard.

EMERSON.—The Emerson Gold and Silver Mining Company is sinking a winze to connect with the lower level of the main shaft of the Emerson mine, to better and more fully ventilate that mine. This accomplished, the mine is to be sunk to a greater depth and lower levels inaugurated.

GRIZZLY.—This company has a light force of miners engaged in stoping out a pillar of ground in the back of the 140-foot east level. The shaft is down 210 feet, but, owing to light air, further development through sinking has been suspended.

GREAT REPUBLIC.—This company is working the Bangor lode west of the Pewabic tunnel-entrance. On the 21st ult. the miners were engaged in putting in sets for the purpose of lagging up the hanging-wall near the bottom of the shaft—50 feet deep—to secure the ground, which is very scaly. The shaft for 25 feet is perpendicular, from which point the crevice pitches north at an angle of about 40 degrees. The crevice is forming into good pay, and within a short distance will undoubtedly be more closely defined than heretofore. The same corporation is running a level from the west shaft on the Pewabic, to connect with the one being driven west from the Perrin shaft, east of the main shaft 490 feet.

LAKE COUNTY.

AMIE.—The Leadville *Democrat* of the 22d ult. says that the ore output of the Amie must necessarily be somewhat limited for the present; but as soon as the new engine arrives and is placed in position, it promises to exceed the productions of the past. The company being well supplied with ore-houses, the great bulk of ore mined at present is stored away until the railroad shall reach Leadville, when fuel will be cheaper and a corresponding reduction in the price of smelting is expected.

The *Herald* of the 23d ult. says that a full force is at work, and the shipments of ore are from 30 to 40 tons per ton. The rich ore-body in this mine continues to increase as development is pushed forward, and the output will be very large for a long time to come.

BIG PITTSBURG.—The *Democrat* says that the Pierson shaft at a depth of 166 feet struck a contact of 8 feet, containing a two to three foot vein of hard carbonates. A drift has been begun to follow the mineral deposit and connect with the Bates shaft, 100 feet to the southwest. Prospect-work on the Pittsburg lode is also prosecuted with vigor. The McCormick shaft is down 225 feet with a drift, 90 feet long, running northwest, from which they are sinking now.

CLIMAX.—The connection is made from the new No. 5 shaft to the No. 3 workings, where the rich and extensive ore-body has been developed, but the drift is not yet sufficiently opened to handle ore through. This will soon be accomplished. The No. 3 shaft is very small, and with only a whim power, the hoisting facilities are limited. In a very short time, the ore will all be hoisted through the No. 5 shaft.

EVENING STAR.—The *Democrat* of the 23d ult. reports that a discovery of no little importance, and that promises to add considerably to the value of the Evening Star mine, has been made. One hundred and thirty-five feet from the surface is level No. 2, running in a southwesterly direction. To afford better ventilation, it was decided to connect this shaft with that of the Catalpa, adjoining on the southwest, and about 160 feet distant. With this end in view, drifting had been steadily carried on until 140 feet from the shaft had been reached, when a fine body of gray sand carbonates was found. The discovery was made within a few feet of the line of the Catalpa. The vein is very clearly defined and has a dip of about 30 degrees to the northeast. The ore runs about 100 ounces of silver and 30 per cent of lead. A winze has been commenced at this point to connect the drift with the third or main level, which is a little over 100 feet lower down. The large ore-bodies of this mine, from which shipments have been made heretofore, are some distance north of the new find, and lower down.

The drifts and cross-levels here show a vein of soft sand carbonates from 6 to 25 feet in thickness, the bulk of which will net $60 to the ton. The vein has a strong dip to the northeast, and increases in thickness as it gets deeper. Very little ore will be taken out for the present, but development-work is carried on vigorously. Connections will be made from the end of the drifts or inclines following the ore, with the third level, when the ore can be taken out at much less expense, the great body of it now being below the second level. No stoping has been done as yet, and all the ore taken out is from the drifts and cross-levels, which in many places are 12 to 18 feet high.

IRON MINE.—The Iron Silver Mining Company has very nearly reached its former standard in point of men employed and ore shipped. About 600 names are on the pay-roll, and from 150 to 200 tons of ore are shipped per day. A small force is kept at work on the Bull's-Eye lode, south of the Iron, driving the incline, timbering and making other improvements; but an injunction prevents the shipping of ore, of which there is a large quantity on the dumps. Some work is also doing on the Iron Hat, located just below the Iron. In continuing the incline, it has been necessary to take out considerble ore, which is sent to the smelters as fast as it is mined. The *Democrat* says that the great abundance of lime, which expands on being exposed to the air, makes heavy timbering a necessity. A site is preparing for the new engine-house, north of the north incline, in which will be placed a 100 horse-power engine, which is on the way from the East. Both inclines connect with the new ore-bins of the elevated railways; and when the improvements are all completed, 500 tons of ore per day can be handled with ease. The new shaft-house of the north incline will exceed the one which was built the past season over the incline at present in use, and which is one of the most complete and best arranged to be found anywhere.

HIGHLAND CHIEF.—This mine is at work again, but does not employ as many men as before the strike. Ore is mined from the tunnel-level, and shipments will commence soon. Work on the lower levels will begin as soon as increased hoisting facilities can be procured, and work will be vigorously prosecuted and large outputs of ore may be expected. A new 40 horse-power boiler and a 30 horse-power engine are on the way.

LEADVILLE CONS.—The *Democrat* of the 23d ult. says that the manager of this company is pushing work, and has quite a force employed again, though devoting most attention to developing the properties in his charge. The Carbonate mine is shipping about fifteen tons of high-grade ore per day. Work on the Shamrock will be commenced in a few days, and it being necessary to do some development and get the mine into proper shape for working, no ore will be taken out just at present. The pump in the Henrietta has been at work, and the water is now nearly all out of the shaft. Prospect-work on the West Shamrock and Yankee Doodle, also belonging to the Leadville Consolidated, is prosecuted with energy.

LITTLE PITTSBURG.—The Leadville *Herald* of the 24th ult. says of the property of this company: From the Little Pittsburg Consolidated mines, the ore-shipments yesterday amounted to 74 tons. On Tuesday, the amount shipped was 75 tons, and on Monday about the same amount. The mine is again coming to the front, and has a large body of ore. The returns from this ore have not yet been received, but the ore is known to be of good grade. To-day there will be a large lot shipped, that assays from 200 to 300 ounces to the ton.

LUELLA.—The *Democrat* says that this mine, which has been hoisting its ore through the shaft of the Tucson for some time past, has been obliged to suspend on account of foul air. Sixty men employed in this mine were discharged on the 17th ult. From the foreman of the Tucson, it was learned that the manager of the Luella would, in all probability, put their own shaft into working condition soon and erect the necessary buildings, and supply them with suitable machinery. The difficulty with bad air is not a serious one, as it will not require much drifting to connect the Luella and Tucson shafts, the latter already having a drift 170 feet in the direction of the Luella.

MORNING STAR.—This mine is working a small force, and shipping not over twenty tons of ore per day. A large amount of good ore is in the ore-houses. It is the intention to hold as much of the ore as possible, in hopes of realizing a better price at an early day. Work on the new cage-shaft, a short distance above the present one, is again resumed, and a shaft-house and an engine will be placed over it as soon as possible.

ROBERT E. LEE.—The *Democrat* of the 22d ult. says that the ore output of the day previous was the largest of any day since the commencement of the strike, and will continue increasing until the maximum output of former times is reached. The new engine was expected in a week or ten days.

SILVER CORD.—The *Democrat* announces that the development-work lately done shows up a fine body of mineral, from 6 to 7 feet deep, and a series of drifts show it to be a triangle, not less than 75 feet, side measurement. How much larger it may be, can not be estimated. It is 380 feet under the surface, and to the southeast of the shaft. The shipments of this mine amount to about ten tons per day, which will probably soon be increased. A new shaft-house and other improvements are to be made on this property.

LITTLE CHIEF.—The *Herald* says that the large new shaft-house on the Daly shaft is nearly completed, and is one of the finest in the camp. The machinery is being placed in position. The drift connecting the Daly shaft with the old workings is pushing forward every hour. When this drift is completed, and the new hoisting-works are in operation, working the mine will be much simplified, and the cost much reduced. In the mean time, shafts numbered 3, 4, 5, and 7 are in full operation, and the ore output runs from 150 to 200 tons per day.

COLORADO PRINCE.—The *Herald* says that within the past few days the mine has opened out into richer bodies of mineral than ever. The general manager, Mr. Daly, had a very pretty sight to show our reporter yesterday, which was 400 ounces of gold retort. This retort is about 650 fine, or a value of about $13 per ounce. This would make a total valuation of about $5200. To obtain this, 400 tons of ore had been run. This is not a high-average ore, but so cheap is the cost of treatment by the stamp-mill process that a handsome profit is realized therefrom.

A dispatch from Leadville, dated June 29th, says that the Denver & Rio Grande Railroad reaches Malta, in the suburbs of Leadville, to-day, and will probably be in the city on Saturday. This morning, ground was broken for the Leadville, Ten Mile, and Breckenridge road, which will be built this summer.

SUMMIT COUNTY.

The following notes are taken from a Breckenridge correspondence of the Denver *Tribune*: South of the city, and at Nigger Hill, lie two groups of twenty claims each, belonging to the Florence Tunnel Site Company. On each of these, there is a tunnel under rapid progress. The superintendent says that the work on both these will be prosecuted until mineral is struck, at whatever depth. The Bon Ton lode, belonging to the westerly or Barton group, shows hard carbonates at a depth of only twelve feet. The other, or Florence, at a depth of 75 feet, has cut two feeders, which, however, have not been followed to ascertain to what they are leading. On Humbug Hill, the continuation of mineral to the east, there are many flattering prospects. On the Independence lode, on the south side of this hill, there is a tunnel in 165 feet, giving a depth of 75 feet from the surface. A large body of galena ore has been struck in the tunnel, running 47 per cent lead and from 8 to 80 ounces silver ton. In a second tunnel, 20 feet from the surface, 6 feet of lead carbonates have been discovered. In the Spruce, it is claimed that 2½ feet of carbonates have been struck.

The Kokomo *Times* says that a New York company is preparing to start a diamond drill on the top of Battle Mountain, somewhere near the Clinton mine, for prospecting purposes. It intends to lower 1000 feet, and no doubt will find some large deposits by the time it reaches the end of its drill-handle. This company has some thirty or thirty-five claims on the mountain, and they are well located.

The Forest Consolidation is shipping twenty tons of ore daily. The main incline is connected with the surface. A double track is being placed. Fifteen horse-power hoisting-machinery will arrive in a few days from Denver.

At the Wheel of Fortune, a new working-shaft is sinking 5 by 15 feet, preparatory to putting in motive-power. The machinery is now on the way from Denver. It will be in shape to ship ore in thirty days.

IDAHO.

ELMIRA.—The Idaho *World* says that the Elmira Company, at Banner, has about 30 men leveling for the hoisting-works and sinking the new shaft, which is down fifteen feet, and putting down a shaft from the face of the Crown Point tunnel, 180 feet from the surface. The latter follows down on the vein, and very rich ore is extracted. The new shaft has been commenced some distance from the ledge, which, it is estimated by the dip, will be reached at a depth of 500 feet. As soon as a depth of 100 feet is attained, a cross-cut will be run to the vein, when extracting ore will be commenced.

TREMONT.—The *Avalanche* says that the site of the new quartz-mill and furnace is laid out, and nearly all the machinery on the ground. The entire building will cover 90 × 80 feet, with a roasting-furnace 18 × 9 feet. The engine to be used is about fifty horse-power. Ten stamps will be put in operation, 750 pounds each. Facilities will also be furnished for ten additional stamps when required. All the modern improvements will be supplied in the shape of self-feeders, rock-breakers, drying-kiln, etc. It is estimated that the furnace will roast 10 tons of ore per day. The mill will also contain machinery for reducing ore by the wet process.

MAINE.

The Sullivan *Bulletin* has the following notes concerning the mines of their district:

SULLIVAN.—Good progress is made erecting the mill. Battery-frames and furnaces are now being put in place. Shaft No 2 has attained a depth of 115 feet, and every thing is looking well.

PINE TREE.—The westerly drift from the 125-foot level is in 41 feet, and is looking as well as usual. The character of the ore is improving rapidly.

PORTLAND SULLIVAN.—Work on this mine is progressing well. The present appearance of the ground is encouraging. The shaft is down 23 feet.

WAUKEAG.—In the cross-cut from the 142-foot level, at a distance of 60 feet south of the shaft, the hanging-wall of the Sullivan lode was encountered, on the 21st inst. The vein was cut through and found to be three feet wide, thoroughly mineralized, and carrying native silver and sulphurets of silver, and is of the same character as that taken from the Sullivan mine. Drifts will at once be started at right angles, and the extraction of the rich ore from the vein will be commenced.

MONTANA.

From recent issues of the *Butte Miner*, we condense:

GAGNON.—The daily output continues at about 50 tons, the ore being entirely of a base character and carrying a considerable percentage of copper and iron. The drift, running east, 250 feet from the surface, is in about 150 feet, showing in the face a 5-foot vein of ore of which the average assay value is about $65 silver and 30 per cent copper. The water is well under control and the machinery is in excellent order. The product of the mine is shipped to the Colorado smelter, which is now running almost exclusively on Gagnon ore.

STAR WEST.—During the past week, the erection of a whim has been commenced, and the work of sinking the main shaft has been temporarily delayed. The shaft has attained a depth of 80 feet, and the vein from the surface has shown material improvement. The ore in the bottom is 3 feet wide, and assays $200 per ton. On the completion of the whim, it will be sunk as soon as possible 100 feet, and drifts started east and west to correspond with those of the first level. Ten tons of $250-ore were shipped to the Colorado smelter yesterday. About 20 men are employed.

GRAY ROCK.—In the main shaft, little is going on at present, except that the north drift from the east end of the 70-foot level is pushed ahead to tap the free ore-ledges lying parallel with the main ledge some distance north, and the existence of which was demonstrated by the cross-cut north from the west end of the level. In the west shaft, ten men are extracting ore, of which the daily output continues at about 35 or 40 tons. The east level is in 25 feet. The level west is in the same distance, but work was delayed for want of the iron necessary to make a turn-table for a car. The stopes in the east and west 40-foot levels are in excellent shape and are producing well.

STEVENS.—The west drift from the bottom of the 40-foot middle shaft has attained about 40 feet, with no perceptible change in the character of the ore-body, which remains two feet wide, compact and clean. It assays from 60 to 70 ounces per ton, and is rapidly accumulating on the dump.

ALICE.—The recent fine weather has so far improved the roads that a considerable amount of lumber has been brought from the timber districts, and operations on the new Alice mill have been resumed. A force of carpenters has been given employment and is now engaged in putting up the frame-work. The skeleton of one roasting-room is already erected and the ore-floor is rapidly nearing completion. Grading will be finished in about two days.

ANSELMO.—The new shaft, about 150 feet west of the shaft-house, is 15 feet deep in what appears to be the main ledge, which is at that depth one foot wide, the ore, of course, being free. Samples of the ore assayed at the Dexter mill, where it will be worked, showed for the first-class, 410 ounces, and for the second class 123 ounces.

NEVADA.

SUTRO TUNNEL.—The Sutro *Independent* of June 21st says: During the week ending the 15th instant, the header of the north lateral branch of the Sutro Tunnel was advanced 102 feet, which, considering the nature of the ground passed through, was excellent progress. During the same week, the header of the south lateral branch was advanced only 51 feet. Last Thursday, the experiment of running the hot water from the north end mines into and through the north lateral branch, via the drift leading from the C. and C. shaft, was made, and found to work satisfactorily. Heretofore, this water has been conducted into the main tunnel through the 1640-foot level of the Savage; but the new course, which was adopted yesterday, saves considerable pumping and does away with the expense, on the part of the Savage Company, of keeping open its 1640-foot drift. About 190 miner's inches of hot water flows through the tunnel, and the quantity of cold water about 40 miner's inches.

EUREKA DISTRICT.

The Ruby Hill *Mining News* of June 19th has the following notes of Eureka mines: In the Eureka Consolidated mine, the new shaft is progressing favorably. There are in place 17 sets of timbers, 5 feet apart. The shaft is sunk, a the present writing, 15 feet below the last set of timbers, making a total depth of about 100 feet. Some delay has been caused during the last week, owing to insufficiency of strength in the steel used for the Ingersoll drills. This has now been remedied. Thus far, the shaft is certainly a splendid piece of work.

There is a double shift working on the Seventy-Six mines in New York Cañon. The main shaft is sunk 32 feet deep, and will be run 200 feet before much prospecting is done. It is a two-compartment shaft, 8 × 8 in the clear, and will be substantially timbered with sets of square timbers from the surface down. At a depth of 26 feet, a chimney of ore broke through the side of the shaft, which, on being prospected, has opened out to be quite an extended body. Assays from this have been had which run $240 in silver and 66 per cent lead. A 30 horse-power engine of the most approved make has been purchased in New York, and will be put in place on the Keystone shaft as soon as it arrives.

NEW MEXICO.

COSETTE.—A correspondent of the *Mining Chronicle*, Silver City, says that this is a contact mine, the mineral ledge lying between lime and quartzite, with about 800 feet exposed and showing good metal. There are six openings on the property; the first of these is down 130 feet, the ore improving as progress is made. We saw some very fine specimens of ore taken from this shaft, showing plenty of horn-silver. But the richest find yet is on the new shaft just opening; here, a few feet from the surface, is very rich ore abounding in horn-silver, which can be cut with a knife, and assaying at the least 4000 ounces to the ton. Thirteen men are employed, and a larger force is shortly to be added. The ore is shipped daily to the company's mill in Silver City, which is constantly running reducing the same.

UTAH.

NORTHERN CHIEF MINING COMPANY.—Concerning the property of this company, about which we have had numerous inquiries, we print the following, received from our regular Salt Lake correspondent, and dated June 23d: This property consists of 9 claims, namely, the Queen and two veins cut in the Queen tunnel, the Experiment, the Barstow, Summit, Liberty, Red Cloud, and Northern Chief. Considerable work has been done on the Queen, which shows a 4-foot vein, 2 feet of which is pay-ore that will go about 100 ounces of silver. The Experiment has a 14-inch pay-streak in a 4-foot vein; this ore samples 63 ounces. The vein in the Summit carries $50 ore. The Barstow has a 10-foot vein, with 6 to 20 inches of 21-ounce ore. The tities to all these claims are, I believe, straight, and I believe the Northern Chief to be on the same vein as the Victor mine, in which there was a very rich strike made a few days since. I regard some of these properties as being very good, especially the Queen, in which a force of five men is worked. They constitute a very good group of prospects, but need development.

Concerning the strike in the Victor mine, the same writer, under date of June 23d observes: A flattering strike has been made in the Victor mine, in Bingham Cañon. The owners have been conducting their developments with a view to exposing large bodies of low-grade ores, which, it was thought, was all the mine contained; and their works have already brought to light immense bodies of this rock, which averages twenty-one per cent lead and fifteen ounces of silver to the ton. A few days since, in making a raise from the lower tunnel to connect with the bottom of an old shaft, a small vein of new ore was cut. Old miners were divided in their opinions as to its character; some asserting that it was copper-silver glance. But the best authority pronounced it plumbago, and it was therefore cast over to the dump without being assayed. Some days later, however, one of the owners, to gratify his curiosity, had it tested, and was delightfully surprised to find that it carried 8000 ounces of silver and two ounces of gold to the ton. It is needless to say that that which had been thrown away was immediately gathered up and soaked. At this writing, the new ore-seam has been followed about fifteen feet, and its average thickness is from six inches to two feet, with occasional streaks of horn-silver half an inch thick. The vein will sample $1000, and I judge that the developments now show about ten tons of this ore in sight.

HORN-SILVER.—The *Southern Utah Times* of June 19th says that the shaft now sinking to a fifth level is in 370 feet, still in solid ore, and it will be carried 30 feet lower before drifting. Work on the third and fourth levels is actively prosecuted, 90 men being at work in the mine. The workings extend 275 feet northward through the vein-matter, and upon both levels stoping has been carried up a considerable distance above the sill-floors. The floors are six feet apart, and are heavily set with twelve-inch timbers. About midway in these workings, the old cave is encountered, where a section of the mountain fell in from the surface, burying the working-shaft, and tearing through floors and timbers for 100 feet. This occurred last July; and since then, some portions of the ruin have been retrieved, and a few sets of timbers restored. Eighty tons of ore are raised daily by the whim; but rapid progress is made with the new engine-house, in which the new engine is to be erected, and we understand the machinery has all arrived.

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, the full name and address of parties soliciting, and the latest date at which they will be received:

For 300,000 Cross-Ties, 2,500,000 feet Broad Measure; A. A. Robinson, Chief-Engineer, Office Atlantic & Pacific Railroad, Pueblo, Colo	July	5, 1880.
For Cast-Iron Columns, Pilasters, and Rolled Iron Floor Beams; Thomas Lincoln Casey, Lieut.-Col. of Engineers, Navy Department, Seventeenth street, Washington, D. C	"	5, "
For Supplying the Schools under the Charge of the Board of Education, Brooklyn, with Wood; James Clyne, Chairman Board of Education, Red Hook Lane, Brooklyn	"	6, "
For Natural Hydraulic Cement; Thomas Lincoln Casey, Lieut.-Col. Corps of Engineers, Navy Department, Seventeenth street, Washington, D. C	"	8, "
For the Construction of a Superintendent's Lodge, of Brick; Office of the National Military Cemeteries, Washington, D. C	"	10, "
For 15,000 Yards of the Best American Fine Frame Body Brussels Carpet, and 12,000 Yards of the Best American Carpet Lining; F. K. Upton, Assistant Secretary Treasury Department, Washington, D. C	"	12, "
For Furnishing Water for Fire-Hydrants for Public Purposes, and Constructing Water-Works; F. F. McCartney, City Clerk, Omaha, Neb	"	12, "
For Making and Erecting Three Wrought-Iron Steel Bridges; W. A. Roebling, Chief-Engineer, No. 21 Water street, Brooklyn	"	12, "
For Furnishing and Delivering about 250,000 Granite Paving Blocks; W. A. Roebling, Chief-Engineer, No. 21 Water street, Brooklyn	"	12, "
For an Iron Superstructure for a Bridge; Office of Commissioners of Venango Co., Franklin, Pa	"	13, "
For Encaustic Floor-Tiles; James W. Eaton, Superintendent New Capitol, Albany, N. Y	"	14, "
For the Construction of a New Union Passenger Station at Greenfield: H. W. Hartwell, Architect, 10 Post-Office Square, Boston	"	15, "
For Military Supplies; Depot Quartermaster's Office, 1139 Girard street, Philadelphia, Pa	"	20, "
For the Improvement and Enlargement of the Water-Works of the City of Allentown; Edwin G. Martin, Mayor, Allentown, Lehigh County, Pa	"	20, "
For Furniture for the Executive Chamber, etc.; James W. Eaton, Superintendent New Capitol, Albany, N. Y	"	22, "
For Carving the Wood-Work of the Ceiling of the Senate Chamber; James W. Eaton, Superintendent New Capitol, Albany, N. Y	"	22, "
For Gas Fixtures for the Executive Chamber, etc.; James W. Eaton, Superintendent New Capitol, Albany, N. Y	"	22, "
For Lighting the City of Guayaquil; R. & C. Degener, No. 50 Wall street, New York City	"	31, "
For Competitive Designs for the Provincial Parliament and Departmental Buildings; Department of Public Works, Toronto, Ontario	August	1, "
For a System of Water-Supply; T. P. Newell, City Clerk's Office, Joplin, Mo. See advertisement in another column.		

Foreign Contracts.—The contract for 4000 tons of steel rails for the Asturias, Galicia & Leon Railway in Spain was recently awarded to the Seraing Works, Belgium, at £7 18s. (about $38.25) per ton, delivered at Santander or Gijon. This was considerably below the prices offered by English manufacturers, the bid of the Ebbw Vale Company being £9 9s. (about $45.75), and that of the Dowlais Iron Company, £8 1s. 3d. (about $39.02) per ton.

The Midland Railway Company, in England, has just let contracts for between 40 and 50 engines for both passenger and freight service. Part of them were taken by a Glasgow firm, and part by a shop at Newcastle-on-Tyne. The price is not definitely given, but seems to have been not far from £1500 per engine. This large order is said to have been given partly on account of increased business, and partly to forestall an anticipated rise in prices.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, July 2.

Anthracite.

There is an improvement in the demand for coal. In some offices this improvement is quite marked, while in others it is just observable. It is also said that there are indications of a slight revival in the retail trade. Our next report, we fear, however, will show a falling off in business, owing to the intervening holidays. The present improvement is due to the determination shown by the companies to limit production, and to an appreciation on the part of shrewder buyers of the fact that the continued absence of purchasers must eventually result in a very active demand, and higher prices for both coal and freights. We do not, however, look for any marked improvement before the first of August, if even then. There have been several causes of complaint on the part of some of the companies, owing to the actions of others, but these do not appear to have particularly disturbed the harmony previously existing. A notable feature in the production of coal this year is the closeness of some of the companies' output to that of last year, while the Reading Company is standing more than half of the curtailment that has taken place. This company, with the Pennsylvania Coal Company and New Jersey Central, appears to be acting more in the spirit of the agreement than the others, and naturally there is a little dissatisfaction that the statistics should show these inequalities.

The Philadelphia & Reading Coal and Iron Co. has advanced line-prices for July on egg and pea coal.

The production of anthracite coal last week was 391,764 tons, as compared with 401,434 tons the previous week, and 532,401 tons the corresponding week of 1879. The total production from January 1st to June 26th was 9,914,544 tons, as against 11,514,593 tons for the like period of last year, showing a decrease this year of 1,600,049 tons.

Bituminous.

The bituminous coal trade continues to be very quiet. The only thing that has attracted attention has been the sale of twenty thousand tons of Ocean steam coal (Clearfield) to the Fitchburg Railroad. This road has heretofore been entirely supplied from the Cumberland District, and has added to the long list of victories by the Clearfield District during the past two years. The Cumberland operators, realizing their weakness as compared with the Clearfield operators, owing to the latter's lower cost of mining, have prepared an address to the miners, pointing out the necessity of some concession in wages. This address, however, is general in its nature and makes no special demand. It is hardly probable that this action will result in any benefit to the companies.

We publish the following letters from our regular correspondents. Prices will be found elsewhere;

"BALTIMORE, June 30.

"A period of unprecedented dullness has characterized the trade during the month of June. Prices have been firm and generally well maintained; coal being offered at retail at $5.25, as a basis, per ton of 2240 pounds. Some of the city and other annual contracts have been closed, however, at lower rates. Prices for Pennsylvania, Maryland, and District of Columbia coals were made in Philadelphia at the monthly meeting of the Susquehanna Coal Co., the Mineral Railroad & Mining Co., the Summit Branch Railroad, and the Philadelphia & Reading Coal and Iron Co. to-day, and are the same as those prevailing for June. We were led to believe that the price of *stove* would be advanced, but the advance does not apply to this market. We have every reason to look for an active trade here from this time to the close of the season. Dealers by rail have very small stocks, and coal will soon be scarce and the demand *sharp* and ahead of the supply. Consumers, who have been holding off for lower prices, are probably convinced now that *bottom* is reached for the season, and will come forward and buy. Before this date, last year, the whole business for the season had been done; the coal sold and most of it delivered to the consumer. ANTHROS."

"BUFFALO, July 1.

"Prices for July remain unchanged. The demand for anthracite has considerably improved since June 1st, and a still greater improvement is confidently expected for this month. In some localities, irregularities are reported, but a comparison with the state of trade throughout the market at large at the same date during past few years is decidedly gratifying. The action taken by the railroads west of Chicago, in advancing their tariff on anthracite, has prevented any business being done in that territory thus far. The effect of this will be to postpone the movement of anthracite into that country for a month or two longer, and to crowd into two or three months the business which in former years has been distributed over six months. This accumulated movement, occurring, as it will occur, at the same time when all railroads will require cars at the grain centers of the West, will seriously interfere with a prompt delivery of coal at points affected by the higher rates referred to. C. M. UNDERHILL."

"BUFFALO, June 30.

"Prices here remain unchanged for July. There is a little more briskness in the retail trade, and some of the forehanded are beginning to realize that the summer will soon be over, and are laying in their stocks. This has been more noticeable for the past week, fearing an advance on the 1st. The more consumers delay, the more transportation will be taxed when the cold weather comes. Quotations unchanged.

"In soft coals, for steam, prices are weaker, and the nut sizes have declined 25c., and we amend quotations accordingly.

"Coke remains in good demand here and at mines; quotations the same. The Pittsburg cokes are offered much less, but they are not good for foundry purposes; at least have not answered for this market, LEE & LOOMIS."

"CHICAGO, June 26.

"This slip from the *Times* of June 24th is believed to be correct: 'Coal has been shipped of late to this city from Buffalo, by lake, at 55 cents. The coal receipts during last week amounted to 51,184 tons, and the receipts since Jan. 1st, to the close of last week, to 1,166,150 tons, against 939,252 tons for the same time last year. Since Jan. 1st, the coal shipped from here has amounted to 256,407 tons, against 187,970 tons shipped in the same portion of 1879. Trade is quiet, as every body is delaying purchasing until the usual summer decline in prices occurs.'

"There is very little coal selling to consumers. The dealers are receiving lightly, both by lake and by rail. There is a feeling held by the public, who have to buy coal, that prices must yet come down, and then, they say, they will be ready to buy. Of course they will be disappointed. Prices are held firmly by the dealers. RENO & LITTLE."

"CLEVELAND, June 28.

"The activity which characterized the opening of the season has given place to a decided dullness. Comparatively little coal has been shipped from this port for the last thirty days, and we look for but little improvement until the latter part of August or first of September. Prices are lower than my last report, with a downward tendency.

The immense over-production and small demand in some districts have induced so much competition that coal is offered almost at first cost. The operators in the Massillon district were at last successful in reducing the price of mining to 85 cents over the screens, nut and slack free. It was a long and bitter fight, but the importation of colored miners from Virginia soon brought the old miners to their senses. In the Hocking Valley, the price of mining is now 80 cents; but we understand that an effort is to be made, headed by the blast-furnaces, to reduce this price to 60 cents. It is doubtful whether the miners will yield at once; but it is simply a question of time, when they must yield or the mines be closed. The competition of other districts is too great to allow so high a price for mining. The recent great advance in freights from Chicago, Milwaukee, and Toledo has had the effect to raise coal freights, and to make vessels very scarce. F. A. BATES."

"HAMILTON, ONT., June 29.

"There is no change in prices from last quotations. The market is firm, and no prospect of a decline. Dealers here, as a rule, have been buying lightly, it being hard to realize the stability of the advanced prices. I should think the quantity of anthracite imported here this season will be much smaller than usual if a further advance in prices takes place. The abundant supplies of cordwood that can be obtained at a low price will be a check upon the use of expensive coal, and during the present hard times people will economize. Wood can be laid down at this point by rail in unlimited quantities, and will be for some years to come an important factor in competition with coal.
"H. BARNARD."

"LOUISVILLE, June 28.

"There is only one change in prices since our last report. Make coke 10c. per bushel. The last run of coal from Pittsburg gives us a good stock, though the demand is very dull.
"BYRNE & SPEED."

"MILWAUKEE, June 29.

"Western dealers in coal are laying their stocks quite freely, at present Eastern prices, in order to take advantage of the growing rates of freight on the Lakes. Present shipments, however, are going into yards on arrival, as little is being taken by consumers. The indications for prices in the West will not sustain any further advances East, and the present cost must recede if Western produce continues to droop, as present appearances seem to indicate. R. P. ELMORE & Co."

"RICHMOND, June 30.

"The market is very quiet, but little doing, so have nothing of interest to report. Toward the last of the month, when the consumers become satisfied that prices are as low as they are going to be, we may expect a quickening of trade. At present, all are waiting. S. H. HAWES."

"TOLEDO, June 29.

"Continued dullness is the ruling feature in the anthracite trade; buyers are disposed to hold off and await developments, hoping for a break in the combination. We look for an increased movement of hard coal West during July, as we think the action of the companies to-day will rather quiet their fears of a break. The lull in the bituminous business is consequent at this season of year; yet it had a depressing effect on prices, which are unsettled though nominal. GOSLINE & BARBOUR."

PITTSBURG, July 1.

COAL.—The showery weather of the first three days of the present week has raised the rivers sufficiently for tugs to return from below with empty coal craft, but not enough for their descent with cargoes aboard. It is probable that nearly all the discharged barges and boats will be returned and soon on hand, ready again to take in cargoes at the collieries. At present, there is very little mining being done; the men, having had a long season of work, require a respite; besides, they are unwilling to accept the reduced pay offered, 3 cents a bushel instead of 3½, the difference being 13 cents a ton. And as the operators insist upon the reduction as being a fair sharing of the depression in trade, a stand-out exists, which will probably end as such strifes generally do, in the return of the men to their work at the reduced pay. Whenever they will do this, employment will be given them The price of coal is below leaving a margin for fair profit and nothing to cover losses. Why the business is carried on in this way, is owing to there being too many operators engaged in it, a condition always tending to unprofitable competition; and to the Kanawha coal, which enters the Ohio 250 miles below Pittsburg, a decided advantage in the cost of transportation. The changed quotations of last week remain as they were then.

PRICES AT PITTSBURG.

Wholesale, on board.....	5@6 cts. per bushel.....	$1.59 per ton.
Retail, delivered..... ...	8@9 cts. "	2.39 "

AT CINCINNATI.

Wholesale, on board.....	7½ cts. per bushel.....	$1.99 per ton.
Retail, delivered.....10@11	cts. "	2.65 "

AT LOUISVILLE.

Wholesale, on board.	7½ cts. per bushel.....	$1.99 per ton.
Retail, delivered.....10@11	cts. "	2.65 "

AT NEW ORLEANS.

Wholesale, on board...	32½ cts. per barrel.....	$3.15 per ton.
Retail, delivered.....50	cts. "	4.83 "

Bushels are rated among dealers here at 76 lbs.; 26⅓ bushels make a ton of 2000 lbs., nearly.

COKE.—The demand for coke continues to improve in briskness, and the manufacture is kept up with corresponding activity. The consumption is fully 25,000 tons a week, and is growing in volume. Prices are unchanged—from $1.50 to $1.75 per ton of 2000 lbs. on board cars at the ovens.—*American Manufacturer.*

SAN FRANCISCO.—The *Commercial Herald* of June 24th says: "The market seems to be lifeless. As an evidence of this, a small invoice of Lehigh could not be sold otherwise than at retail, the two brokers having it in charge actually peddling it out in five-ton lots. Arrivals during the week include the following: Germania, 1575 tons Wellington; Empire, 795 tons Nanaimo; from Coos Bay—Clara Light, 250 tons; Norway, 330 tons; Gussie Telfair, 340 tons; Louisiana, from New York, 503 tons, etc. The coal from the Nanaimo mines goes to the Pacific Mail Steamship Company under contract. The Wellington goes extensively into household use, as does the Seattle and Coos Bay. The Monte Diablo steam coal is very cheap, and is extensively used by mills, factories, and bay and river steamers at $4@$4.50 per ton. British and Australian coals have now strong competitors in these near-by coast mines, and can only be brought here when cost and freights are exceptionally low. Stokes & Company's Newcastle, N. S. W., circular, of May 13th, says of the coal trade: "In coal charters very few transactions have to be reported since our advices of April 16th, and the demand for vessels for grain loading has considerably slackened. The reduction in the price of the best screened coal by the Association Collieries to 10s. per ton having become generally known, brought forward large orders, the execution of which was much interfered with by the impossibility of procuring suitable tonnage; and now that the vessels are becoming in better supply, a strike of the miners of the collieries has further retarded business. The Non-Associated Collieries continue working, but only selling from day to day, and in some instances have demanded 14s. per ton for coal. We have reason to hope that matters will be finally settled very shortly, the selling price of coal fixed at 10s.; but in the mean time the fact of there being a strike at Newcastle will cause the port to be unfavorably regarded.' The Challenger brings 2330 tons Nanaimo."

IRON MARKET REVIEW.

NEW YORK, Friday Evening, July 2.

The approach of the national holiday has brought business almost to a stand-still. During the week, however, there has been more inquiry and the prices of some articles have improved, the very weak lots which were selling on "private terms" having apparently been absorbed. There will unquestionably be extreme quietness during the next week, after which it is impossible to predict how soon a revival will set in.

American Pig.—We learn of but little business. Some sales of Lehigh brands at $20 for No. 2 Foundry are reported, although it is said that there is none obtainable at this price now. We quote No. 1 Foundry at $23; No. 2, $22; and Forge, $20.

Scotch Pig.—There has been but a small business in this article Sales of a few hundred tons of Glengarnock at $21.50 are reported. The arrivals are small, and although the imports of pig-iron make quite a showing, most of them are Bessemer pig-iron. We quote as follows: Eglinton, $20@$21; Coltness, $23½@$24; Glengarnock, $22; Summerlee, $22½; and Gartsherrie, $22.

Messrs. JOHN E. SWAN & Co., of Glasgow, under date of June 18th, report 116 furnaces, against 88 at the same time last year. The quantity of iron in Connal & Co.'s stores was 446,672 tons, an increase of 1280 tons for the week. The shipments show an increase of 112,901 tons since Christmas, as compared with the shipments to the same date last year. The imports of Middlesbrough pig-iron for the same period show a decrease of 5222 tons. The following are the quotations of the leading brands of No. 1 pig-iron: Gartsherrie, 54s.; Coltness, 56s.; Langloan, 55s.; Summerlee, 53s.; Carnbroe, 52s. 6d.; Glengarnock, 52s. 6d.; Eglinton, 50s. Middlesbrough pig-iron was quoted as follows, f. o. b.: No. 1 Foundry, 43s.; No. 2, 40s. 6d.; No. 3, 38s.; No. 4 Forge, 38s.

Messrs. J. BERGER SPENCE & Co., of Manchester, under date of June 19th, say: "A slightly favorable change has been observable in respect to metals during the week. Pig-iron has recovered from some of its symptoms of weakness, and for the moment seems healthy. Glasgow Warrants were the first to feel the alteration, and strong markets have been reported. The prime cause seems to be rather a scarcity of iron for prompt, which has compelled speculators to buy in fear of advances. The price has steadily increased to about 48s. per ton. The influence of this condition of affairs has not been lost on the Middlesbrough market, and though buyers do not operate so freely, makers can hold their own with greater freedom, especially as the shipments do not decrease. Hematites are still rather neglected."

Rails.—There is a very good inquiry for both steel and iron, and a slight improvement is observable. We note a sale of 5000 tons of English steel at $60. For spot lots and near-by fixtures $62 is now asked. In iron rails, we note a business of 2000 tons of English at about $45, and quote at the close at $45@$46.

Old Rails.—These are very quiet. Large lots can not be purchased under $25, while a few small lots may be picked up at $23½@$24.

Wrought Scrap.—During the past two weeks, it it said that there has been a business of from 5000 to 7000 tons at $20@$24. The latter is the price at the close, although small lots, ex ship, could probably be purchased at $23@$23.50.

We publish the following letters received from our regular correspondents. Prices will be found elsewhere:

"BALTIMORE, June 28.

"With a moderate demand for iron, prices remain unchanged.
"R. C. HOFFMAN & Co."

"BUFFALO, June 29.

"The demand for iron is light, most of our foundrymen preferring not to stock up until later in the season. There is a steady business here at fair prices, however, and the general impression is, that the fall trade will be heavy, with prices firmer and somewhat advanced. PALEN & BURNS."

"LOUISVILLE, June 29.

"Very few transactions in pig-iron have occurred during last week. Sellers generally are holding iron at about $1 per ton higher, which buyers don't seem willing to pay. The tone of the market is very firm, with prospect that buyers will have to come to views of sellers.

"Our quotations represent the inside cash figures, and we don't advance them because no sales have made on which to establish the advance. GEORGE H. HULL & Co."

"MILWAUKEE, June 29.

The iron market is not flattering by any means, as prices are in the hands of consumers. Some demand will spring up for the fall trade, but the supply is much beyond the demand. We change our prices to meet the market. R. P. ELMORE & Co."

"PHILADELPHIA, July 1.

"PIG-IRON.—There is a much better feeling in the iron market this week. The number of furnaces going out of blast is increasing, and while there is an enormous stock of pig on hand, the fact that this stock will be consumed in a comparatively short time, if the present consumption continues, and that little iron will be produced for some months, is having the good effects.

"MANUFACTURED IRON.—The orders for plate and tank iron continue to crowd on the market, and there is not a plate-mill running that is not crowded to its full capacity. And we can report a much firmer feeling in plates. Mills that would accept orders at 2 5-10 and under will not now accept at 2 6-10. There is a much better feeling in bars also, and some good orders are reported on the market.

"MUCK-BARS.—There have been some orders placed this week at low prices, but will refuse to duplicate the order.

"RICHMOND, June 28.

"No large sales to note. Stocks of consumers are low, and there are indications of a brisk business in July, probably at higher figures. ASA SNYDER."

"ST. LOUIS, June 26.

"There is much better feeling in the market, occasioned by the fact that buyers are beginning to think that iron is low enough, and can decline but little more. Considerable business is therefore doing. CARD & HOFFER."

JOHN H. AUSTIN & CO.'S SPECIAL MARKET REPORT.

LONDON, E. C., June 17.

STEEL RAILS are very dull in tone, with a disposition on the part of markers to book orders at lower prices, which are nominally £5 17s. 6d.@£6 5s. per ton, f. o. b.

IRON RAILS.—Very dull, but more inquired for than steel; £5 2s. 6d.@£5 10s. nominal price, f. o. b.

OLD RAILS.—Inquired for for this month's shipment, for which 80s., c. i. f., to New York, would be given.

HEAVY WROUGHT SCRAP-IRON.—No inquiry.

BESSEMER PIG-IRON, Nos. 1, 2 and 3.—60@70s. per ton, f. o. b.

SCOTCH PIG.—48s. 6d.

MIDDLESBROUGH PIG-IRON, No. 3.—36s. 6d.@37s.

FINANCIAL.

Gold and Silver Stocks.

NEW YORK, Friday Evening, July 2.

Although there has been a moderate business, prices are generally lower. The Comstock shares still continue to figure largely in the operations. A large number of our prominent mines having been compelled to suspend or lower their dividends, there is for the time being quite a lack of confidence in the mining market. This, however, we think, will be removed by the resumption of old dividends, and in some cases increased ones, as is likely to take place within the next sixty days with a good many of the mines. The railroad is rapidly approaching Leadville, and will probably be completed in a few days. This will materially assist the mines in that camp. The completion of the railroad to Frisco, Utah, will be a great benefit to the mines of that district. The melting of the snows should add considerable activity to mining all around. There will be but little business transacted before Wednesday, although the Boards will be open to-morrow and Tuesday. In fact, there has been more play than business to-day. The market closes weak all around.

The Comstock shares show very liberal transactions in both of the Mining Boards. In the old Board, the dealings have been as follows: California has been quiet but fairly steady, the sales amounting to 689 shares at $2.15@$2.05. Consolidated Virginia has not been so active as of late, yet it has been strong. The sales amount to 1965 shares at $3.20@$3.45. Ophir records 100 shares at $7, and Sierra Nevada 100 shares at $11.75. The sales of Best & Belcher amount to 200 shares at $9. Consolidated Imperial has been quiet and a shade weak: the sales amounting to 500 shares at 33@30c. Leviathan has only been dealt in to the extent of 100 shares at 15c. The sales of Mexican aggregate 300 shares at $8. The dealings in Union Consolidated amount to 250 shares at $18¾@$20½. The sales of Belcher aggregate 300 shares at 55@50c.

There has been a fair amount of business in the Bodie stocks at the old Board. Bodie has been more active than of late, although a little weak. The sales amount to 2275 shares at $6½@$6. Bechtel records 350 shares at $1. Bulwer has been very quiet and weak, the sales aggregating 225 shares at $3.10@$3. Consolidated Pacific has been dealt in to the extent of 200 shares at $1.75@$1.70. Goodshaw, with sales of 4775 shares, has ranged between $1.40 @$1.60. May Belle has been fairly active and weak, the sales amounting to 7400 shares at 42@30c. South Bodie has been quiet and weak, with sales of 600 shares at 25@21c. South Bulwer has had a moderate business at improving prices, the sales amounting to 1850 shares at 50@84c. Standard has been very much neglected, the sales amounting to but 10 shares at $25½.

The Tuscarora stocks have been, as a rule, quiet and weak. Belle Isle records 300 shares at 55@50c. Grand Prize has only been dealt in to the extent of 100 shares at 95c. Martin White, although only recording sales of 100 shares, declined to 60@50c. Tuscarora has been quite active although very weak, the sales amounting to 11,700 shares at 17@18c.

In the miscellaneous San Francisco stocks we only note sales of 200 shares of Caledonia (B. H.) at $2.50.

The dealings in the stocks on the regular lists of the New York Stock Exchange and the New York Mining Stock Exchange have been as follows: Amie has been quite active, and shows continued weakness. The sales amount to 26,800 shares at $1@75c. Caribou has been very quiet, the sales amounting to but 300 shares at $2⅝@$2½. Chrysolite has been quite active, but very weak, the sales amounting to 14,245 shares at $17.75@$13.50. The reports from this mine certainly indicate very good returns a little later on, and we should not be surprised to see the company resume its dividends, although we were not surprised to see the last one passed. Climax has been moderately active and somewhat weak. The sales amount to 4750 shares at $2.75@$2.40. Findley has been very quiet, only recording 200 shares at 18c. Great Eastern has been quiet and fairly steady, the sales aggregating 5600 shares at 65@62c. Homestake has been quiet and steady, the sales amounting to 330 shares at $35@$35¼. Horn-Silver has been almost neglected, the sales amounting to but 60 shares at $18@$17½. Hukill has been quite active but weak, the sales amounting to 12,600 shares at $1.85@$1.60. Leadvile has been quiet and a little weak, the sales amounting to 1200 shares at 85@75c. Little Chief has had a moderate business at weakening prices, the sales amounting to 4545 shares at $10@$8½. Little Pittsburg has been quiet, but has shown some strength, the sales being 2140 shares at $5.75@$6.50. Moose has had a moderate business at a slight decline, the sales amounting to 5050 shares at 83@72c. Plumas only records 100 shares at $1.90. Green Mountain has been almost entirely neglected, the sales amounting to but 510 shares at $3.05@$3. Calaveras has been fairly active at declining prices, the sales amounting to 22,650 shares at 60@51c. Central Arizona has been quiet, the sales amounting to but 500 shares at $5⅝@$5. Durango, which for the first time makes its appearance upon this Board, has been quite active, the sales amounting to 16,500 shares at 41@55c. The Quicksilver stocks have been almost neglected, the sales of Preferred amounting to but 100 shares at $54, and of Common 50 shares at $11¼. Rappahannock has had a moderate business at advancing prices. This is accounted for by the following letter, which was received by the Secretary of the Rappahannock Gold Mining Co. from the superintendent, on the 30th ult.:

"As I wrote you on the 23d inst., we started the mill on Monday, the 21st inst. In consequence of some unavoidable delays, we made but four and a half days during the week. On Saturday P. M., we took up 118 ounces of good, dry amalgam. Several ounces, mainly very fine gold, were left adhering to the plates. We hope to make better time and larger results this week. The ores being milled are unassorted—in fact, it embraces the entire vein-matter. The machinery works well. (Signed) J. J. EMBREY."

As these results are of the most encouraging nature as compared with the results from other mines in the South during the past, it naturally draws considerable attention to this stock, and gives strong hopes that this enterprise will prove a success. The sales amount to 7200 shares at 27@34c. Silver Cliff has had but a moderate business at weakening prices. The sales amount to 2900 shares at $4.60@$4. South Hite has been quiet and weak, the sales amounting to 2400 shares at $1.80@$1.45. Sutro Tunnel has been fairly active and but slightly irregular. The sales aggregate 10,600 shares at $2⅛@ $1¾.

The dealings in the fancies have been as follows: American Flag, 1400 shares at 33@40c.; Buckeye, 74,700 shares at 27@32c.; Gold Placer, 9900 shares at 65@60c.; Lacrosse, 16,300 shares at 28@31c.; Granville, 3400 shares at 13@12c.; Lucerne, 200 shares at 13c.

The transactions at the American Mining Stock Exchange differ but little as compared with a few weeks past, and show considerable "washes." The transactions have been as follows:

AMERICAN MINING STOCK EXCHANGE.

STOCKS.	Opening.	Highest.	Lowest.	Final.	Sales—shares.
Amie	.95	.95	.80	.80	2,600
Auburn & Rock Creek	1.15	1.20	1.10	1.20	12,200
Battle Creek	4.75	4.87½	4.62½	4.75	7,100
Barbee & Walker	5.12½	5.62½	5.12½	5.25	8,700
Best & Belcher	8.87½	8.87½	8.75	8.75	150
Bodie					
Boston	1.00	1.00		1.00	300
Bulwer	2.90	2.90		2.90	100
By and By					
California	2.10	2.15	2.05	2.10	750
Con. Pacific					
Con. Virginia	3.30	3.40	3.30	3.35	1,600
Climax	2.55	2.60	2.50	2.50	700
Columbia	4.37½	4.75	4.37¼	4.37½	1,600
Cosette					
Crowell	.15	.20	.15	.15	1,500
Chrysolite	17.37½	17.37½	13.50	14.00	3,600
Durango	.55	.55	.45	.40	14,116
Glynn Dale	.35	.35	.25	.25	200
Hukill	1.75	1.75	1.70	1.70	800
Iron-Silver					
Leadville	.80	.80		.80	200
Little Chief	9.50	9.50	8.87½	8.87½	300
Mexican	7.12½	8.75	7.12½	7.75	530
Mayflower	.95	1.10	.90	.95	3,000
Mineral Creek					
Ophir	6.87½	6.87½	6.75	6.75	200
Silver Nugget	1.70	1.85	1.60	1.70	26,800
Standby	4.50	4.50		4.50	100
Standard	.26	.26		.26	100
Sutro Tunnel	1.85	2.00	1.85	1.90	1,100
South Bulwer					
Sierra Nevada	11.62½	13.25	11.62½	12.37½	1,660
Tombstone	5.00	5.00	4.50	4.50	400
Vandewater	.70	.70		.70	200
Union Con	18.75	21.00	18.75	20.00	320
Total sales					89,926

UNLISTED QUOTATIONS.

Messrs. Trask & Francis, under date of July 2d, 3 P. M., report the quotations of unlisted stocks as under:

	Bid.	Off'd.		Bid.	Off'd.
Bassick	$10	$12	Native Silver		.50
Breece	.80	.90	New Philadelphia		.40
Bull-Domingo	$4½	$5	O K & Winneb'o	$1	$1.25
Bald Mountain	.50	.70	Penobscot	.75	$1.50
Cherokee		.95	Red Elephant	$1.50	$1.75
Carbonate Hill	.40	.45	Sir Rod'k Dhu	.30	.60
Dunderberg	$2.25	$2.75	Stormont	$3.05	$3.15
Father de Smet	$16	$17	Spring Valley		$6
Freeland	$3	$3¼	Van de Water G		$1
Highland Chief		$17	Bonanza Chief	$.30	$.35
Horn-Silver	$16¾	$17½	Iron Silver	$6½	$7¼
Hortense		.75	Sacramento		$5
May Flower		$1			

At a meeting of the trustees of the Bonanza Chief and the Alta-Montana the following officers were re-elected: President and Managing Director, William W. Wickes; Vice-President, Michael Snow; Assistant Managing Director, Cole Saunders; Secretary and Treasurer, Robert F. Brooke.

At the meeting of the stockholders of the Sweet Water Mining Company 395,000 shares were represented, and the following Board of Trustees was unanimously elected: J. W. Bouton, Theodore Sammis, John P. Jones, Eugene N. Robinson, and Jared Sandford.

At the meeting of the stockholders of the Baldy Sour Mining Company, about 60,000 shares of stock were represented, and the following gentlemen were unanimously elected trustees: S. F. Paul, J. A. Robinson, J. W. Bouton, Stephen de Wolfe, John B. Kitching, Theodore Sammis, Eugene N. Robinson.

At the annual election of the Moose Mining Company, held at Dudley, Park County, Colorado, on Tuesday, the following were chosen trustees: H. Tracy Arnold, Francis H. Weeks, Robert Sewell, George B. Satterlee, Edwin Lord, Henry C. Bidwell, and A. Hegewisch. With one exception, these are new members of the board, and they represent about one fourth of the capital stock. It was decided at the meeting to dissolve the company under its Colorado charter and to reorganize it under the laws of New York. It was voted also to increase the capital stock from 200,000 to 250,000 shares. The new stock will be used partly to retire about $25,000 outstanding bonds issued by the former management, and partly for the further development of the company's mines.

OFFICIAL LETTERS.

Alta-Montana.—The superintendent of this mine writes under date of June 19th as follows:

"Concentrating-mill has been running steadily for the past week on ore from Alta and Custer mines. The smelter was started up again on the 15th ult., and is running satisfactorily, averaging 19 tons, or 2½ tons of bullion, per twenty-four hours. The ore-supply is good, and we are now receiving heavy lead-ore from the dump at the Comet mine, which is owned by the company. Shipped 40,410 pounds lead-bullion to Omaha refinery; shall load 20 tons more early in the coming week."

Boulder Consolidated.—A letter from the superintendent of this mine, dated Nederland, Colo., June 9th, says:

"I made connection this morning with No. 7 shaft. At the point of connection there is a solid vein of ore exactly four feet wide. I have been too busy to make any assays of the lode at that point, but am satisfied that the whole vein can be worked at a profit. I start Monday morning a drift west, and will try and run a drift under this body of ore, as to run in the vein would make my west drift rather too near the surface. It would also be expensive breaking through that solid mass of quartz. I calculate on Monday morning to put on three shifts of the best miners in the country, and will push, if possible, the main level eighteen feet per week."

Big Pittsburg.—A telegram from the superintendent of this mine, dated June 21st, says: "Fine-looking galena and iron in bottom of Pierson shaft this morning. The McCormack shaft is down about 225 feet." The strike on the Pierson shaft was made at the depth of 166 feet, a two-foot vein of hard carbonate being encountered.

Bull-Domingo.—The hoisting-works of this mine are completed. They have a capacity of 100 tons per day. No ore is now being taken from this mine, except that which comes out of the extension of the levels, amounting to 200 tons per week. A recent sale of a number of tons of first-class ore brought $70 per ton, net.

Bulwer Consolidated.—From the official letter from the superintendent of this company, dated June 21st, we make the following extracts:

"During the week ended June 19th, we employed 71 miners, 10 carmen, 4 timbermen, and 2 blacksmiths, at $4; 1 blacksmith helper at $3.50; 1 shift boss at $5, and 1 foreman at $6 per day, and 1 clerk at $50 per month. We extracted and shipped to the mill 417 tons of ore from the 200, 300, and 400-foot levels. The average pulp assay for the week is $10.02. The following is a report of progress made in drifting, etc., since last report: South drift, 300-foot level, 17 feet; Ralston vein, south drift, 400-foot level,

24 feet; Stonewall vein, west cross-cut, running for Homestake vein, 6 feet in hard rock. The stopes continue about the same."

Chrysolite.—The acting general manager of this company, under date of June 21st, sends the following:

"Number of feet of drifts driven, 316. Number of feet of shafts, stopes, and winzes, 66. Chrysolite No. 6 shaft, 51 feet deep. Carboniferous, No. 5, 106 feet deep. First level—A 29 going east, sand carbonates, looking very good; D and E 26 and 27, stope improved; G 30, fine body of mineral; F 34, iron and porphyry. Second level—A 30, mineral overhead; A 31, good overhead; B 31, good mineral in face of drift; B 30, mineral three sets of timbers high; D 31 and 32, fine mineral overhead; B 30, good mineral. Mr. Keyes left this morning on thirty days' leave of absence."

Cosette.—This mine is located at Silver City, New Mexico. A ten days' run of ore recently gave a result of $2100. The mill was not in good order, and the superintendent reports that there is as much more in the tailings.

Colorado Prince.—A telegram from the manager of this company, dated June 25th, says: Made clean-up to-day. Mine looking finely. Cross-cut in lower level in ledge 12 feet, and not through yet.

Devil's Basin Consolidated Mining Company.—At a meeting of the directors of this company, held at its office, No. 58 Broadway, on the 26th ult., the following gentlemen were duly elected as officers of this company: William F. Clewell, President; Vernon Seaman, Vice-President; Lindley F. Seaman, Secretary and Treasurer; Theodore Williams, General Agent: Henry & Gilder, Financial Agents, Room 10, No. 52 Broadway. P. T. Nongues, agent in California, 411½ California street, San Francisco. Matt Hazlett, Mining Superintendent.

Dunkin.—A recent letter from the superintendent of this mine says:

"We are once more at work on the Dunkin, as we were before the strike, except that our force is somewhat smaller. I think I have never seen the mine looking quite as promising as this day."

The Leadville *Democrat* says of this property:

"The output of ore of the Dunkin for the ensuing month will probably be larger than any other month heretofore. This is one of the mines in this camp that is worked in the interest of its owners."

Denver City.—The Denver City discovery shaft of this mine, 5 by 10 in the clear, is now completed to a depth of 265 feet. The bottom of the shaft at last reports was in argentiferous iron, indicating that the contact was near. The probability is, that the ore-body, for which the company has so patiently labored, will soon be reached. The Shamus O'Brien shaft is sheathed from top to bottom, and at a depth of 310 feet shows highly mineralized porphyry.

Davenport Consolidated.—A contract has been let for an additional 50 feet of the main shaft of this mine. This will give a depth of 175 feet, and it is proposed to sink to a depth of 250 feet. The vein widens from 10 feet at the top, and is now 24 feet wide, with a pay-streak of three feet of solid mineral.

Freeland.—The concentrating works belonging to this company are acknowledged to be the best in the State. The mill is situated at the mouth of the Freeland Tunnel, and all of the ore from the mine is delivered direct from the mill. The concentrating is effected by twelve Hartz jigs for the coarse ore and a buddle for the slimes, the expense being 70 cents per ton. The company is contemplating the erection of a 15-stamp mill at the mouth of Trial Run, for the purpose of treating tailings from the mill, which contain something over $3 per ton. The process will be to re-crush the tailings and reduce them to fine sand, and to then concentrate again in jigs and on buddles.

The Grand Cañon Coal Co.—We are in receipt of a communication from the president of this company, from which we make the following extracts:

"The company's property consists of what has been known as the 'Cañon Coal Fields of Colorado,' situated in Fremont County, State of Colorado, and embraces three thousand five hundred and eighty acres of coal land, distant from Cañon City, in direct line, about six miles. Title perfect.

"There are seven well-defined coal-veins on this company's property, with an average thickness for each of 4 feet. The four upper veins are discernible upon the eastern facing of the mountain. The original croppings have been washed away, leaving these veins exposed. All are very easily worked. The coal is bituminous in character, and of the best quality, and readily sells for two dollars per ton more than any other coal in Colorado. It will not slack or decompose when stacked or corded. It has a frontage or visible outcrop of six miles, the entire line of which has been proven by drill explorations. The lower vein is fully five feet thick, and all coal taken therefrom is of the first quality, free from slate or other impurities. It needs no timbering, as the cap-rock is very firm.

"There has recently been erected on the property hoisting-works and engine, new and first quality, all in place, with trestle-work and dumps completed, ready for use, at the opening of the incline, which has been run on the lower or five-foot vein a distance of nearly one thousand feet, from which coal is now being taken. The air-shaft and all necessary timbering complete. The improvements are at a point where all necessary railroad and switch-grounds are obtainable on the company's grounds without any expense in grading or filling.

"The Atchison, Topeka & Santa Fé Railroad Company has just completed its surveys, and is now working a large force of men grading road-bed and laying ties from Pueblo to their property. There is an immediate market here for at least 1000 tons of this coal per day.

"The out-crop and dip of these coal-veins are such that the coal can be placed on the cars at an expense of $1.33 to $1.50 per ton, and it readily sells here at $5 and at Denver at $6.50 per ton."

It is said that there is an immediate market for over 1000 tons per day of this coal, at a profit of $2.50 per ton.

Green Mountain.—Mr. L. D. Cortright, Secretary of the Green Mountain mine, has just received the following telegram dated June 28th, from Superintendent Rogers: Work on new mills progressing well. I am pushing No. 5 tunnel day and night, the face of which is still in good ore.

Iron-Silver.—W. S. Keyes, writing under date of June 22d, says: D. F. Verdenal, Secretary. Dear Sir: I have Mr. Arens and Mr. Cullen in charge. The mine is now fairly at work, and we are again producing a large amount of ore. The main incline has advanced 6 feet; face low-grade ore and limestone. New fifth level north advanced 37 feet, face in porphyry. Main incline north advanced upward 25 feet and downward 18 feet, leaving 67 feet to connect with the regular level. Iron Hat raise from bottom of incline has advanced 37 feet. All stopes are looking well as ever. We are working only in the Rock mine, owing to the low price of lead. The Rock ore is improving.

Little Chief.—From the manager's very full and satisfactory letter, covering the operations of this company for the week ending June 21st, we have only room for the following extracts:

The cutting out and timbering of the first station is now nearly completed, and during the present week we shall start a drift south to connect with the main drift from No. 4 shaft. In cutting out this station some ore was found mixed through the iron. The surface improvements at the Daly shaft are rapidly approaching completion; the building is up and inclosed, and the machinery will be put in position as rapidly as possible. The shipments of ore for the six days ending June 19th aggregate 973 490-2000 tons, the grade of which was something above the average. Since last report, of May 24th, we have driven an aggregate of 495½ feet of drifts, and sunk 42 feet of shaft and winzes.

Little Pittsburg.—It is reported that the prospecting in the Dives and Winnemuck portions of the Little Pittsburg mine will soon result in news satisfactory to the stockholders.

The *Herald* of June 24th says: "From the Little Pittsburg Consolidated mines, the ore shipments yesterday amounted to seventy-four tons. On Tuesday, the amount shipped was seventy-five tons, and on Monday about the same amount. The mine is again coming to the front and has a large body of ore. The returns from this ore have not yet been received, but the ore is known to be of good grade. To-day there will be a large lot shipped, that assays from two hundred to three hundred ounces to the ton. The mine is sure yet to prove itself among the most valuable, and not played out, as was first supposed."

Miner Boy.—The superintendent of this company, under date of June 30th telegraphs as follows: Am sinking third shaft, and bottom is now in quartz, all showing free gold. In connecting tunnel with first shaft, struck galena in tunnel assaying twenty-six ounces. Quartz in tunnel assays $47 gold. Shall soon commence running a drift south. Mine shows well. The strike in the tunnel is 400 feet from the lower or No. 3 shaft, and is considered important.

North Hite & Yosemite Gold Mining Co.—On the 26th of June, the directors of this company, held their first meeting and elected the following officers: Edward H. Spooner, President; Vernon Seaman, Vice-President; Lindley F. Seaman, Secretary and Treasurer; Theodore Williams, General Agent; William J. Clewell, Financial Agent; P. J. Nongues, Agent in California; James A. Hennessy, Mining Superintendent.

The property of this company is located at Hite Cove, Mariposa Co., California, adjoining the Hite mine.

Olsen.—A dispatch from the superintendent of this mine states that a rich strike has been made in the east cross-cut from the old winze, twenty feet wide. The ore averages $40 per ton.

Robinson Consolidated.—The general manager of this mine writes under date of June 23d as follows: Lower tunnel continued 27 feet, total length, 549 feet; average number men employed daily, 50. Having recovered our Knowles pump from No. 4 south cross-cut, we now have control of the water. It has been lowered to a point 20 feet below No. 4 cross-cut. The pump is now being cleaned out, and the main incline will be driven at the earliest moment. We have a heavy force of teams and men gathering up the fallen timber upon our locations, storing it for winter fuel. The face of the tunnel shows no change since last report.

Rappahannock.—A letter received from J. J. Embrey, the superintendent of this mine, dated June 26th, says: We were enabled to get under way on Monday afternoon, and have been running the mill uninterruptedly since. All the parts and connections about the mill work very smoothly and satisfactorily, and from the limited time the mill has been in operation the "frosting" of the plates encourages the hope of very satisfactory results. I will write more fully at the close of the present week. In a letter of June 27th, he says that from the first run of the mill, four and a half days, the result was 118 ounces gold.

Robert E. Lee.—The *Democrat* of June 22d says: The ore output of the Lee yesterday was the largest of any day since the commencement of the strike, and will continue increasing until the maximum output of former times is reached. The new engine is expected here in a week or ten days.

Silver Prince.—A telegram received on June 30th says of this mine, which is located in the Peck District, Arizona, that a very rich and large strike in the lowest tunnel has been made, larger and richer than any body of ore yet opened up. This information is important, as it shows that the vein continues in depth. Rich ore continues to be uncovered in the upper levels of this mine, which is greatly improving under the present systematic exploitation.

South Hite.—A telegram from this mine dated June 30th says: One hundred and fifty foot level in 70 feet, in good ore. Five hundred level advanced 12 feet in ore mixed with talc. Upraise to meet shaft up 10 feet in good ore.

Spring Valley.—The superintendent of this company, writing under date of the 17th ult., states that an immense amount of labor is required to make a thorough clean-up of all the flumes and sluices. The report says the clean-up will be thorough and complete, with the exception of the lower flume, which we purpose leaving rather than delay the ordinary work of the mine by expending too much time on it. The clean-up is promised to be finished by July 1st.

Standby.—The developments of this company's property, it is said, are such as to require greater milling capacity. The company is now running 60 stamps, and crushing about 150 tons per day, which will soon be increased to 175 tons. The mill is run by water, and, with forty men employed, the cost of reduction is $1.23 per ton, divided as follows: Mining, 37 cents; transportation, 15⅛ cents; dead-work, 18 cents; milling, 41⅛ cents; salaries and office, 11⅛ cents; total, $1.23. The company has ample water-power and ore for 160 stamps, and the superintendent recommends the immediate addition of 100 stamps to the present capacity, when the cost can be reduced to less than $1 per ton.

Standard Consolidated.—From the official letter of the superintendent for the week ending June 19th, we make the following extract: During the week ending June 19th we employed 91 miners, 21 car men, 4 skip men, 3 tramway men, 3 station tenders, 2 watchmen, 3 firemen, 3 blacksmith helpers. Laborers, 1 woodman, and 1 timekeeper at $4, 2 shift bosses, 7 engineers, 3 blacksmiths, 3 carpenters, and 2 pumpmen at $5; 7 ore-sorters and one woodman at $3.50; 1 each blacksmith, carpenter, and chief engineer at $6; 9 shaft miners at $4.25 and 4 at $5 per day; 1 foreman at $250 and 1 clerk at $150 per month. We extracted and shipped to the mills 1044 tons of ore from the 300, 400, 450, and 550 foot levels. The average pulp assay for the week is $31.38. The amount of crude bullion received is 4580 ounces, and the amount shipped to the company $48,648.07.

DIVIDENDS.

The Eureka Consolidated and the Northern Belle are the only Nevada mines that are returning any thing to their stockholders at present. Each is disbursing $25,000 per month.

It is said that Durango, of the Black Hills and Red

GENERAL MINING STOCKS.

Dividend Paying Mines.

NAME AND LOCATION OF COMPANY.		Feet on Vein.	Capital Stock.	SHARES. No.	SHARES. Par Val.	ASSESSMENTS. Total levied to date.	ASSESSMENTS. Date and amount per share of last.	DIVIDENDS. Total paid to date.	DIVIDENDS. Last Dividend.	HIGHEST AND LOWEST PRICES PER SHARE AT WHICH SALES WERE MADE. June 26. H.	June 26. L.	June 28. H.	June 28. L.	June 29. H.	June 29. L.	June 30. H.	June 30. L.	July 1. H.	July 1. L.	July 2. H.	July 2. L.	SALES.
Amie Con. s. L.	Col.	.....	5,000,000	500,000	10			305,000	May. 1880 10	1.00	91	92	88	89	88	90	85	85	80	80	75	26,800
Argenta, s.	Nev.	1,500	10,000,000	100,000	100	100,000	Apr. 1880 25	40,000	Feb. 1880 20													
Barbee & Walker	Utah	.....	1,000,000	100,000	10			10,000	June 1880 10													
Bassick, g. s.	Col.	.....	10,000,000	100,000	100			25,000	Feb. 1880 25													
Belle Isle, s.	Nev.	1,500	10,000,000	100,000	100	3,000	Feb. 1880 26	300,000	Dec. 1879 25					55		55				50		300
Belcher, g. s.	Nev.	1,040	10,400,000	104,000	100	1,912,800	Feb. 1880 1 00	15,397,200	Apr. 1876 1 00	2.25		2.50										300
Bobtail, g.	Col.	2,500	1,136,630	227,326	5	*		125,030	Sept. 1879 15													
Bobtail Tunnel, g.	Col.	.....	100,000	20,000	5	52,000	July 1873 0 30	56,000	Dec. 1878 40													
Bodie, g.	Cal.	.....	10,000,000	100,000	100	75,000	May. 1879 1 00	1,200,000	Mar. 1880 25	6¼	6.00	6.50				6.38	6.00			6.00		2,275
Breece Hill, s. L.	Col.	.....	5,000,000	200,000	25			2,000	Feb. 1880													
Briggs Con., g.	Col.	.....	2,000,000	200,000	10			8,000	Dec. 1879 04													
California, g. s.	Nev.	600	54,000,000	540,000	100			31,320,000	Dec. 1879 50	2.15		2.05		2.10		2.15	2.10			2.05		680
Caribou Con., g.	Col.	1,400	1,000,000	100,000	10			50,000	Mar 1880 10			2⅜	2½									300
Chollar, g. s.	Nev.	700	11,100,000	112,000	100	168,000	Mar. 1880 0 50	3,080,000	Feb. 1872 1 00													
Chrysolite, s. L.	Col.	.....	10,000,000	200,000	50			1,100,000	Apr. 1880 50	17¾	17.13	17¼	17	17	16.38	16	15¾	16	15.38	15.38	13.50	14,245
Climax, s. L.	Col.	.....	2,000,000	200,000	10	*		120,000	May. 1880 30	2.75	2⅜	2.60	2.55	2.55		2.55	2.45	2.50	2.45	2.45	2.40	4,750
Cons. Virginia, g. s.	Nev.	710	54,000,000	540,000	100	474,600	June 1873 3 00	12,390,000	Dec. 1879 50	3.30	3.20	3.35	3.20	3.45	3.30	3.45	3.30	3.35	3.25	3.45	3.25	1,965
Confidence, g. s.	Nev.	130	2,496,000	24,960	100	256,320	Apr. 1878 0 50	78,000	May. 1865 8⅛													
Crown Point, g. s.	Nev.	600	10,000,000	100,000	100	2,375,370	May. 1880 0 50	11,588,000	Jan.. 1875 2 00													
Deadwood, g.	Dak	1,500	10,000,000	100,000	100	.....		150,000	June 1880 25													
Eureka Cons., g. s. L.	Nev.	.....	5,000,000	50,000	100	100,000	May. 1876 1 00	4,150,000	June 1880 50													
Excelsior W't'r & M. Co	Cal.	525 acres	10,000,000	100,000	100			800,000	July. 1880 25													
Father de Smet, g.	Dak	.....	10,000,000	100,000	100			210,000	June 1880 30													
Findley, g.	Geo.	.....	200,000	200,000	1			3,000	May. 1879 10			18								18		200
Freeland	Col.	.....	5,000,000	200,000	25			50,000	May. 1881 25													
Gould & Curry, g. s.	Nev.	612	12,800,000	128,000	100	3,152,000	Feb. 1880 1 00	3,826,800	Oct. 1870 10 00			95										100
Grand Prize, s.	Nev.	1,500	10,000,000	100,000	100	220,000	Dec. 1879 0 75	400,000	Feb. 1878 1 00													
Great Eastern, g.	Dak	1,200	300,000	300,000	1			16,000	July. 1879 02	64		64	63	65	64	63		63		63	62	5,600
Green Mountain, g.	Cal.	4,350	1,250,000	125,000	10			75,000	June 1880 05									3.05		3.05	3	510
Hale & Norcross, g. s.	Nev.	400	11,200,000	112,000	100	3,316,000	May. 1880 50	1,598,000	Apr. 1871 5 00													
Homestake, g.	Dak	.....	10,000,000	100,000	100	200,000	Apr. 1878 1 00	540,000	June 1880 30	35¾						35				35¾		330
Horn Silver, s. L.	Utah	.....	10,000,000	400,000	25			200,000	Jan.. 1880 25			18								17.50		60
Hukill, g. s.	Col.	3,288	1,000,000	200,000	5			210,000	Dec.. 1878 10	1.85	1.70	1.85	1.70	1.75	1.65	1.70	1.65	1.75	1.65	1.75	1.60	12,600
Independence, s.	Nev.	1,500	10,000,000	100,000	100	135,000	Apr.. 1880 0 25	225,000	Sept. 1879 25													
Kentuck, g. s.	Nev.	95	3,000,000	30,000	100	300,000	Aug. 1878 1 00	1,252,000	Mar. 1870 5 00													
La Plata, s.	Col.	.....	2,000,000	200,000	10			105,000	July 1880 7½													
Leadville, s.	Col.	.....	2,000,000	200,000	10	*		150,000	Jan.. 1880 15			85		85	75	80		80		83	80	1,200
Leeds, s.	Utah	3,000	6,000,000	60,000	100	6,000	Feb.. 1880 10	78,000	Oct.. 1878 12													
Leopard, L. g. s.	Nev.	1,500	5,000,000	50,000	100	347,500	Apr.. 1880 10	162,500	Dec. 1876 50													
Little Chief, s. L.	Col.	.....	10,000,000	200,000	50	.....	.....	500,000	June 1880 50	9.63	9.50	9.50	.....	10	8.88	9.50	9.00	9¼	9	9	8½	4,45
Little Pittsburg, s. L.	Col.	30 acres.	20,000,000	200,000	100	.....	.....	1,350,000	Mar.. 1880 50			5.75	.....	5.75	.....	5¾	5⅜	6½	6.00	6.50	6½	2,140
Manhattan, s.	Nev.	129,810	.....	50,000	.....	150,000	July. 1879 1 00	400,000	Feb. 1877 1 00							7.00						100
Martin White, s.	Nev.	22,900	10,000,000	100,000	100	70,000	Mar. 1880 50	140,000	July. 1879 50					60	56							125
Merrimac, s.	Mas.	1,500	500,000	100,000	5	*		120,000	Mar.													
Moose, s.	Col.	39,000	2,000,000	200,000	10	*		550,000	Mar. 1878 25	83	81	83	78	81	77			73		75	72	5,650
N. Y. & Colorado, g.	Col.	.....	1,000,000	50,000	20	*		25,000	July. 1879 10													
Northern Belle, s.	Nev.	1,600	5,000,000	50,000	100	.....	.....	1,150,000	June 1880 50													
Ontario, s.	Uth.	3,000	10,000,000	100,000	100	.....	.....	2,800,000	June 1880 50													
Ophir, g. s.	Nev.	675	10,080,000	100,800	100	2,745,400	Apr. 1880 1 50	1,603,200	Jan.. 1880 1 00							7.00						100
Ore Knob, c.	N. C.	1,000 acs	1,500,000	150,000	10	*		125,500	Mar. 1880 25													
Potosi, g. s.	Nev	700	11,000,000	112,000	100	168,000	Mar. 1880 0 50	120,000	Mar.													
Plumas, g.	Cal.	.....	1,000,000	100,000	10	715,000		151,000	July 1879 8	1.50												100
Raymond & Ely, g. s.	Nev.	5,000	12,000,000	120,000	100	.....	June 1880 15	3,075,000	Sept. 1873 3 00													
Richmond, s.	Nev.	.....	1,320,000	54,400	25	660,000	.....	2,315,820	May. 1880 1 87													
Robinson Cons.	Col.	.....	10,000,000	200,000	50	.....	.....	75,000	June 1880 37½													
Rye Patch Cons.	Nev.	1,600	3,000,000	30,000	100	157,500	Dec.. 1878 1 00	105,000	Dec. 1877 25													
St. Joseph, L.	Mo.	2,000 acs.	1,000,000	100,000	10			250,000														
Stormont, s.	Uth.	.....	150,000	150,000	1			45,000	Feb.. 1880 30													
Savage, g. s.	Nev.	800	11,200,000	112,000	100	4,452,000	Apr. 1880 1 00	4,460,000	June 1869 3 00													
Sierra Nevada, g. s.	Nev.	3,650	10,000,000	100,000	100	3,950,000	Apr.. 1880 1 00	102,000	Jan. 1871 1 00	11¾												
Silver King, s.	Ariz	1,500	10,000,000	100,000	100	.....	.....	450,000	Nov 1878 50													
Standard, s.	Cal.	.....	10,000,000	200,000	10	50,000	July 1878 1 00	1,850,000	June 1880 75											25½		10
Tombstone, s.	Ariz	...	5,000,000	50,000	10	.....	.....	150,000	June 1880 10													10
Yellow Jacket, g. s.	Nev.	1,200	12,000,000	120,000	100	3,735,000	May. 1880 1 00	2,184,000	Aug. 1871 2 50													

Non Dividend Mines.

Alpha, g. s.	Nev.	306	3,000,000	30,000	100	330,000	May. 1880 1 00															
Aita	Nev.	600	10,800,000	108,000	100	1,209,000	Apr. 1880 0 50															
Am. Flag, g.	Col	5,300	1,250,000	120,000	10	*				33c						40c		36	32c			1,400
Andes	Nev.	2,000	500,000	100,000		465,000	Jan.. 1880 0 25															
Baltimore Cons.	Nev.	1,050	.....	84,000		1,615,000	Apr. 1878 0 50															
Benton	Nev.	600	.....	108,000		91,800	Sept. 1879 0 50															
Bechtel, g.	Cal.	.....	.....	69,000		113,250	Jan.. 1880 0 25															
Belvidere, g.	Cal.	1,500	.....	60,000		78,000	Mar. 1880 0 50					1.00		1.00		1.00		1.00				350
Bertha & Edith. g.	Vir.	645 acs.	500,000	500,000	1	*																
Best & Belcher, g. s.	Nev.	545	10,080,000	100,800	100	942,500	Feb. 1880 1 00															200
Buckeye	Col.	.....	2,000,000	400,000	5							9.00										
Bullion, g. s.	Nev.	943½	10,000,000	100,000	100	3,352,000	Mar 1880 1 00			31c	28c			32c	30c	31c	30c	31c	29c	32c	31c	74,700
Bulwer, g.	Cal.	.....	10,000,000	100,000	100	30,000	Dec.. 1877 50															
Calaveras, g.	Cal.	2,200 acrs	500,000	500,000	1					60c	55c	60c	56c	53c	51c	53c	52c	53c	51c	52c	51c	22,650
Cal., B. H., g.	Dak.	.....	10,000,000	100,000	100	275,000	Apr. 1880 0 50											2⅝				200
Caledonia	Nev.	2,188	10,000,000	100,000	100	1,935,000	May. 1880 0 50															
Cashier	Col.	.....	500,000	250,000	2	*																
Central Arizona, s.	Ariz	.....	10,000,000	100,000	100																	
Challenge	Nev.	9	500,000	50,000	100	10,000	Nov. 1878 0 20													5⅛	5.00	300
Cleveland, g.	Col.	3,715	250,000	25,000	10	*																
Cons. Imperial, g. s.	Nev.	468	50,000,000	500,000	100	1,225,000	May. 1880 0 10			1.70	1.70	33c		30c		30c						500
Con. Pacific, g.	Cal.	1,400	600,000	60,000	100	60,000	Apr. 1880 1 00					9c	8c			9c				8c		200
Dahlonega, g.	Ga.	.....	250,000	250,000	1	*																3,700
Day	Nev.	1,500	10,000,000	100,000	100	75,000	Mar. 1880 0 15															
Dayton	Nev.	1,600	10,000,000	100,000	100	750,000	Apr. 1878 0 25															
De Frees	Ariz	1,500	10,000,000	100,000	100	140,000	May. 1879 15															
Durango		.....	.....	.....	.....	.....	.....															
Exchequer, g. s.	Nev.	400	10,000,000	100,000	100	53,000	Feb. 1880 0 50							47c	41c	45c	42c	55c	42c	45c		16,500
Gold Placer, g.	Col.	.....	5,000,000	200,000	25	*																
Goodshaw, g.	Col.	.....	10,000,000	100,000	100	105,000	Apr. 1880 0 25			1.50	1.40	65c	62c	63c	60c	60c		62c	60c	62c	60c	9,900
Granville, g.	Nev.	1,231 acs	300,000	300,000	1	*						1.6	1.45	1.45	1.40	1.50	1.40	1.45		1.50	1.40	4,775
Hillside, s.	Nev.	5,000	10,000,000	100,000	100	110,000	Apr.. 1880 0 30					13c		13c		13c	12c	13c	12c			3,400
Hussey	Nev.	4,500	10,000,000	100,000	100	125,000	Aug. 1879 0 15															
Julia, g. s.	Nev.	3,000	11,000,000	110,000	100	1,230,500	May. 1880 0 40															
Justice, g. s.	Nev.	2,000	10,500,000	105,000	100	3,151,000	May. 1880 0 50															
King's Mountain, g.	N. C.	.....	1,200,000	120,000	10	*																
Kossuth	Nev.	2,700	10,700,000	108,000	100	421,200	Aug. 1877 0 15															
Lacrosse	Col.	3,300	1,000,000	100,000	10	*				30c	28c	29c		30c	29c	31c	30c	30c		30c		16,300
Leviathan	Nev.	2,000	10,000,000	100,000	100	310,000	Mar. 1880 25					15c										100
Lucerne	Col.	4,200	5,000,000	500,000	10	*						13c				12c						200
Mariposa preferred	Cal.	14,387	5,000,000	50,000	100	1,425,000	June 1877 1 00															
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June 1878 1 00															
May Belle, g.	Cal.	1,500	10,000,000	100,000	100	36,000	Jan. 1880 0 15			40c	37c	42c	37c	37c		35c	32c	34c	30c	34c	33c	7,400
McClinton, g.	Cal.	1,000	6,000,000	60,000	250	165,000	June 1880 0 25															
McCracken	Ariz	4,500	10,000,000	100,000	100	100,000	sept. 1879 0 22															
Mexican, g. s.	Nev.	600	10,080,000	100,800	100	4,230,200	Apr. 1880 1 00			8.00						8.00						300
Mono, g.	Cal.	750	5,000,000	50,000	100	175,000	Mar. 1880 1 00															
Navajo	Nev.	600	10,000,000	100,000	100	15,000	Mar. 1880 0 10															
New York	Nev.	1,000	10,000,000	100,000	100	885,000	Feb.. 1880 0 05															
Nth. Standard, g.	Cal.	.....	.....	.....	.....	.....	.....															
Orig. Keystone	Nev.	1,500	10,000,000	100,000	100	175,000	May. 1880 0 50															
Overman, g. s.	Nev.	1,200	3,840,000	38,400	100	3,519,430	June 1880 0 50															
Quicksilver preferred	Cal.	8,500	4,291,500	42,915	100	*										54						100
" common	Cal.	acres.	5,708,500	57,085	100	*								11¾								50
Rappahannock, g.	Va.	345 acres	250,000	250,000	1	*				28c	27c	29c	28c	28c	28c	29c		34c	30c	33c	32c	7,200
Seg. Belcher, g. s.	Nev.	16	640,000	6,400	100	244,800	Oct.. 1876 3 00															
Shamrock, s. L.	Col.	.....	10,000,000	100,000	100																	
Silver Cliff, s.	Col.	.....	10,000,000	200,000	50							4.60		4.45	4.25	4.25	4.00					2,900
Silver Hill, g. s.	Nev.	5,400	10,800,000	108,000	100	1,566,000	Apr.. 1880 0 50															
Silver Prize	Nev.	1,500	10,000,000	100,000	100	65,000	Mar 1879 0 25															
So. Bodie, g.	Cal.	1,500	10,000,000	100,000	100	50,000	Apr. 1880 0 15															
So. Bulwer, g.	Cal.	1,000	10,000,000	100,000	100	145,000	Apr. 1880 0 50							25c	23c	25c	21c					600
So. Noonday, g.	Cal.	.....	1,000,000	100,000	100					70c		55c	50c	55c		55	50c	71c	65c	84c	80c	1,850
South Rite G. M. Co.	Cal.	.....	2,500,000	100,000	25																	
Sutro Tunnel	Nev.	.....	2,000,000	2,000,000	1	*				1.80	1.70	1.65		1.65		1.55	1.50	1.55	1.45	1.60	1.50	2,300
Tiptop	Ariz	1,500	10,000,000	100,000	100	120,000	Mar 1880			1⅞	1¾	1⅞		1⅝		2⅛	1⅞	1¾		1⅞		10,600
Tioga	Cal.	1,500	10,000,000	100,000	100	180,000	Mar 1880 0 20															
Tro	Col.	1,250	150,000	150,000	2																	
Trojan	Nev.	1,500	10,000,000	100,000	100	290,000	Jan.. 1880 0 25															
Tuscarora	Nev.		10,000,000	100,000	100	50,000	Feb 1880 0 15			17c	15c	11c	10c	12c	8c	12c	10c	11c	10c			11,700
Union Con. g. s.	Nev.	80	10,000,000	100,000	100	860,000	July. 1879 2 00			18⅞						20½						250
Utah, g. s.	Nev.	1,000	2,000,000	20,000	100	1,220,000	Apr. 1880 2 00															
Ward	Nev.	1,200	11,000,000	110,000	100	143,000	Jan.. 1880 0 40															
Wells Fargo, g. s.	Nev	1,500	10,800,000	108,000	100	264,600	May. 1880 0 10															

g. Gold. s. Silver. L. Lead. c. Copper. * Non-Assessable. † Assessment paid. ‡ Ex dividend. Total shares sold during the week, 285,435

Elephant, of Colorado, will soon give their stockholders a dividend.

It is said that, inasmuch as the Central Arizona mine will probably have its eighty stamps ready for crushing by the 15th of August, and that the mine has ore enough in sight to pay 50 cents monthly a share in dividends for the next four or five years, stockholders would not be unreasonable in anticipating a dividend this fall.

The Climax has, it is said, already on hand more than enough money to pay the dividends due two months hence.

The Standard Consolidated Mining Co. has declared its regular monthly dividend of 75 cents per share, payable on the 12th inst.

At New York, the July disbursements for interest and dividends on railway securities, governments, etc., are estimated at nearly $48,000,000, and at Boston over $13,640,000. These heavy payments must add materially to the large supply of money on the market. A very large amount of these interest payments and dividends will naturally seek reinvestment.

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS. June 25.	June 26.	June 28.	June 29.	June 30.	July 1.	Opening. July 2.
Alpha	5¼	5¼	4¾	5	4¾	4⅞	
Alta	2	1⅞	1⅞	1.95	1⅞	1⅞	
Argenta		13-32	7-16		13-32	13-32	
Bechtel	1		1	1	1		
Belcher	2⅛	2	1⅞	1.95	1⅞	1¾	
Belle Isle		½					
Belvidere	3	3	2⅞		2¾	2¾	
Best & Bel	8¾	8¾	8¾	9	8⅞	9	
BlackHawk		19-32				9-16	
Bodie	6	6¼	6	6⅛	6⅛	6¼	
Boston Con	1	1	1⅛			1⅛	
Bullion	1½	1⅜	1¼		1	1	
Bulwer	3¼	3¼	3¼	2.95		2¾	
Caledonia	9-16	½				½	
California	2	2	2⅛	2.15	2	2	
Cal. B. H.							
Chollar	3	3⅛	2⅞	3	2⅞	2⅞	
Con. Imp	5-16		¼		5-16		
Con. Pacific	1⅞					2	
Con. Va	3½	3¼	3½	3.40	3⅜	3⅜	
Crown P'int	1⅝	1¾	1⅝	1.65	1½	1½	
Dudley	9-16	½	7-16		½		
Eureka Con	17	16¾	16	17	17½	17⅝	
Exchequer	1⅝	1⅝	1⅝	1⅝	1⅝	1⅝	
Goodshaw	1¼	1¼	1⅜		1¼	1¼	
Gould & Cur	3¼		3¼	3.35	3¼	3¼	
Grand Prize	1⅛	1⅛	1⅛	1⅛	1⅛	1⅛	
Hale & Nor	4¼	4¼	4⅛	4	3⅞	4	
Hillside	9-16	9-16			13-32		
Indep'd'nce		13-32					
Jackson		2¼					
Julia Con	19-32	½	½		9-16	19-32	
Justice	¾	21-32	13-16	½	¾	¾	
Kentuck				80c.			
Lady Wash					¼		
Leeds							
Leopard							
Leviathan						3-16	
Mammoth		1¾	1		1¾		
Manhattan		1½			2		
May Belle	7-16		13-32			13-32	
Mar. White	19-32		9-16			9-16	
McClinton	¼	¼	¼		¼	¼	
Mexican	7¾	8	8	8½	8¼	8⅝	
Mono	4⅛	4⅛	4¾	4.45	4		
Navajo		¼	¼		5-16		
North. Belle	10¼	10¾	11	12	11¾	11½	
N. Bonanza		5-32	5-32		5-32		
N. Standard							
Noonday	4		3¾		3¾		
Ophir	6¾	6⅞	6¾	6⅝	6¾	6¾	
Orig. K'ys'e							
Overman	1	29-32	29-32	85c.	27-32	27-32	
Potosi	2¼	2¼	2¼		2	2	
Ray. & Ely		1-16		5c.	1-16	1-16	
R. de Monte							
Savage	2¾	2⅝	2½	2.30	2⅝	2¼	
Scorpion				1.60			
Seg. Belcher							
Sierra Nev	11½	11⅜	11⅝	12⅝	12⅝	13	
Silver Hill	7-16	7-16	13-32	40c.	13-32	13-32	
Silver King	5						
So. Bulwer	29-32	9-16	19-32		19-32		
Summit							
Syndicate						¾	
Tioga		1½		1.55	1½	1¼	
Tip Top	6⅝	6½	6½		6½	6½	
Trojan							
Tuscarora		1-16	5-32		5-32	5-32	
Union Con	19⅝	19⅝	19⅝	21	20¼	21	
Utah				9¾			
Wales		3½			3¼	3¼	
Yel. Jacket	5⅞	5⅞	5¾	5¾	5⅞	5⅞	

REVIEW OF THE SAN FRANCISCO MARKET.

A little life crops out here and there in a few of the Comstocks, but the general "boom" is apparently as far off as ever. Assessments continue to be levied with a confidence that is truly surprising, however. This is the life of the lode, and, after all, it depends upon the stockholder's faith and endurance. Certainly, the present situation is very discouraging, and should the condition of the market grow much worse, there will not be a peg left to hang an assessment upon.

SAN FRANCISCO, June 30.—A financial article in the *Bulletin* this evening, referring to the newly-enacted law of New York taxing foreign bank capital, says: "We understand that the Nevada Bank balance at New York, from $3,000,000 to $4,000,000, will be ordered to London."

The San Francisco Stock Board will adjourn from Friday, July 2d, to Wednesday, July 7th.

The San Francisco *Chronicle* of the 19th ult. says that the bursting of the Goodshaw pool had a most disastrous effect on the lesser gambles of Bodie District, and in a measure influenced prices for other outside shares.

Mexican shows an improvement, gradually advancing up yesterday morning, and closing in the afternoon at $8⅝. The northern drift of this mine has been extended 50 feet. They are enlarging and repairing the north lateral drift on the 2300 level.

The Hale & Norcross mine, for the first time in several years, has begun hoisting ore, recently discovered on its 2100-foot level. The ore averages $51.82 per ton, and is therefore rich enough to make its working very profitable, provided a sufficient quantity can be found. This stock closed yesterday at $4 per share, which is a decline from previous prices.

Union Consolidated closed yesterday at $21 per share, being a material advance on the prices quoted a week ago. An important strike is reported to have been made in the extension of the south drift in this mine. Recent letters from the mine state that on the 2400 level, winze No. 2 was sunk and timbered five feet during the past week. On the 2500 level, they are timbering up the northwest drift. The south drift on this level has been extended 22 feet.

California closed yesterday at $2 per share, which is somewhat of a decline from the very low price recorded in our last. The ore being extracted from this mine averages nearly $40 per ton, and there are nearly 600 tons a week now being taken out on an average, which is principally extracted from the 1500 and 1650 levels.

Consolidated Virginia closed yesterday at $2¾. A recent letter from the mine states that during the week 1179 tons of ore were extracted and sent to the mills from the stopes on the 1750 level, the average assay of which was $46.25 per ton. During the week bullion to the value of $69,418.93 was shipped. The south drift on the 2000 level is being cleaned out. On the 2300 level, the south drift has been extended 18 feet.

The drift west on the 2300 level of Sierra Nevada toward the line of the main shaft is still searching for the west wall of the ledge, preparatory to raising to connect with the main shaft. The extreme heat north of the 2400 level still interferes with work in that part of the mine. As soon as the Union pump at the 2500 level is in operation, the station at that level of Sierra Nevada incline will be freed from water and work resumed at that point. This stock advanced yesterday at the close of the market up to $13, which is an improvement of $2 compared with our last.

Argenta closed yesterday at 13-32. A recent letter from the mine states that the east drift, 500 level, extended 24 feet; total, 524 feet. Upraise on the ledge 200 level, west drift, 25 feet; east drift on the ledge, 11 feet; west drift, 19 feet. Cross-cut below 200 feet, extended 16½ feet from shaft, just reaching the ledge. Fair progress in stoping above 300 level. Ledge on 200 west drift large, with fair grade ore, mixture of chloride and sulphuret.

Belle Isle is strong, closing yesterday at $11½. Daily shipment of ore from this mine aggregates 85 tons, and the bullion shipment aggregating over 20,000 tons per week. On the seventh level east, a new discovery is reported. It is the usual rich chloride of the mine, and assays very high.

Ophir is fairly steady, closing yesterday at $6¾.

Assessments with dates when delinquent: Sierra Nevada, $1; Mount Diablo, $2; Ivanpah Consolidated (San Bernardino County), 17½ cents, July 24th; Low Range Ledge, 20 cents, July 26th; Rainbow (Sierra County), 10 cents, July 27th; Savage $1 per share; Belcher, 50 cents; Eintracht Gravel (Sierra County), $1 per share, July 23d; and Phil Sheridan, 25 cents, July 24th. The Mammoth assessment of 50 cents per share will be delinquent on July 27th. Murchie has postponed its delinquent assessment sale day to July 12th.

Copper and Silver Stocks.

Reported by C. H. Smith, Commission Stock Broker, No. 15 Congress street, Room 3.

BOSTON, July 1.

The market for copper the past week shows a large falling off in the volume of business from the preceding week, and prices are a shade lower. There is, however, no pressure to sell stocks, and an effort to buy large lines of any of the leading favorites would advance the market materially. Ingot copper is steady at about 19c., and we do not look for a great degree of activity in the stock market until another advance in ingot takes place. That we are to see much higher prices this season is generally conceded, and holders are disposed to wait for the "good time coming."

Calumet & Hecla has been very firm at $225, only a few shares selling at a fraction less.

A single sale of Central at $40 is recorded, being an advance of $5 from last sale, June 2d. This stock is virtually out of the market, and is strongly held.

Copper Falls was quite steady at $11 on small sales until to-day, when it declined to $10¼, which was bid at the close.

Franklin, very dull at $14@$13½.

In Quincy there was more doing, and the stock has been quite firm at $27¾@$28½, closing offered at $28.

Osceola steady at $36½@$37.

Pewabic very dull, only one sale of 100 shares at $17, seller 60, closing price $16¾@$17.

Atlantic, small sale at $18½, closing $18½ asked.

Allouez sold at $4½, and declined to $4, which was the bidding price this afternoon.

Huron declined from $4½ to $4, and closed $4 bid.

Ridge dull at $4⅝@$4½, and closed $4@$4½.

National, $2⅛@$1¼, and in good demand.

Blue Hill declined to $3.

Mesnard steady at $1¼.

Star steady at $1½.

Brunswick Antimony steady at $18½@$19.

SILVER STOCKS.

The market is very quiet for these stocks, and prices are generally quite firm.

Catalpa, small sales at $1⅝@$1¾.

Contentment very steady at $1¾@$2⅛.

Harshaw advanced from $31¼@$32½, but subsequently declined to $31, closing offered at $31.

Waukeag Silver sold at $3⅞@$4.

Duncan Silver sold at $1⅛.

Mass & New Mexico Silver sold at $2 5-16.

Silver Islet Silver sold at $11½.

The following table gives the dates on which the several Lake Superior mining companies mentioned, hold their annual meetings:

Company.	1880.
Coulter	July 5th.
Calumet & Hecla	August 18th.
Copper Falls	September 8th.
Duncan (silver)	December 6th
Eureka	September 15th.
Highland	June 23d.
Hazard	November 15th.
International (copper)	July 14th.
" (silver)	July 14th.
Mass	December 14th.
Star	July 26th.

Gas Stocks.

There is no special feature to note in the present dull condition of these stocks. The Harlem Gas-Light Company obtained from Judge Donohue, on the 29th ult., a writ of certiorari for a review of the action of the Tax Commissioners, who, under chapter 542 of the laws of 1880, taxed the personal property of the company, assessing it at a valuation of $349,700. The par value of the company's stock is $1,800,000, but its market value is only $738,000, the shares being quoted at 41. The cost of the real estate owned by the company was $714,120, and is assessed by the Commissioners at $388,300. The Commissioners claim that the difference between the market value of the corporation's stock and the assessed value of the real estate is the taxable value of the personalty of the company, which they assess at $349,700. The company claims that the personalty should be taxed at $23,849, the difference between the cost of the real estate and the market value of the stock.

The following list of companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 19 Broad street, New York. Quotations are based on the equivalent of $100.

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	DIVIDENDS. Rate per ann.	Am. of last.	Date of last.	QUOTATI'NS Bid.	As'd.
	$		P. ct.				
Mutual, N. Y.	5,000,000	$100	6	1½	July, '79	75	80
" Bonds	900,000	1,000	6	3½	Feb., '80	100	104
N. York "	4,000,000	.....	8	4	June, '80	104	107
Metrop. "	2,500,000	100	10	5	June, '80	137	140
" Certfs.	1,000,000	.....	7	3½	June, '80	101	103½
Harlem "	1,850,000	50	6	3	Feb., '78	70	75
Manhat. "	4,000,000	50	....‡	8	June, '80	187½	192½
Brooklyn, Bkln.	2,000,000	50	15	5	May, '80	120	125
Nassau	1,000,000	25	....‡	2½	Jan., '80	50	55
" Certfs.	700,000	1,000	7	3½	Nov., '79	90	95
People's	1,000,000	10	....‡	3½	Jan., '78	39	45
" Certfs.	250,000	1,000	7	3½	Jan., '80	75	85
" Bonds	375,000	.....	7	3½	Nov., '79	95	100
Metrop. "	1,000,000	100	5	2½	Jan., '80	60	70
W'msb'g "	1,000,000	50	8	1½	Feb., '80	70	75
" Bonds*	1,000,000	1,000	6	3	.....	100	102
Citizens'	1,200,000	20	....‡	2½	Feb., '80	60	67
" Bonds	315,000	1,000	.....	3½	Oct., '79	100	105
J. C., N. J.	750,000	20	10	7½	Jan., '80	150	160
Municipal, N. Y.	2,000,000	100	12	5	July, '80	155	165
" Bonds	750,000	100	?	3½	Nov., '79	105	110
Fult'n M'nicipal.	1,500,000	100	.....	.....	.....	80	90

* Changed from certificates to bonds, of $1000 each; 6 per cent per annum.

Coal Stocks.

NEW YORK, Friday Evening, July 2.

The market for these stocks has shown more activity during the current week, although the dealings have been characterized by a tone of weakness; prices throughout the week have been irregular and fluctuating, and the closing quotations to-day show considerable falling off from those of a week ago. The total transactions aggregate 464,816 shares, as against 401,817 shares for the previous week.

Reading has steadily declined from $19¼ on Saturday, to $13½, the lowest price, to-day; the sales in this market have amounted to 21,482 shares.

There arrived here last week a committee represent-

ing the English stockholders of the Philadelphia & Reading Railroad Company. They are to make an investigation of the company's affairs. A circular has been issued in London by Messrs. Douglas & Son, which says that the depreciation on the securities of the Reading Company, held in England, must exceed $10,000,000.

In response to their earnest request, ex-Vice-President Jones has prepared a statement explanatory of the condition of the road and coal companies, and this the visiting committee will carry back with them for publication in the London *Times* and London *Railway World*. It is rather a synopsis of a statement which he will complete in a couple of weeks, and is as follows:

The cause of its failure:
1. Extravagant prices paid for coal and iron-ore lands.
2. The payment of unearned dividends.
3. Incompetent management, especially of the transportation department.

Had the coal and ore lands been judiciously purchased, a saving could have been effected of at least	$10,000,000
The unearned dividends paid were	15,000,000
Losses since dividends were discontinued	10,500,000
Amount of debt for which the company has no equivalent in property	$35,500,000

The above sum of $35,500,000 is substantially represented on the books of the company by the following obligations:

1. Debenture and convertible bonds	$13,931,000
2. Scrip	5,305,000
3. Income bonds	2,218,000
4. Floating debt	13,000,000
	$34,494,000

and it is the interest on this sum that has well-nigh bankrupted the company.

The Philadelphia & Reading Coal and Iron Company will postpone announcing its decision on paying interest, due July 1st, on the divisional coal-land mortgage bonds of the company.

New Jersey Central has been the most active stock on the list, with sales amounting to 155,024 shares. The price has declined from $69¼ to $64⅝, and subsequently recovered to $66¾.

Delaware & Hudson Canal has advanced to-day 1½ per cent, with sales amounting to 22,290 shares. The extreme prices have been $78⅛@$73.

On sales of 135,426 shares, Delaware, Lackawanna & Western has fluctuated between $81¼@$76, closing at $76⅜.

There have also been sales of Colorado Coal and Iron at $31¼@$31, Chesapeake & Ohio at $19½@$17½, Maryland Coal at $19, and New Central Coal at $24½@$23.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in at New York, Philadelphia, and Baltimore, for the week ending the 30th 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.
St. L., I.M.& S.R.Co..	100	49	43⅝	44½	19,840
*Cambria Iron Co..	50	.... ..	.....	.....	.....
*Penn. Salt Mf'g Co.	50	.....	.....	.....	.....
*Schuyl. Nav. Co.pf	50	4½	.....	.....	300
*N. Central RW	50	32½	32	32	1,110
*H.& B.T.Mt.RR.pf	50	9⅝	5	9½	5,565
" " " " com.	.....	.....	.....	.....	.....
*NorthernPenn.RR	50	49	.... ..	.....	7
†B.&O.RR.Co.1st pf	.....	115	.....	.....	50
†B.&O.RR.Co.2d pf	100	106¼	.....	.....	45
" " " " com	90	152	.....	.....	1

Bonds.	Princ'l When Due.	Int'est. When Due.	Hig'st.	Lowest	Amount.
D., L. & W., 7s, conv	1882	J. & D.	... ..	.....	.....
" " " " 2d 7s....	1907	M. & S.	.....	.....	.....
M. & E., 1st con., 7s.	1915	J. & D.	109	108¾	$8,000
" " " " 2d 7s....	1891	F. & A.	.....	.....	.....
" " " 7s, 1871..	1901	A. & O.	113	.....	3,000
N.J.C.,1stmtge.new	1890	F. & A.	118	.....	1,000
" " " 1st mtge.,cou	1899	Q.	105	104⅜	‡24,000
" " " convt. 7's ...	1902	M. & N.	103½	103	‡13,000
" " " Adimt bds...	1903	M. & N.	107½	.....	3,000
" " " Income.....	1908	M. & N.	79¼	76½	16,000
L. & W.B., con....	1900	Q.	96¼	95½	59,000
" " Income	1888	M. & N.	.....	.....	.....
Am. Dock & Imp. 7s	1886	J. & J.	.....	.....	.....
St.L.I.M.& S..1st mt	1892	.... ..	117½	.....	1,000
" " " " pf.inc.	.....	.....	84	83	35,250
" " " " " 2d, 7s	1897	F. & A.	101	100⅝	61,000
" " " " " pf.inc.	.....	.....	76	75	65,000
St. L. & I., M. C. & F., 1st, 7s	1891	M. & N.	.....	.....	.....
St. L. & I. M. Cairo, A. & T., 1st, 7's..	1897	J. & J.	107⅛	101	12,000
Ches. & O., 1st s'rs b	1908	J. & D.	68	67	91,000
" " 6s, cr. int. df	1918	M. & N	40	37¾	94,500
D & H C Co., 1stm.rg	1884	J. & J.	102½	.....	3,000
" " " " "	1891	J. & J.	.....	.....	.....
" " " " m.loan cp	1894	A. & O.	.....	.....	.....
" " " " " rg.	1894	A. & O.	.....	.....	.....
" " " " new mge.	.....	.....	.....	.....	.....
" " " " 1st Pa. div., 7s, coup.	1917	J. & D.	.....	.....	.....
" " " " 1st Pa.. div., 7s, rg	1917	M. & N.	.....	.....	.....
L.V.R., 1stm.6s.cp.	1898	M. & S.	.....	.....	.....
" " " rg.	1898	J. & D.	.....	.....	.....
" " " 2d m. 7s,rg.	1910	J. & D.	128	.....	2,000
" " " con.m.6s,rg	1823	M. & S.	.....	.....	.....
" " " 6s cp.	1923	J. & D.	.....	.....	.....
*Pa.RR.,1st m.6s,cp	1880	J. & D.	.....	.....	.....
" " g. m., 6s, cp.	1910	J. & J.	.....	.....	.....
" " " 6s, rg.	1910	J. & J.	.....	.....	.....
" " con.m.6s,rg.	1905	A. & O.	.....	.....	.....
" " " 6s, cp.	1905	Q.	.....	.....	.....
" " new loan, 6s	.....	J. & D.	.....	.....	.....
*P.& R. R., 1st m.6s, R. C. 43-44.....	1880	J. & J.	.....	.....	.....
*P. & R. R.,1st m.6s, R. C. 48-49..	1880	J. & J	.....	.....	.....
*P.&R.R.,gen6s.G C	1908	J. & J.	.....	.....	.....
" " " scrip....	1882	J. & J.	.....	.....	.....
" " " deb.ex-cp.	1893	.....	.....	.....	.....
" " " c.m.7s,cp.	1911	J. & D.	107¾	107	5,000
" " " " 7s. rg.	1911	J. & D.	107¼	107	3,000
" " " cvt. 7s,exc	1893	J. & J.	114	.....	4,000
*L.Nav.Co.,6s,rg.m.	1884	J & Q.	106	.....	1,550
" " RR., rg. m.	1897	F. & Q.	110	.....	3,000
" " cvt. Gold R.	1894	M. & S.	.....	.....	.....
" " m Gold R.C.	1897	J. & D.	102½	.....	4,000
" " con.m.7s,rg.	1911	J. & D.	102½	.....	5,000
*P.& N.Y.C.,7s,R.C.	1896 / 1906	J. & D.	... ..	.....	.....
*Pa Canal, 6s.. ...	1910	J. & J.	82	....	3,000
*Schuyl. Nav., 6s...	1882	.....	54½	54	10,650
Sus. Can. 6s, ex-cp.	1918	.....	.....	.....	.....
*Sus.Coal, 6s, c....	1911	J. & J.	.....	.....	.....
†Balt.&O. RR., 6s..	1880	J. & J.	.....	.....	.....
" " " " 6s..	1885	A. & O.	.....	.....	.....

‡ Assented.

COAL STOCKS.

Name of Company.	Capital Stock.	Shares. No.	Shares. Par Val.	Last Dividend. Mo.	Last Dividend. Y.	Last Dividend. R't.	Rate per Ann.	June 26. H.	June 26. L.	June 28. H.	June 28. L.	June 29. H.	June 29. L.	June 30. H.	June 30. L.	July 1. H.	July 1. L.	July 2. H.	July 2. L.	Sales.
	$		$				Per c'nt													
Am. Coal Co.	1,500,000	60,000	25	...	..	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buck Mt.Coal	.....	.....	50	...	..	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Col. C. & I. pr.	10,000,000	100,000	10	.....	..	.....	...	31¼	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	225
Ches. & O. RR	15,000,000	150,000	100	.....	..	.....	...	18¾	.....	19½	.....	.....	.....	18½	17⅞	17½	.....	.....	.....	945
Consol. Coal.	10,250,000	102,500	100	Jan.	77	2½	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumb. C. & I.	500,000	5,000	100	.....	..	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Del. & H. C.	20,000,000	200,000	100	Aug	76	4	9	78	76	78⅝	77⅝	78¼	75¾	77⅛	74¾	75½	73	75¼	74½	22,290
D., L.& W. RR	26,000,000	524,000	50	July	76	2½	5	81	79¾	81¼	80⅛	81	78¼	79¼	77⅝	78½	76	78	76¾	135,426
Lehigh C.& N	10,148,500	208,971	50	Sept	76	1½	5½	27⅝	27¼	29¼	28	28¾	27⅝	28	27½	27½	26¾	27¼	27⅛	27,916
Leh. V'y R. R	27,228,855	540,858	50	Sept	79	1	4	50½	49⅞	51⅛	49⅞	50	49⅞	50	49¾	50	49½	50	49¼	2,713
Maryl'd Coal	4,400,000	44,000	100	Jan.	76	1½	1½	..	....	19	....	....	....	....	....	....	....	....	....	100
Montauk C'l.	2,500,000	25,000	100	.....	..	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morris & Es'x	15,000,000	300,000	50	July	79	3½	7	.....	.....	104¾	.....	105¾	105¼	.....	.....	105¾	104¾	105	.....	1,730
New Cen. C'l	5,000,000	50,000	100	Jan.	79	2	...	24	.....	24	.....	24½	24	24	23¼	23	.....	.....	.....	700
N. J. C. R. R.	20,000,000	200,000	100	Apr	76	2½	2½	68¾	65⅛	69⅛	68¼	69	65¾	67⅜	65¾	67	64⅜	66⅛	65⅛	155,034
N.Y.& S.Coal.	1,500,000	150,000	100	.....	..	...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn. Coal...	5,000,000	100,000	50	Oct.	79	3	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn. R. R...	68,870,200	337,404	50	Nov.	79	2½	10	54½	53⅜	54⅛	53⅜	54	53¾	53⅝	53¾	53⅜	53	53⅜	53⅜	84,440
Ph. & R. R.R.*	34,278,175	685,563	50	Jan	76	2½	...	19¼	18¾	19⅜	19⅛	19½	17¼	17⅞	16¾	16⅞	14¾	18⅛	13⅝	53,307
Colng Mt.C'l	1,500,000	30,000	50	Dec.	79	3½	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Of the sales of this stock, 31,825 shares were sold at the Philadelphia Stock Exchange, and 21,482 at the New York Stock Exchange.

Total Sales..... 464,816

BOSTON MINING STOCKS.

Name of Company.		Shares.	Par.	June 25. H.	June 25. L.	June 26. H.	June 26. L.	June 28. H.	June 28. L.	June 29. H.	June 29. L.	June 30. H.	June 30. L.	July 1. H.	July 1. L.	Sales.
Allouez, c.....	Mich.	80,000	$25	4½	.....	4¼	.....	4 1-16	3	.....	.....	.....	.....	4⅛	4	450
Atlantic, c.....	Me..	40,000	25	..	.....	.....	.....	18½	.....	.....	.....	.....	.....	.....	.....	25
Atlas.....	Mich.	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aztec.....		.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blue Hill, c....	Me...	50,000	10	3½	.....	3	.....	.....	.....	3	.....	.....	.....	.....	.....	850
Brunswick.. ..	Me...	.....	...	18½	.....	18	.....	18	.....	.....	.....	19	18½	18½	.....	125
Cal. & Hecla, c..	Mich.	100,000	25	225	.....	225	.....	225	.....	.....	.....	224¾	.....	224	.....	99
Catalpa..... ...	Colo..	300,000	10	†	1⅝	.....	.....	1¾	.....	1¾	.....	1⅞	†	.....	.....	1,025
Central, c.....	Mich.	20,000	25	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35
Chrysolite.....	Colo..	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Copper Falls, c..	Mich.	20,000	50	11	.....	11	.....	.....	.....	11	.....	.....	.....	10¼	.....	725
Copp'r Harbor,c	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cont'tm'nt M.Co		.....	...	2⅛	.....	.....	.....	2	.....	2	1⅞	.....	.....	.....	.....	1,900
Dana, c.....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Douglas, c. ...	Me...	100,000	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Duncan, s.....	Ont.	60,000	20	.....	.....	1½	.....	.....	.....	1½	.....	.....	.....	.....	.....	150
Franklin, c....	Mich.	20,000	25	.....	.....	.....	.....	14	.....	.....	.....	13½	...	.....	.....	100
Great Western..	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hanover.....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harshaw.....	Ariz..	100,000	100	32¼	.....	32	.....	31½	.....	31½	.....	.....	.....	31½	31	1,174
Humboldt, c....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hungarian, c...	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huron..... ...	Mich.	.....	...	4½	.....	4	.....	.....	.....	4½	... ..	4⅝	.....	4½	.....	450
International, s.	Ont..	60,000	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madison.....	Mich.	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manhattan, c...	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mesnard, c.....	Mich.	20,000	25	1¼	.....	1¼	.....	.....	.....	.....	.....	.....	.....	.....	.....	200
Minnesota, c....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
National, c.....	Mich.	20,000	25	.....	.....	2⅛	.....	.....	.....	2¼	.....	2¼	.....	.....	.....	575
Orford.....	Can..	50,000	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Osceola, c.....	Mich.	40,000	25	.....	.....	36½	.....	37	.....	.....	.....	37	.....	.....	.....	69
Pewabic, c.....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	17	.....	.....	.....	100
Phœnix, c	Mich.	20,000	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pontiac, c.....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ridge, c.....	Mich.	20,000	25	.....	.....	.....	.....	4⅝	.....	.....	.....	.....	.....	4½	...	150
Rockland, c.....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy, c.....	Mich.	40,000	25	28⅛	27⅞	28¼	27¾	28½	28¼	28	.....	.....	.....	.....	.....	985
Silver Islet, s...	Mich.	40,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11⅛	.....	10
So. Hite, c.....	Cal..	100,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Star, c.....	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	1½	.....	.....	.....	200
Sullivan, s.....	Me..	50,000	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Superior.....		.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sutro Tunnel...	Nev..	*	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Union L. & C.Co.	Mich.	.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington, c..	Mich.	20,000	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waukeag.....	Me...	.....	...	4	3⅞	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	300
.....		.....	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

c Copper. s. Silver. * 2,000,000. † 1 11-16.

THE BULLION MARKET.

BULLION SHIPMENTS.

We give below a statement showing the latest published bullion shipments, in addition to those announced in our issue of June 26th:

June 1-8..Alexander	Nev.	$1,645
" 14..(a) Northern Belle	"	6,202
" 14..Contention	Ariz.	8,156
" 14..Leopard	Nev.	9,524
" 18..Northern Belle	Nev.	5,871
" 18..(a) Christy	Utah	7,510
" 18..Eureka, passing	Nev.	1,715
" 18..Tuscarora, private	"	4,996
" 12-19..Tombstone	Ariz.	47,369
" 19..Central City	Colo.	3,500
" 19..Eureka, passing	Nev.	2,387
" 19..Paradise Valley	"	4,150
" 19..(b) Brooks, 1 car; Old Telegraph, 2 cars; Stormont, 4 bars	Utah	12,400
" 19..(b) Ontario, 4 bars	"	4,485
" 19..(b) Barbee & Walker	"	1,795
" 20..Silver King, concentrations	Ariz.	7,200 lbs.
" 20.. " " ore	"	7,800 "
" 20..Richmond	Nev.	$26,251
" 21..Bodie	Cal.	8,010
" 21..Paradise Valley	Nev.	1,555
" 21..Standard	Cal.	48,040
" 21..(b) Christy, 2 bars	Utah	2,747
" 20-21..(b) Ontario, 10 bars	"	11,097
" 21..(b) Crismon-Mammoth, 3 bars	"	800
" 21..(b) Barbee & Walker	"	1,590
" 21..(b) Old Telegraph, 3 cars; Brooks, 1 car	"	6,050
" 21..(b) Christy	"	2,747
" 21..(b) Barbee & Walker	"	3,463
" 22..Butte	Mont.	13,400
" 22..Central City	Colo.	6,000
" 22..Caribou	"	7,549
" 22..Eureka, passing	Nev.	692
" 22..Richmond	Colo.	18,906

June 22	(b) Crismon-Mammoth	Utah	$800
" 22	Central City	Colo	714
" 22	(b) Barbee & Walker	"	1,590
" 22	(b) Ontario, 6 bars	"	6,485
" 22	(c) Brooks	"	2,850
" 22	(c) Old Telegraph	"	1,250
" 22	(c) Ontario	"	8,315
" 22	(c) Barbee & Walker	"	1,590
" 22	(d) " " "	"	3,600
" 22	(c) Crismon	"	800
" 23	Algonquin	Mont	11,500
" 23	Eureka, passing	Nev	1,300
" 23	(b) Christy, 1 bar	Utah	2,080
" 23	(b) Ontario, 6 bars	"	5,985
" 23	(c) Christy	"	2,080
" 23	(c) Ontario	"	7,673
" 24	Butte		2,000
" 24	Standard Cons	Cal	47,327
" 24	Central City	Colo	4,000
" 24	(b) Old Telegraph, 2 cars; Morgan, 3 cars	Utah	6,500
" 24	(b) Ontario, 4 bars	"	4,266
" 24	(b) Barbee & Walker	"	1,534
" 24	(c) Morgan, 3 cars	"	4,100
" 24	(c) Old Telegraph, 2 cars	"	2,400
" 24	(c) Ontario, 4 bars	"	5,469
" 24	(c) Stormont, 4 bars	"	382
" 24	(c) Barbee & Walker, 1 bar	"	1,534
" 24	(c) Great Basin ore	"	4,500
" 24	Eureka, passing	Nev	1,140
" 25	(d) Stormont	Utah	7,422
" 26	(d) Horn-Silver	"	3,200
" 28	Stormont	"	7,800
" 30	(d) "	"	8,383
" 30	"	"	5,000
" 30	Durango	Dak	2,000
July 2	(d) Stormont	Utah	8,383

(a) Received at San Francisco.
(b) Received at Salt Lake City.
(c) Shipped from Salt Lake City.
(d) Received in this city.

ARIZONA.

The bullion shipments from Tombstone for the week ending June 19th aggregated $47,369.

CALIFORNIA.

The Standard produced ore for the third week in June to the amount of $32,000 and over.

The Bulwer for the same period produced about $4200 in ore value.

The President of the Inez Gold Mining Co., Colorado County, Cal., writes that the property looks better than expected. A mill-run of 28 tons produced $384 gold, and an 18-ton lot $282. There are about 600 tons of ore on the dump.

The Calaveras *Chronicle* says that all the mines in their vicinity are now cleaning up. The Bonanza cleaned up about $2500, and the Eureka, $25,000.

Treasure Shipments from San Francisco.—The shipments of treasure from San Francisco to New York, overland for the first half of the month, were as follows:

Gold coin	$170,770
Silver coin	4,850
Silver bars	13,000
Currency	57,070
Total	$245,690

COLORADO.

We are indebted to the Leadville *Circular* of June 26th for the following tables:

Smelters' Output.—The following table shows the smelters' output for the week ending June 21st:

	Bullion shipped, tons.	Grade.	Value. Silver @ $1.15.	Value. Lead @ 4½c.	Value. Total.	Bars of bullion on hand.
Ora La Plata	78	250	$22,540	$7,000	$29,540	...
Billing & Eilers	32	245	10,340	3,020	13,360	8,186
Ohio & Missouri	23	300	7,870	2,100	9,970	100
Cummings & Finn	58	330	20,400	4,900	24,300	400
Harrison Works	52	525	15,120	4,800	19,900	1,100
Elgin	50	175	10,060	4,700	14,760	400
Others estimated, bullion	150	...	...	...	70,000	...
" ores	...	...	...	...	20,000	...
Totals	453	...	...	...	$201,850	11,086
Last week	624	...	...	...	273,810	10,391
Decrease	170	...	...	...	71,950	...
Increase	...	...	...	...	...	695

Silver Cliff.—The *Prospect* of June 20th says: "The Silver Cliff Mining Company will ship to-morrow morning, by express, to the company's office in New York, two silver bricks of about the usual weight and value. They had not been weighed when the reporter saw them. The mill is now shipping about $12,000 worth of silver per week. Chambers's Smelting Works shipped two car-loads of base bullion yesterday, and have several more ready for shipment." The mill crushes 40 tons per day.

Dunderberg.—The concentrating-mill of the Dunderberg Company turns out about 100 sacks of concentrated ore per day, that nets the company between $500 and $600.

Mining Output.—The following table gives the approximate daily output of the leading mines of the camp at the present time:

Mines.	Tons.	Mines.	Tons.
Little Pittsburg	70	Tucson	8
Chrysolite	100	Luella	8
Little Chief	160	Dunkin	5
Iron Mine	150	Robert E. Lee	30
Morning Star	50	Silver Wave	15
Leadville M. Co	10	Little Giant	5
Catalpa	5	Colorado Prince	20
Hibernia	12	Silver Cord	15
Amie	25	Little Ella	10
Climax	20	Others, say altogether	30
Oro La Plata	20		
Pendery & Glass	20	Total tons	788

DAKOTA.

A dispatch from Superintendent Devereux of the Durango, dated June 30th, says that he has cleaned up 125 ounces of gold from 200 tons of ore, and shipped $2000 to the New York offices.

MONTANA.

The Butte *Miner* says of the mills of its district:

"The Burlington mill—eight stamps—is running on ore from the Wake-Up Jim, and is reducing ten tons daily. The 20-stamp Alice mill is of course running on Alice ore. The 15 stamps of the Dexter are kept busy on ore from the Burnett. The Centennial mill is also running on Burnett ore. The Silver Bow mill, 20 stamps, is crushing Gray Rock ore. The Colorado smelter is kept mostly supplied from the Gagnon. The Montana copper concentrator and smelter is being rushed to an early completion. The several arrastras of the vicinity are all in operation and doing well."

NEVADA.

The Northern Belle had shipped up to the 16th, $45,483.93.

The Ohio mine, Humboldt County, Nev., shipped 111 sacks of ore to Salt Lake City recently. The average return was $864.96 to the ton. At 50 pounds to the sack, this gave a net return of $2258.84.

On the 18th ult., there was received at the Carson Mint $40,000 worth of bullion from Mackay & Fair's tailings mills.

UTAH.

Our regular correspondent, writing from Salt Lake City under date of June 26th, says:

Utah's bullion shipments for the week ending June 26th, inclusive, were as follows:

Ontario, 36 bars	$48,687.41
Christy, 2 bars	4,787.09
Barbee & Walker, 5 bars	8,168.40
Stormont, 4 bars	8,382.97
Crismon-Mammoth, 3 bars	800.00
Old Telegraph, 5 cars	6,000.00
Brooks, 1 car	2,850.00
Morgan, 4 cars	5,500.00
Hillside, 2 cars	7,553.44
Great Basin, silver ore 150 tons	4,500.00
	$94,279.31

Silver Reef.—The bullion shipments from Silver Reef by Wells, Fargo & Company for the week ending June 22d amounted to $29,006.79.

Ontario.—During the week ending June 14th, the Ontario Silver Mining Company, of Utah, extracted 416 tons of ore, extended the levels 45 feet, and sunk the new shaft 12 feet. The mill produced 28 bars of bullion, valued at $37,570.18. The shipments for the week ending June 18th aggregate $39,408.78.

The Barbee & Walker mine, of Silver Reef, Utah, has shipped this year, since the new mill was started, as follows:

From February 27th to March 27th	$23,337.39
From March 29th to April 29th	23,818.73
From May 8th to June 2d	25,158.26
From June 6th to June 20th	17,534.28
	$89,848.66

MISCELLANEOUS.

Bullion Receipts from the Mines to New York.—We have carefully compiled from various sources the gold and silver bullion received in this city for the six days beginning with June 25th, and ending with the 1st inst., both days inclusive, and figure up a total of $381,179.74, or in round numbers at the rate of $400,000 per week. This average has been fairly maintained for several weeks past, and, as stated in our last, should these receipts be maintained, which now seems more than probable, and it is possible they will be exceeded, this city will receive the benefits arising from using over $20,000,000 per annum newly-created wealth.

United States Assay Office Business for June.—The following is a statement of the business at the United States Assay Office at New York for the month ending June 30th, 1880:

Deposits of gold—	
Foreign coin	$110,000
Foreign bullion	45,000
United States bullion	423,000
United States bullion (re-deposits)	15,000
Jewelers' bars	58,000
Total	$651,000
Deposits of silver—	
Miscellaneous	$36,500
California	800
Colorado	98,500
Lake Superior	1,500
Montana	55,000
Nevada	20,000
New Mexico	17,000
Utah	95,000
Total	$324,300
Total deposits	975,300
Gold bars stamped	772,381.16
Silver bars stamped	341,625.89
Total	$1,114,007.05

Coinage at the United States Mints.—WASHINGTON, July 1.—The following is a statement of the coinage executed at the United States mints during June, 1880:

Denomination.	Number of pieces.	Value.
GOLD.		
Double-eagles	84,000	$1,680,000
Eagles	107,180	1,071,800
Half-eagles	325,608	1,628,040
Total gold	516,788	$4,379,840
SILVER.		
Dollars	2,011,500	$2,011,500
Half-dollars	500	250
Quarter-dollars	500	125
Dimes	500	50
Total silver	2,013,000	$2,011,925
MINOR COINAGE.		
Five cents	900	$45
Three cents	900	27
Cents	2,346,900	23,469
Total minor	2,348,700	$23,541
Total coinage	4,878,488	$6,415,306

The coinage executed at the mints during the fiscal year ended June 30th, 1880, was as follows:

Denomination.	Number of pieces.	Value.
GOLD.		
Double-eagles	1,075,768	$21,515,360
Eagles	1,883,632	18,836,320
Half-eagles	3,158,172	15,790,860
Three dollars	3,030	9,090
Quarter-eagles	1,230	3,075
Dollars	3,030	3,030
Total gold	6,124,862	$56,157,735
SILVER.		
Standard dollars	27,933,750	$27,933,750
Half-dollars	6,550	3,275
Quarter-dollars	15,350	3,837
Dimes	15,750	1,575
Total silver	27,971,400	$27,942,437
MINOR COINAGE.		
Five cents	24,950	$1,247
Three cents	32,750	982
Cents	26,774,150	267,741
Total minor coinage	26,831,850	$269,971
Total coinage	60,928,112	$84,370,144

The coinage of the year just ended is the largest executed at the United States mints during any one year.

METALS.

NEW YORK, Friday Evening, July 2.

From to-day until Wednesday morning, there will practically be no business done, to-morrow being added to the Fourth as a holiday; and as many will arrive at their offices late Tuesday, there will be but little done that day. Outside of tin, there has been but little to attract attention during the week under review, but the activity in this metal has imparted a little better tone to the whole market.

Copper.—The London price is cabled at £59 for Chili bars. Sales here of 200,000 pounds for future delivery are reported at 18¾c., and about 100,000 pounds on spot, at 18⅝@18¾c. Stocks are accumulating, and the mining companies are out of the market, not being willing to sell at less than 19c. The market closes very dull.

From our London advices received by mail, we extract as follows: On the 14th ult., there was only a small cash business at £56¼@£56⅞, with £57 asked at the close. There was considerable inquiry at £56½, customary conditions. On the 15th, sales of about 400 tons were reported, at £57⅛@£58.

STATISTICS OF COPPER, LONDON, LIVERPOOL, SWANSEA, AND FRANCE.

	June 1st to 15th. Imports. Tons.	June 1st to 15th. Deliveries. Tons.	
Fine foreign, chiefly Australian	1,009	249	London.
Chili, Bars and Ingots	705	1,898	Liverpool
Chili, In Ores and Regulus	1,116	526	& Swansea.
Totals, England	2,830	2,673	
Fine foreign, chiefly American	Nil	Nil	France.
Chili Bars, Ingots, and Barilla	1,078	665	France.
Tons	3,908	3,338	

	Stocks. June 15th. Tons.	Stocks. May 31st. Tons.	
Fine foreign, chiefly Australian	6,122	5,362	London.
Chili, Bars and Ingots	30,152	31,345	Liverpool
Chili, In Ores and Regulus	1,055	465	& Swansea.
Totals, England	37,329	37,172	
Fine foreign, chiefly American	633	633	France.
Chili Bars, Ingots, and Barilla	4,536	4,123	France.
Tons	42,498	41,928	
Chili, chartered and afloat, Mail	13,080	12,530	
Chili, chartered and afloat, Telegram	1,100	3,900	
Tons	56,678	58,358	
Chili G. O. Bs		£58	£56¼
Wallaroo Cake		70	72

	Jan. 1 to June 15. 1880. Tons.	1879. Tons.	1878. Tons.
Imports, Chili	21,229	21,449	23,185
Imports, Other foreign	5,098	7,557	5,879
Tons	26,327	29,006	29,064
Deliveries, Chili	22,294	18,645	19,292
Deliveries, Other foreign	3,790	6,937	4,400
Tons	26,084	25,582	23,692

The Chili charters reported on the 15th were : 1250 tons bars and ingots ; 500 tons pure in furnace material for England ; 250 tons bars, for France.

Charters—	1880. Tons.	1879. Tons.	1878. Tons.	1877. Tons.
January 1 to May 31	19,358	20,766	18,452	18,871
June 1 to June 15	2,000	1,335	1,785	1,228
Shipments—				
January 1 to May 31	20,897	20,306	19,368	20,499
May only	3,200	4,670	3,261	3,241

Price at Valparaiso, on 11th inst., was $17, exchange 32½d., which, with steamer freight, 60s., is equal to £57, Liverpool, without commission to merchants either side.

On the 16th, the knowledge of the charters, which although not large, were larger than was expected, caused a slight weakening without many sellers. Sales of about 150 tons were reported at £57¼@£57½ for prompts and £58½ for partially extended deliveries. On the 17th, there was a small business ; sales were made at £58@£58½ cash, and £59½ for three months fixed. Our report of the 18th says :

"Chili Bars have been in fair demand, and, sellers continuing scarce, there has been a little difficulty in executing orders at the current quotations. Opening with a small trade at £59, prices soon ran to £59½, at which we closed on first 'Change. In the afternoon, £60 was asked, and the market was soon cleared of every thing offering at that figure ; following which, £60½ was given for a moderate quantity, closing buyers at said rate, sellers asking £61. We estimate the total transactions at about 600 tons, all for cash, or short fixed prompts. Wallaroo is now quoted £71@£72, and Burra, £70@£71."

Tin.—This article has practically absorbed the attention of the market. Straits tin, which was at one time up to £85, is quoted at £83 10s. in London. The Singapore price is $25½, with exchange at 3s. 10⅜d. The shipments of Straits to this country for the last half of June amounted to 150 tons, and for the whole month, 300 tons. The shipments for the whole month to Great Britain amounted to 200 tons. Two hundred tons of Straits have been sold for export at 18c., while here about the same quantity has been sold at 18@18¼c. The market closes strong at 18½c., for Straits, 19c. for L. & F., 18¼c. for Billiton and Australian. Mr. E. P. White, metal broker, furnishes us with the following statistics of the tin situation on July 1st :

PIG TIN STATISTICS.

		Tons.
Stock of tin in all hands June 1, 1880		3,220
Imports in June, 1880, all ports, Straits	625	
Australian	150	
English	20	
Billiton	—	795
		4,025
Consumption in June	1,200	
Shipments to Holland, Billiton	100–1,300	
Stock on hand July 1, 1880		2,725
To arrive :		
February, May (sail)	545	
April, May (steam)	125	
June (steam)	300	
Straits Malacca	970	
Australian	180–1,150	
Total stock, spot and to arrive, July 1, 1880		3,875
Estimated to arrive :		
Australian	200	
Billiton	200	
Total	400	

These prices show quite a reduction in the actual stock and expected arrivals. On April 1st, the quantity afloat was placed at 6135 pounds, while, as will be seen above, it is now reduced to 3875 tons. The consumption continues to be very large, while the production during the next three months, as is customary at this season of the year, will probably be small.

From our London advices received by mail, we extract as follows : On the 14th, Straits opened at 74s., fell to 72s. and rapidly recovered to 73s. On the 15th, but little was offered, and the price rose from 73s. to 74½s., afterward receding to 74s. On the 16th, there was a good business in extended prompts at 74s. and a little cash at 74¼@74¾s. On the 17th, the quotation ran up to 77s., although later there were transactions at 76@76½s. On the 18th, our report says :

"Tin has had a very sharp advance, and closed firm at the highest price paid. A little trade was done in the morning at 77s., but it soon ran up to 80s., a large trade being done at intermediate rates. On second change, a small quantity was sold at 80s., and extensive purchases afterward made at 80½s., with a few lots at 81s., which was paid at the close."

Tin Plates.—These are quiet, but slightly firmer. We quote charcoal tins, third cross, Melyn grade, at $6.50 ; Allaway, $6.12½@$6.25 ; charcoal ternes, Dean grade, $5.62½, and Allaway, $5.50 ; coke tins, B. V. grade, $5.12½@$5.25 ; and ternes, $5.

Messrs. Robert Crooks & Co., of Liverpool, under date of June 17th, say of Tin and Terne Plates :

"Buying this week has established quite a solid advance in Coke Tin, little of which is procurable at our figures of to-day. Naturally, after late experience, buyers are cautious, and hesitate before raising their limits, so there is no rush but a steady growth, a far more satisfactory development. Speaking of the market generally, we would call Charcoal Tins and Ternes steady at the lowest point, while Cokes are firm at an advance of 6d. From the nature of orders and inquiries coming to hand, we should judge stocks abroad to be very much run down."

Lead.—This is very dull and quoted at 4¾@4·85. The shipments of lead by the St. Louis & San Francisco Railway for the week ending June 21st amounted to 132 tons.

Spelter and Zinc.—These are very quiet. The former is quoted at 5 to 5¼c. for domestic, and the latter at 7¼c.

Antimony.—This is very quiet. Cookson's is quoted as 19c., and Hallett's and Johnson's at 17c.

PRICES OF IRON.

Baltimore. June 28.

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

Balt. Char.	$45.00@$46 00	Mot and Wh.	$19.00@$20.00
Va. "	45.00@ 46.00	Cl. C.B. Blo'm	70.00@ 72.00
Anth. No. 1.	24.00@ 25.00	" " Billets.	70.00@ 75.00
" " 2.	23.00@ 24.00	Refined Bl'm	55.00@ 60.00
" " 3.	21 00@ 23.00		

Buffalo. June 29.

[Specially reported by Messrs. PALEN & BURNS.]

Prices per ton of 2240 lbs. on cars at Buffalo.

	Cash.
No. 1 Ex Foundry	$23.00@$25.50
No. 2 " "	22.00@ 24.50
No. 3 Forge	18.00@ 23.50
Coltness	24.50
Carnbroe	24.50
Summerlee	22.50
Glengarnock	22.00
Gartsherrie	22.00
Eglinton	21.50
Old Car-Wheels	32.50
Old Iron Rails	26.00
No. 1 Wrought Scrap	24.00
No. 1 Cast Scrap	20.00
Best American Scotch No. 1	24.00
" " " B 1	23.00
" " " No. 2	22.00

Chicago. June 28.

[Specially reported by Messrs. WILLIAM M. COX & Co.]

Lake Superior Charcoal, Nos. 1 and 2	$37.00@ 40.00
Southern (Coke and Steam Coal)	28.00@ 30.00
Soft Southern	25.00@ 27.00
Anthracite	27.00@ 28.00
Scotch (imported)	40.00@ 44.00
Ohio, No. 1 Foundry	45.00@ 46.00

Louisville. June 29.

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

FOUNDRY IRONS.

	No. 1.	No. 2.
Hanging Rock Charcoal	$26.00@$28.00	$25.00@$26.00
Southern Charcoal	25.00@ 26.00	23.00@ 24.00
H'n g Rock, Stc'l & Coke	25.00@ 26.00	23.00@ 24.00
Southern Stonecoal & Coke	24.00@ 25.00	22.00@ 23.00

"Amer. Scotch"	$23.00@$24	Silver Gray.	$19.00@$21.00
Scotch Iron	28.00@ 29		

MILL IRONS.

No. 1 Charcoal, Cold-short & Neutral	$21.00@$23.00
No. 1 Stc'l & Coke, Cold-short & Neutral	20.00@ 21.00
No. 2 Stc'l & Coke, Cold-short & Neutral	19.00@ 20.00
No. 1 Missouri and Indiana, Red-short	25.00@ 26.00
White & Mottled, Cold-short & Neutral	18.00@ 19.00

CAR-WHEEL AND MALLEABLE IRONS.

Hanging Rock, Cold Blast	$45.00@$50.00
Alabama and Georgia, Cold Blast	43.00@ 45.00
Kentucky, Cold Blast	40.00@ 43.00

Milwaukee. June 29.

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

CHARCOAL IRONS.

No. 1 Lake Superior per gross ton	$31.00@	32.00—cash.
" 2 " " "	30.00@	31.00—cash.
" 3 " " Car wheels.	35.00@	36.00—cash.
" 4, 5, and 6 " Malleable	40.00@	45.00—cash.

ANTHRACITE IRONS.

No. 1 E. & L. S. ores per gross ton	$25.00@ 26.00—cash.

SCOTCH IRONS.

No. 1 Imp. Scotch, per gross ton	27.00@ 28.00—cash.
American " " "	27.00@ 28.00—cash.

Philadelphia. June 29.

[Specially reported by Messrs. JUSTICE COX, JR., & Co.]

	Per ton.
No. 1	$23.00@$25.00
No. 2	22 00@ 24.00
Gray Forge	20.00@ 22.00
Steel Rails	59.00@ 63.00
Iron Rails	45.00@ 50.00
Old Rails	23.75@ 25.00
Muck Bars	38.00@ 41.00
At mills.	Per lb.
Bars	2 2-10@2 3-10c.
Plate and tank (as to quality and delivery)	2 5-10@2 8-10c.

Other plate and tin box from 3@6c., all at mill.

St. Louis. June 26.

[Specially reported by CARD & HOFFER.]

HOT BLAST CHARCOAL.

Missouri	$25.00@28.00
Southern	23.00@25.00
Hanging Rock	25.00@26.00

COKE AND COAL.

Missouri	None offering.
Southern	22.00@24.00
Ohio River	22.00@24.00

MILL IRONS.

Cold short	$21.00@22.00
Red short	25.00@28.00

CAR-WHEEL IRONS.

Missouri	40.00@45.00
Southern	45.00@50.00
Ohio	45.00@50.00

IRON ORE.

For fix	10.00@12.00
Furnace	6.50@ 7.50
Brown hematite	No market.

Nominal.

Richmond. June 28.

[Specially reported by ASA SNYDER.]

Scotch Pig-Iron	$23.00@$28.00
Amer. Scotch Pig-Iron	27.00@ 30.00
American " " No. 1	25.00@ 27.00
" " " No. 2	23.00@ 25.00
" " " No. 3	22.00@ 24.00
" " Mottled and W	20.00@ 22.00
Va. Cold Blast Charcoal Pig-Iron, neutral	42.00@ 46.00
" Warm "	31.00@ 34.00
Old Rails	23.00@ 25.00
Wrought Scrap No. 1	19.00@ 21.00
Cast Machinery Scrap	18.00@
Richmond Refined Bar Iron	2 6-10@
Horseshoes (Tredegar)	4 00@
Mule-shoes "	5.00@
Old Dominion nails	3.00@

10c. less for 200 kegs.

FREIGHTS.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the atest actual charters to July 2d, 1880.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Fort Johnson, South Amboy, Hoboken and Weehawken.
Alexandria			
Annapolis			
Appoquang			
Baltimore	60		
Bangor			85
Bath, Me			85
Beverly			
Boston, Mass.	1.10@1.15	1.40	85
Braintree			
Bridgeport, Conn.		1.40	
Brooklyn			
Cambridge, Mass.			
Cambridgeport	1.15‡		
Camden			
Charleston			
Charlestown	1.15@1.20		
Chelsea			
City Point			
Com. Pt., Mass.			
E. Boston			
East Cambridge			
E. Gr'nwich, R. I.			
Fall River			
Georgetown			
Gloucester	1.15@1.20		
Hartford		2.00	
Keyport			
Lambertville			
Lynn	1.20		
Marblehead	1.15		
Medford			
Millville			
Milton	1.25		
Mystic River			
N. Brunsw'k, N.J.			
New Bedford	1.10	1.50	
Newburyport		1.50	
New Haven		1.40	
New London		1.44	
Newport	1.15@1 20		
New York	73@80	1.30	
Norfolk, Va			
Norwich		1.55	
Norwalk, Conn		1.40	
Pawtucket		1.50	
Philadelphia		60	
Portland	75*	1.20	
Portsmouth, Va.			
Portsmouth, N.H.		1.50	95
Providence	1.10	1.40	75
Provincetown			
Quincy Point			
Richmond, Va	57½		
Rockland			
Rockport			
Roxbury			
Saco			
Sag Harbor			
Salem, Mass.	1.46	1.40	85
Saugus			
Savannah			
Somerset			
Staten Island			
Trenton		90	
Troy			
Wareham			
Washington	70@72		
Weymouth			
Williamsbg, N.Y.			
Wilmington, Del.			
Wilmington, N.C.			

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

PRICES OF COAL.

Baltimore. June 30.

[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	$5.10
Broken	4.30
Egg	4.30
Stove	4.30
Chestnut	4.30

LYKENS VALLEY RED ASH.

Broken	$5.15
Egg	5.15
Stove	5.15
Chestnut	5.15

By cargo afloat, 15 cents less than in cars.
From yard or wharf to trade, 50 cents additional.

Buffalo. June 28.

[Specially reported by C. M. UNDERHILL, Esq.]

On and after June 1st, until further notice, the prices of the coals of the Anthracite Coal Association will be as follows, per ton of 2000 lbs., subject to the usual conditions of shipment and sale:

	F.O.B. vessel at Buffalo.	On cars at Buffalo and Bridges.	Retail delivered. Buffalo.
Grate and egg	$4.40	$4.13	$5.15
Stove and chestnut	4.65	4.38	5.40
Pea			4.40
Blossburg	3.50	3 25	4.00

Ten cents additional to car price will be charged Buffalo dealers for screened coal.

Chicago. June 29.

[Specially reported by Messrs. RENO & LITTLE.]

Per net ton on cars.

Grate	$5 47	Stove	$5.72
Egg	5.47	Nut	5.72

At retail to consumers.

Grate	$6.25	Stove	$6.50
Egg	6.25	Nut	6.50

Bituminous coal.

Brier Hill, per ton	$6.00	Indiana Block, per ton.	$5.00
Erie, "	6.00	Wilmington, "	4.00

[Specially reported by Messrs. WILLIAM M. COX & Co.]

Wholesale, per ton of 2000 lbs.

Anthracite (prepared) on track	$5.47@$5.72
Clearfield "	4.50@
Blossburg "	4.35@
West Virginia Gas Coal "	4.25@4.50
Brier Hill and Erie "	5.00@ 5.75
Pittsburg "	4.75@
Coke "	10.00@

Retail, per ton of 2000 lbs.

Anthracite (for family use)	$6.50@$7.00
Brier Hill and Erie	7.50@ 8.00
Lehigh (lump)	7.00@ 7.50
Blossburg	5.50@
Cumberland	6.00@

Cleveland. June 28.

[Specially reported by F. A. BATES, Esq.]

Per ton of 2000 lbs. f.o.b. vessels.

WHOLESALE.

Brier Hill (Church Hill)	$3.80@4.00
" " No. 2 Grades	3.60@3.80
Massillon	2.75
" No. 2 Grade	2.60
Monday Creek	2.75
Straitsville Lower Vein	2.75
Hocking Valley	2.75
Tuscarawas Valley	2.50
Columbiana	2.50
Nut coal, various grades	2.00@2.25
Screenings " "	1.50@1.75
Youghiogheny gas coals	3.75

RETAIL TRADE.

Lump.

Brier Hill lump	$4.50
Massillon and Mineral Ridge	4.25
Monday Creek	4.00
Straitsville Lower Vein	4.00
Hocking lump	4 00
Rich Hill	3.50
Columbiana	3.50

Nut.

Massillon and Mineral Ridge	4.00
Monday Creek	3.50
Straitsville, Lower Vein	3.50
Hocking Valley	3.50
Columbiana	3.25

Hard Coal on Track—Wholesale.

Steamboat	$5.03
Grate	5.03
Egg	5.03
Chestnut	5.28
Stove	5.28

Hamilton, Ont. June 29.

[Specially reported by H. BARNARD, Esq.]

Retail prices delivered per ton of 2000 lbs.

Grate	$5.75	No. 1 Brier Hill	$6.50
Egg	5.75	No. 2 Brier Hill	6.00
Stove	6.00	Reynoldsville steam	5.50
Chestnut	6.00	Lehigh Lump	8.00
Pea	5.50	Blossburg	5.50

Louisville. June 28.

[Specially reported by Messrs. BYRNE & SPEED.]

Wholesale.

	Per bushel.
Pittsburg	8c.
Kentucky	5¾c.

Retail.

Pittsburg	11c.
Campbell's Creek	10c.
Coke	10c.
Kentucky	8c.
Kentucky Nut	7c.
Anthracite, per ton	$7.50

Milwaukee. June 28.

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

	Cash.
Lackawanna stove size per net ton	$6.50@
" chestnut " "	6.50@
" egg " "	6.00@
Brier Hill " "	6.50@
Straitsville, Ohio, Bitu. " "	4.50@
Morris Run Blossburg " "	4 75@
Altoona " "	4 75@
Cumberland Forge	5.25@
Lehigh Lump	8.00@

Philadelphia. July 1.

The receivers of the Philadelphia & Reading Coal and Iron Company announce the line and city prices of coal for the month of July as follows:

At Schuylkill Haven—White ash, lump and steamboat, $3; broken, stove, and egg, $2.75; chestnut No. 1, $2.50; chestnut No. 2, $2.40; pea No. 1, $1.75; pea No. 2, $1.60; red ash and Shamokin—broken, egg, and stove, $2.75; chestnut No. 1, $2.50; pea No. 1, $1.75; Lorberry, broken, egg, and stove, $2.85; chestnut No. 1, $2.50; pea No. 1, $1.75.

By canal—Broken, $2.75; egg and stove, $2.85; chestnut No. 1, $2.60; pea No. 1, $1.85; buckwheat, $1.20.

At Pine Grove—Lorberry, broken, egg, and stove, $2.75 chestnut No. 1, $2.50; pea, No. 1, $1.75.

Lykens Valley—By rail, broken, egg, and stove, $2.75; chestnut No. 1, $2.50; pea No. 1, $1.75; buckwheat, $1.10.

Harbor prices, for coal delivered free on board vessels at Port Richmond: Hard white ash, lump, and steamboat, $4.70; broken, egg, and stove, $4.35; chestnut, $4.10; pea, $3.35; free-burning white ash, broken, egg, and stove, $4.35; chestnut, $4.10; pea, $3.35; Schuylkill red ash, egg, $4.50; stove, $4.55; chestnut, $4.10; Shamokin, egg and stove, $4.35; chestnut, $4.10; Lorberry, egg, $4.60; stove, $4.65; chestnut, $4.10; Lykens Valley (Brookside), egg and stove, $5; chestnut, $4.

Richmond. June 30.

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

Kanawha Cannel	$8.00	New River Bituminous	$4.00
Coalburg Splint	4.30	Clover Hill Coal	3.00
Lewiston "	4.30	Norwood Gas and Steam Coal	3.20
Kanawha Gas Coal	4.00		

Toledo. June 29.

[Specially reported by Messrs. GOSLINE & BARBOUR.]

Ton of 2000 lbs.

	Lackawanna. Grate.	Egg.	Stove.	Chest.	No. 4.
On cars	$5.03	$5.03	$5.28	$5.28	$5.28
Retail delivered.	6.25	6.25	6.25	6 25	6.25

BITUMINOUS—WHOLESALE ON CARS AT TOLEDO.

Ton of 2000 lbs.

Straitsville lump	$3.10
" nut	2.50
Shawnee, lump	3.10
" nut	2.50
Hocking Valley lump	3.10
" nut	2.50
Wallston, lump	3.25
Fall Brook or Morris Run or Blossburg Coals	3.90
McIntyre Blossburg Coal	3.90
Cumberland Blossburg	4.50
Lehigh lump	6.75
Connellsville coke	5.75
Card & Upson Lump Coal, f. o. b. vessel at Sandusky, O	2.75

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 June 26th, and years from January 1st:

TONS OF 2240 LBS.	1880. Week.	1880. Year.	1879. Week.	1879. Year.
Wyoming Region.				
D. & H. Canal Co.	47,814	1,389,844	78,693	1,475,466
D. L. & W. RR. Co.	58,782	1,556,728	82,204	1,674,449
Penn. Coal Co.	22,043	449,658	30,514	658,598
L. V. RR. Co.	12,751	458,167	37,215	464,552
P. & N. Y. RR. Co.	627	13,286	1,198	13,123
C. RR. of N. J.	31,362	692,799		820,419
Penn. Canal Co.	12,799	140,589	15,086	148,912
	186,178	4,701,071	244,910	5,255,519
Lehigh Region.				
L. V. RR. Co.	60,207	1,407,306	100,473	1,505,580
C. RR. of N. J.	37,478	895,705		940,105
S. H. & W. B. RR.		6,331		12,580
	97,685	2,309,342	100,473	2,458,265
Schuylkill Region.				
P. & R. RR. Co.	98,189	2,558,837	173,702	3,391,549
Shamokin & Lykens Val.	8,897	325,661	11,707	382,721
	107,086	2,884,498	185,409	3,774,270
Sullivan Region.				
St Line&Sul.RR.Co.	815	19,633	1,609	26,539
Total	391,764	9,914,544	532,401	11,514,593
Increase				
Decrease	140,637	1,600,049		

Total same time in 1875	5,136,818 tons.
" " " " 1876	6,988,199 "
" " " " 1877	9,571,115 "
" " " " 1878	7,058,738 "
" " " " 1879	11,514,593 "

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

Belvidere Delaware Railroad Report for the week, and years ending June 26th:

	Week.	Year. 1880.	Year. 1879.
Coal for shipment at Coal Port (Trenton)	861	13,601	4,526
Coal for shipment at South Amboy	6,552	185,681	231,093
Coal for distribution	9,533	223,827	162,866
Coal for company's use	1,355	47,603	40,924

Coals Cleared on the Canals of the State of New York for the week ending June 22d, and year from the opening of navigation:

Tons of 2000 lbs.	1880. Week.	1880. Year.	1879. Week.	1879. Year.
Anthracite	22,258	227,833	31,012	247,812
Bituminous	9,240	60,091	6,979	32,857
Total amount cleared	31,498	287,924	37,981	280,669

The increase in shipments of Cumberland Coal over the Cumberland Branch and Cumberland and Pennsylvania railroads amounts to 260,725 tons, as compared with the corresponding period in 1879.

The Production of Bituminous Coal for the week ending June 26th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lbs	48,098	985,080
Barclay Region, Pa.		
Barclay RR., tons of 2240 lbs	7,343	215,453
Broad Top Region, Pa.		
Huntingdon & Broad Top RR	2,519	105,713
*East Broad Top	274	37,851
Clearfield Region, Pa.		
*Snow Shoe	707	31,337
*Tyrone and Clearfield	39,750	621,252
Alleghany Region, Pa.		
*Pennsylvania RR.	5,018	174,639
Pittsburg Region, Pa.		
*West Penn RR.	4,709	132,539
*Southwest Penn. RR.	170	27,555
*Penn & Westmoreland gas-coal, Pa. RR.	13,486	543,209
*Pennsylvania RR.	10,100	261,418

*For the week ending June 21st.

The Production of Coke for the week ending June 21st:

Tons of 2000 lbs.	Week	Year.
Penn. R.R. (Alleghany Region)	1,095	31,283
West Penn. RR.	916	45,033
Southwest Penn. RR.	22,906	509,112
Penn. & Westmoreland Region, Pa. RR.	1,627	65,496
Pittsburg, Penn. RR.	9,500	220,443
Total	36.044	871,367