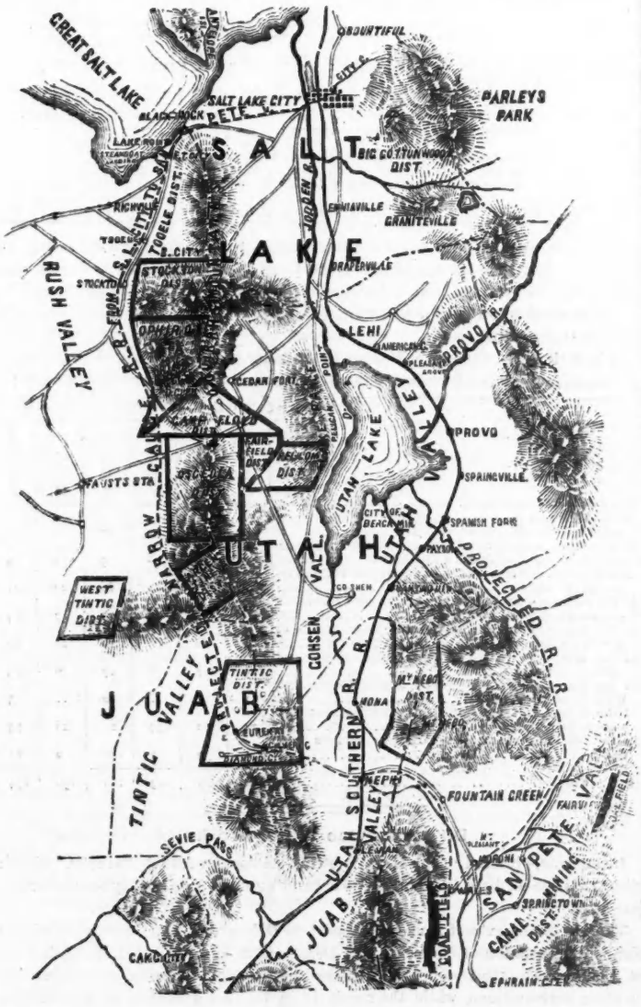
THE ENGINEERING AND MINING JOURNAL.

VOL. XVIII.—No. 23. NEW YORK, SATURDAY, DECEMBER 5, 1874. PRICE 10 CENTS PER COPY.

The Sanpete, Utah, Coal Fields.

THROUGH the courtesy of the Utah *Mining Gazette* we are enabled to present the accompanying map, showing the location of the Sanpete coal fields and their geographical location with reference to Salt Lake City, together with such other topographical information as will serve to convey a very correct idea of their future importance to Salt Lake City and the mining districts intervening between the extremely northerly and southerly portions of country shown by the map. A careful examination will show the line of the Utah Southern railroad, as well as projected lines destined some day to connect the coal fields with it. The portion



of country shown, and the settlements named, comprise the most thickly settled portion of Utah and nearly all the important mining districts.

The importance of cheap fuel is attracting more and more attention in the Western mining districts, and the action of the Union Pacific Railroad in charging excessive freights, last summer, on coal from Weber and Bitter Creek, directed attention particularly to the development of the Sanpete coal field. The anticipations of our contemporary have not yet been realized, and we learn that at present nothing of note is being done at these mines. Their future importance, however, makes the following information of interest.

In 1873, Utah imported over 7000 tons of coke at a cost of more than a quarter of a million of dollars, and charcoal of an equal value, and yet there are coal, or rather lignite beds of great extent and richness in the Territory. The Sanpete coal is the only one in the Territory that makes a fair quality of coke. What we have seen is not equal to Pittsburgh for blast furnace use, but it is probably quite as good for lead smelting and such purposes as do not require the greatest strength. The Superintendent of the Germania Works, near Salt Lake City, where this coke was tested on a large scale, reports it as equal in all respects to the St. Louis coke which has been used there.

The coal mines at which this sample lot was manufactured, are situated on the west side of Sanpete Valley, in Townships 15 and 16 South, Range 2 East, and about four miles from the town of Moroni. Their total distance from the present terminus of the U. S. R. R., is sixty-five miles, which, of course, incurs the expense of wagon transportation for that distance, a difficulty, however, which will be partially obviated by the extension of the U. S. R. R., and can be wholly overcome by a short line connecting the mines with that road, their accessibility rendering such an enterprise a very easy matter. The coal seams are from three to five feet in thickness.

The following analyses show the quality of the coal :

	Moisture.	Volatile matter.	Fixed carbon.	Ash.	Analysed by
Bottom coal.....	....	33.70	54.29	12.01	H. S. POOLE, F.B.S.
Middle coal.....	....	32.00	56.80	11.20	"
Coal.....	1.16	32.91	54.75	11.18	F. A. GENTH, Phila,
	sulphur.		coke.		
"	....	28.00	62.00	11.00	Dr. PERCY.

Dr. GENTH says, "the coking qualities of this coal are not inferior to those of the best Pittsburgh coal, and the coke made of the same is apparently of excellent quality and sufficiently dense to bear the burden of a blast furnace."

It is to be hoped that the necessary transportation facilities will be provided, for with such a fuel so near her metalliferous mines, its development would be of incalculable benefit to the Territory.

The Mineral Statistics of Austro-Hungary for the Years 1871-73.

By DR. BURKART, of Bonn.*

MINERAL statistics are, like all other statistical returns, most valuable if they can be published soon after the time they embrace. Nevertheless, the annual mineral statistics of nearly all principal mining districts are usually laid before the public long after the close of the corresponding year. This delay in publication is not entirely to be avoided; but it might be much shortened if the yearly returns of the several mining and metallurgical establishments were delivered promptly after the close of the year to the respective persons or authorities appointed for their completion and publication. The Austrian Minister of Agriculture, animated by the desire to promote the mining industry and the commercial interests connected with it, by an early publication of the mineral statistics of the mining districts, has ordered the returns of the mineral and metallurgical production of Austria to be delivered soon after the close of the year and their publication to follow, at latest, by the end of the following June.

The returns of the mineral and metallurgical production, for the year 1873, of the several kingdoms and states represented in the Senate or Presidential Council of the Empire having just been published at Vienna, I have compiled from this document, and the similar documents of two previous years, the following tabulated statements for 1871–73, in order to show the uninterrupted progress of mining in Austria.

Unlike mining in the United States, in Austria a great portion of the mines are worked by the Government on account of the public treasury, and another part is granted to private individuals and worked on their own account, under some control of the Government in matters of mining police, discipline, and taxes. The increase or decrease of the number of registered mines and of the area of their grants from year to year, may be considered in a certain point of view as a proof of the progress or decline of mining. I therefore subjoin the following statement of this change of the Austrian mines, together with the number of their laborers and engines, for the three years, 1871 to 1873 :

* A paper read before the American Institute of Mining Engineers at Hazleton, Pa., October, 1874.

	1871.	1872.	1873.
At the end of the year.			
The number of registered mines was	1,440	1,296	1,593
The area of their grants	134,832 hectares,	141,583 hectares,	149,928 hectares,
The average number of people employed at the mines, excepting the salt mines,	74,711 men,	78,856 men,	82,662 men,
	4,945 females,	5,583 females,	6,081 females,
	2,957 children,	2,289 children,	2,380 children,
Total of working people employed at the mines,	82,613	86,728	91,123
At the salt mines and salt works have been employed,	6,412 men,	6,340 men,	6,515 men,
	1,670 females,	1,582 females,	1,582 females,
	1,638 children,	1,598 children,	1,628 children,
Total of persons employed at the salt mines and salt works,	9 720	9,520	11,290
The average number of persons employed at the Austrian metallurgical establishments was:	12,958 men,	11,390 men,	10,536 men,
	328 females,	437 females,	398 females,
	674 children,	346 children,	362 children,
Total of persons employed at the metallurgical establishments,	14,014	12,173	11,296
Giving the total number of persons employed at the mines, salt works and metallurgical establishments,	106,347	108,421	112,142

The mines were provided with railways, underground and on the surface, ... in the year	1871.	1872.	1873.
1. Of iron rails of a total length of	1,339,242 metres,	1,425,035 met.	1,571,747 met.
2. Wooden rails " " "	391,583 "	413,152 "	454,312 "
And were in possession of the following number of engines:			
1. Steam engines	732	795	867
2. Hydraulic engines	109	68	73
3. Engines moved by animals, men, or some other power	299	155	140

In order to allow of a comparison of the importance of the several products raised at the mines we subjoin a complete summary for the last three years, in explanation of which may be mentioned that the weight of the products is given in cwt. of Vienna=56.001 kgs =123.46 lb. av., and their value in florins and kreutzers of Austria (bank value, p.p. $0 45 per florin.)

Description of Minerals.	Quantity of Minerals raised in 1871.	1872.	1873.	Value of Minerals raised in 1871.	1872.	1873.
	cwt.	cwt.	cwt.	Florins. kr.	Florins. kr.	Florins. kr.
Gold ore	39,847	2,025	1,591	41,077 28	9,682 00	9,534 90
Silver ore	87,732	106,064	114,685	1,848,398 00	1,871,504 33	1,955,840 96
Mercury ore	522,435	533,708	438,103	434,936 14	446,721 35	544,834 00
Iron ore	15,427,952	16,563,012	18,579,252	3,368,119 44	3,825,194 22	4,492,024 28
Copper ore	431,794	195,935	134,061	369,981 56	342,067 05	319,540 85
Lead ore	144,461	106,399	103,103	859,500 99	845,667 70	862,823 25
Nickel and Cobalt ores	2,730	4,103	8,074.7	11,501 90	13,422 52	30,610 00
Tin ore	27,385	33,301	15,000	29,301 95	35,633 07	16,050 00
Zinc ore	241,107	251,244	261,482	176,995 22	211,146 44	240,618 31
Bismuth ore	420.5	1,609	133.4	21,555 45	51,234 97	8,734 23
Antimony ore	1,571	189	1,542	11,398 60	1,134 00	19,349 20
Arsenic ore	7,727	5,161	5,225	4,481 66	2,800 20	2,664 75
Uran ore	178.5	148.8	151.8	58,183 78	54,626 31	59,830 66
Chrome ore	2,110	2,200	2,201	7,350 00	7,350 00	7,260 00
Wolfram ore	32	....	1,552	64 90	....	587 00
Manganese ore	7,496	28,219	56,458	1,566 34	5,083 00	20,632 83
Pyrites	212,934	263,601	278,430	98,725 06	125,257 12	163,984 95
Alum and vitriol ores.	965,761	1,030,184	2,131,026	25,586 13	32,630 69	59,787 14
Petroleum	6,870	7,196	9,287	49,194 00	43,179 00	53,125 00
Graphite	458,168	578,793	544,592	405,762 25	514,219 76	542,244 42
Asphaltum	3,706	6,204	5,480	320 00	1,523 47	3,958 14
Coal	77,729,639	74,056,339	80,123,472	19,772,034 58	21,104,300 73	23,014,428 80
Brown coal	75,399,239	86,123,260	103,266,170	10,576,261 39	12,148,710 05	15,203,893 75
Total value of the minerals raised				38,232,296 62	41,693,087 78	47,632,357 42

From the preceding summary it is manifest that mining in Austria is in a state of constant progress. Although the extraction of some minerals, principally of gold and copper ores, but also of some other ores of less importance, has declined, both in quantity and in value, the *total value* of minerals raised during the three years has, nevertheless, been increased from 38,232,296 fl. 62 kr. to 47,632,357 fl. 42 kr., or by 9,400,260 fl. 80 kr., being nearly ¼ of the total value of the minerals raised in 1871. This enhancement has been due, principally, to the increased extraction of iron ore, bituminous coal, and brown coal. Not only the quantity of these extractions, but also their prices, have been increased from 1871 to 1873. The mean prices for iron ore having been, in 1871, 21.8 kr.; in 1872, 23 1 kr.; in 1873, 24.7 kr. per cwt.; for bituminous coal, in 1871, 25.4 kr.; in 1872, 28.5 kr.; in 1873, 28.7 kr. per cwt.; and for brown coal, in 1871, 14.0 kr.; in 1872, 14.1 kr.; and in 1873, 14.7 kr. per cwt. Their total value in 1873 exceeded that in 1871 by 1,123,904 fl. 84 kr. for the iron ore; by 3,242,394 fl. 22 kr. for the bituminous coal; and by 4,627,632 fl. 36 kr. for the brown coal.

The metallurgical establishments of Austria have produced the following quantities of metal and other products:

Description of the product.	Quantity of metals, etc, produced in 1871.	1872.	1873.	Value of the metals, etc., produced in 1871.	1872.	1873.
				Florins. kr.	Florins. kr.	Florins. kr.
Gold.....kilogrs.	8.96	9.62	5.27	12,093 72	12,980 92	7,480 78
Silver ..... "	16,340.85	16,893.95	19,464.58	1,470,677 44	1,520,455 50	1,834,959 51
Mercury..... cwt.	6,709.80	6,817.00	6,738.33	1,225,490 13	1,335,165 00	1,677,844 17
Pig iron..... "	4,469,170.00	4,479,039.00	5,724,728.00	15,944,738 07	19,407,858 48	26,491,463 50
" for casting. "	739,844.00	1,106,101.00	900,971.00	4,333,218 72	6,065,991 87	5,057,022 71
Bessemer iron.. "	174,363.00	216,703 00	135,499.00	981,662 82	1,205,541 00	636,846 00
Copper..... "	7,085.50	7,252 00	7,326.23	376,014 58	417,466 50	412,869 47
Blue vitriol..... "	2,731.00	920.00	....	17,996 60	6,900 00	.... ..
Litharge ..... "	29,837.00	28,842.00	34,005.41	367,239 11	342,909 07	429,883 86
Lead..... "	61,431.00	65,578.00	71,243.15	860,188 39	955,748 40	1,083,161 39
Nickel..... "	96.45	214.25	649.29	11,509 80	15,142 48	66,806 80
Tin..... "	617.06	690.30	420.74	63,665 44	59,379 48	36,590 88
Zinc..... "	31,819.00	35,204.00	40,798.00	373,040 42	404,792 75	567,022 00
Bismuth, antimony & cadmium. "	2,858.03	20.46	1,724.35	53,304 20	9,936 97	50,188 04
Arsenic..... "	842.00	859.00	606.53	8,468 41	8,177 68	6,895 95
Sulphur..... "	20,415.00	28,818.00	21,318.00	117,965 96	104,579 00	115,313 00
Green vitriol.... "	112,872.00	41,190.00	40,753.00	102,882 50	92,279 50	97,199 60
Alum..... "	24,245.00	26,257.00	14,926.00	134,921 10	153,865 00	88,556 75
Mineral colors... "	373.00	5,635.00	4,577.00	746 00	2,911 00	1,554 00
Yellow of Uran.. "	71.48	70.32	81.04	78,628 00	77,924 40	88,876 74
Total value of the metals and other substances produced.				26,634,451 41	32,200,005 00	38,750,735 15

The foregoing summary of the produce of the Austrian metallurgical establishments in 1871–1873 exhibits the figures as shown by the special returns of the different classes of metals, and needs but a few words of explanation. The production of nickel in 1872 is made up of 108.25 cwt. speiss, and 106 cwt. grains, (*Granalien*); in 1873, of 407.29 cwt. speiss, and 242 cwt. grains. The production of bismuth, antimony and cadmium, gives in 1871, 16.03 cwt.; in 1872, 19.28 cwt; and in 1873, 17.15 cwt. of bismuth; at 563.75 Fl.; 467.00 Fl. and 482.32 Fl., per cwt. respectively. In 1871, 2,842.00 cwt.; in 1872, none; and in 1873, 1,507.00 cwt. of antimony (crudum and regulus). In 1871, none; in 1872, 1.185 cwt.; and in 1873, 0.20 cwt. of cadmium, at —; 900 Fl.; and 1,000 Fl. per cwt., respectively.

As shown by the figures of the preceding summary, with the exception of a few metals, there is an increase in quantity and in value of most of the metallic produce of 1871–1873, the value of the total production having been raised from 26,634,561.41 fl. in 1871, to 38,750,735.15 fl. in 1873, or an increase of 12,116,283.74 fl., caused partly by an increased production, and partly by an enhancement of the prices of a great many of the metals.

The following summary exhibits the production of the Austrian salt mines and salt works in 1871–1873:

Description of salt.	Quantity of the salt produced in 1871.	1872.	1873.	Value of the salt production in 1871.	1872.	1873.
	cwt.	cwt.	cwt.	Florins. kr.	Florins. kr.	Florins. kr.
Rock salt	1,509,944	1,765,056	1,436,590			
Common salt	2,576,346	2,560,306	2,657,878			
Sea salt	777,771	722,066	735,123			
Salt for industrial use	218,304	190,499	235,828			
Total	5,082,365	5,237,867	5,065,419	22,089,961 74	21,307,399 88	22,235,693 91

The value of the mineral production of Austria, according to the preceding summary, was in the years:

	1871.	1872.	1873.
	Florins. kr.	Florins. kr.	Florins. kr.
1. Products of the mines, exclusive of the salt mines.	38,232,296 62	41,693,087 78	47,632,357 42
2. Products of the salt mines and salt works.	22,089,961 74	23,307,399 88	22,235,693 91
3. Products of the metallurgical establishments.	26,634,451 41	32,200,005 00	38,750,735 15
Total value	86,956,709 77	97,200,492 66	108 618,786 48

Showing an amount of 21,662,076 71 fl. more in 1873 than in 1871, or nearly ¼ of the value of the production in 1871; but there should be subtracted from these figures the value of the coal and of the ores consumed in the smelting works, because this value has been put down twice in account, in that of the mines and in that of the smelting works.

The following summary will show the number of persons killed and severely wounded in fatal accidents at the mines and metallurgical works in the years:

	1871.		1872.		1873.	
	Killed.	Wounded.	Killed.	Wounded.	Killed.	Wounded.
At the mines, exclusive of salt mines, by various accidents in perpendicular shafts	58	27	52	23	60	21
At the mines, exclusive of salt mines, by various accidents in inclined shafts and winzes	5	8	8	9	6	9
At the mines, exclusive of salt mines, by various accidents in adits and levels	23	59	20	66	43	41
At the mines, exclusive of salt mines, by various accidents in stopes and goaps	43	102	45	77	47	74
At the mines, exclusive of salt mines, by explosion of fire damp, by after damp, and by suffocation	22	20	15	16	16	19
At the mines, exclusive of salt mines, by blasting with gunpowder	9	7	6	17	6	13
At the mines, exclusive of salt mines, by blasting with dynamite	1	1	..	2	..	3
At the mines and metallurgical establishments, by various accidents on the surface	24	32	34	26	16	33
At the salt mines and salt works, by various accidents	1	32	3	26	2	21
Total	186	288	183	262	196	234

Direct Service Water Works.

IN an article headed "The Holly System—Almost an Awful Warning," March 28th, 1874, we set forth the dangers of depending upon a stationary engine for fire purposes.

The subjoined extract from the Report of Delegates to the Convention of the National Association of Chiefs of Fire Departments of the United States, held at St. Louis on the 5th October last, shows that the subject was a prominent one in their deliberations, while the result is in full confirmation of the adverse opinion we felt compelled to express in our previous article. The stand, lately taken by the Board of Underwriters against fire risks in Chicago, indicates a wholesome determination on their part to insist upon compliance with common-sense requirements as to fire protection, and this more recent action shows that their range of investigation is intended to be radical and far-reaching.

The "Direct System," so called, has grown and spread with almost unchallenged rapidity, despite the palpable defects and dangers which our preliminary article unansweringly exposed.

EXTRACT FROM REPORT.

"The following subjects of discussion were introduced and ably reported upon

and such action was had as must commend itself to the best judgment of all who are qualified properly to estimate them :

"1. Does the existence of any direct acting service system justify reliance on that system alone for the extinguishment of fires without the aid of auxiliary movable fire engines?

"2. How far are paid fire departments applicable to small towns and villages?"

"The committee on these topics to report at the next meeting.

"An interesting and important discussion was had upon the first topic before it was sent to the committee appointed to consider it, and the tenor of the discussion fully justified the report of the committee, which was, in effect, that while the direct acting service had often performed excellent work, it had also frequently failed, and that it was injudicious and unsafe to rely upon any such system, however complete, to the exclusion of auxiliary movable fire engines, and that such auxiliary engines should always be kept in perfect order, and in condition to be manned and operated at the shortest notice. The importance of this discussion and conclusion at a time like this, when some towns have such a direct acting service and nothing more, and when other places, having introduced such a system, are selling their auxiliary fire engines at nominal prices, in blind reliance upon that system alone, cannot be over-estimated."

(Signed),

GEO. T. HOPE,
JAS. M. RANKIN,
HENRY H. HALL.

In further enforcement of the ground taken by this Journal on the question of Direct Supply, we reprint an article from the Buffalo *Courier*, of October 19th, on the Holly Water System :

"The supply of water provided for a portion of the city by the Holly system has become a subject of serious importance, particularly to the owners of property in the territory named, which is all that part of the city lying north of Tupper street. The water authorities have been for some time satisfied that the supply is inadequate to the demand. This the Commissioners attributed to the rapidly increased population of the district, and they proposed as a remedy for the difficulty that an additional and powerful pump be procured. On the other hand, there are those who have little confidence in the system itself. It is claimed that from the first it has been inadequate in case of a fire; that at all fires of any importance in the Holly territory the services of the steamers have been required, and that even then great difficulty in obtaining sufficient water has been experienced.

"With the Holly system it was understood that there would be sufficient force without the use of steamers. It was guaranteed at the start that a pressure of 40 pounds should be maintained at all times, and that in case of an alarm of fire the requisite additional force should be given. The pressure obtained by the use of a steamer, it should be observed, averages from 90 to 120 pounds.

"A TEST."

"Superintendent Williams, of the Fire Department, had entertained the idea of stationing a hose-cart somewhere in the vicinity of North street, if any good could result therefrom, and last Saturday afternoon he made a test of the water supply in order to ascertain if anything could be accomplished without the services of steamers. Going about the matter very quietly, he caused hose to be attached to four hydrants in North street, each stretch 400 feet long. One of these stretches was directed down Bowery street, along a considerable down grade, and a water-gauge—one which had been thoroughly tested—was placed in one of the couplings about the center. The hose used was 2½ inches, with 1⅛-inch nozzle. The water at this one hydrant was then turned on. Instead of the 40 pounds understood to be kept up all the time, the gauge indicated a pressure of but 12½ pounds, scarcely more than that to be obtained from any one of the old reservoir hydrants, and the stream, which measured but 45 feet long, would not have reached much higher than the top of an ordinary wood-shed. The other hydrants were turned on, and, with the four streams going, the pressure averaged about the same. Having satisfied himself as to the ordinary pressure, Superintendent Williams caused the alarm to be sounded from signal box No. 91. Two minutes thereafter there was no pressure, this being attributable to the fact that the action was being shifted from the piston to the rotary pumps at the pumping house. Six minutes after the alarm was given the gauge indicated five pounds. The test was continued a full hour, observations being noted as follows, the figures to the left indicating the number of minutes from the time of sounding the alarm, and those to the right the number of pounds pressure :

Minutes.	Pounds pressure.	Minutes.	Pounds pressure.
0	12½	21	21
2	0	25	23½
6	5	28	27
8	10	35	27½
9	15	40	25
10½	20	45	27
13	22	50	28
15	22		

"At this point three streams were turned off, leaving but one at work.

51	30	58	30
55	31	60	28

"In the time occupied to bring the pressure up to 20 pounds, Superintendent Williams claimed that three steamers ought to be on the ground at work. The greatest pressure obtained with but a single hydrant in use, and the machinery in the pumping house in operation as for a fire, was but 31 pounds, whereas it ought to have been 90 or 100. Twenty-five minutes after the alarm had been sounded, and when the pressure was indicated at 23½ pounds, the stream was measured, horizontally, and found to be 68 feet 6 inches. The Superintendent estimated that the supply of water would have been about sufficient for one steamer throwing two streams.

"THE RESULT."

"The results of the test above given, certainly demonstrate that the great amount of valuable building property in the Holly district is ill protected from the danger of a conflagration. After completing his observations, and before the signal to shut off was given, Superintendent Williams drove down to the pumping-house where the machinery was in active motion. The engineer asked 'if the fire was out.' The object of the alarm being explained to him, he asked what the pressure had been, and was informed that 31 pounds was the greatest. This he said could not be, and pointing to the pump gauge, which indicated 70 pounds, he proceeded to argue that upon the principle of the Holly system the pressure must be the same throughout the length of the line.

"At a recent meeting of the Common Council, a resolution providing for the purchase of a more powerful pump, in exchange for an old one, was offered and was rejected. It would seem that action of some kind ought to be taken without delay to insure the city's safety."

The New Tasker Ironworks.

A CORRESPONDENT of the Philadelphia *Public Ledger* gives the following description of these extensive works, which are located at Newcastle, Delaware:

MESSRS. MORRIS, TASKER & CO., proprietors of the Tasker Iron Works, purchased about 32 acres of land, the whole of which fronts on the Delaware. Early in 1873, they commenced operations by altering the shops of the old locomotive works, which they had also purchased, into machine and smith shops, and also a foundry. In June, 1873, the foundations were laid for the new mills, located near the river bank. These new buildings are the bending and welding mills, each 144 by 283 feet; a finishing mill, 150 by 300 feet; and a gas-producing house, 40 by 128 feet, all of brick, and constructed in the most substantial manner. There are also a large boiler house and two engine houses, in which are engines of 250 and 150 horse power. A railroad, built by the firm, who own their own cars and locomotive, connects with the Delaware Railroad, and also with their wharf, which extends out in the Delaware about 800 feet. The machinery in these mills is of the most approved pattern, calculated to produce, at present, about six miles of tubing or pipes per day. The sheet iron used here is made at Gray's Ferry and at Norristown and Coatesville, no one mill having sufficient capacity to manufacture all the iron needed. In making the boiler tubes and pipes, the welding is done by gas instead of coal fires. The gas is made in large "producers," and is passed through iron pipes overground, and flues underneath, to the welding furnaces, where the pipes to be welded are laid. So intense is the heat produced by the gas that the pipes are welded at the rate of one a minute, or about fifty tons every twenty-four hours by the four furnaces now in use. The making of tubes and pipes appears to be quite simple, if we lose sight of the intricate machinery, most of which is hidden underneath the floor. The first operation to be performed is trimming the rough edges from the plates, after which they are placed in a furnace, and, when properly heated, bent to the desired size by machinery. From this they go to the welding furnaces and thence to the finishing mill, to have the ends trimmed and to be cut in proper lengths. So far over $600,000 have been expended in these improvements, and by the time they are completed to their full capacity, as much more, perhaps, will be required.

MESSRS. MORRIS, TASKER & CO. still run their works in Philadelphia, where, when in full operation, about ten miles of piping are made per day.

Notes.

The Baltimore and Johnstown Railway Project.—A correspondent, writing on the proposition of the Western Maryland Railroad Company, to the city of Baltimore, to build a through route between the two points, says: This new company proposes on certain conditions to build, within twelve months, a double railroad from the Western Maryland Road to the tide water at Curtis Creek—and to expend the sum of $500,000 in the improvement of the road bed and rolling stock and in providing suitable facilities for handling coal at Williamsport, and within six years to construct and equip a railroad between Monterey or Hagerstown, to Johnstown, Pa., and thence to coal and mineral lands on the north branch of the Potomac. In extending the road to Johnstown, Pa., it is proposed to utilize existing lines, supplying all necessary links. If the extension is made from Monterey via Waynesboro', to Mount Dallas, two links of new road would have to be made, one from Monterey to Marion, 18 miles, and the other connecting the South Pennsylvania Road with Mound Dallas, 30 miles, and 20 more already made to the Broad Top coal region, making the whole line only 153 miles—while by the Baltimore and Ohio road it is 178 miles from Cumberland to Baltimore.—*Pittsburgh Commercial.*

Coal and Iron Mines in China.—The Viceroy and Commander-in-Chief of Liang-Choo is reported to have decided upon working important coal and iron mines at Pung Chang, also in Western Chilhili, hitherto undeveloped, and an English agent has been commissioned to purchase the necessary machinery. This step, heretofore opposed by the Government, is regarded by the war party as indicative of a desire to increase the national resources for military purposes.

Ottawa Iron and Manufacturing Co.—The Canadians are about commencing iron works under this title near Ottawa. The Stock is being taken up and work is to be commenced in January.

The Silver Islet Company are putting up machinery for a stamp mill and reduction works which it is estimated, will cost $200,000.

THE ENGINEERING AND MINING JOURNAL.

NEW YORK, SATURDAY, DECEMBER 5, 1874.

ROSSITER W. RAYMOND, Ph. D.,
RICHARD P. ROTHWELL, C. E., M. E., } Editors.

The Engineering and Mining Journal is devoted to Mining, Metallurgy and Engineering. Communications on these subjects will always be welcome.

It is the Official Organ of the American Institute of Mining Engineers, and it alone publishes the valuable papers read before that influential society.

Correspondence and general communications and books for review should be addressed to the Editors. Business communications should be addressed to the Secretary.

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Subscription $4 per annum; $2.25 for six months, in advance.

Advertising Rates. Inside pages 25 cents per line each insertion. Outside pages 40 cents per line. Special reduced rates will be given on application for advertisements extending over a long time or occupying a large space.

THE SCIENTIFIC PUBLISHING COMPANY.

WILLIAM VENTZ, Secretary,

P. O. BOX 4404. 27 Park Place, New York.

CONTENTS FOR THIS WEEK.

THE American Iron and Steel Association will entertain Mr. I. LOWTHIAN BELL and Mr. THOMAS WHITWELL at dinner, at Philadelphia, on Thursday evening, December 10, 1874.

Mining Outrages near Pittsburgh, Pa.

WHILE sensational papers like the New York *Herald* fill columns with imaginary outrages, and groundless destitution among the miners of the anthracite regions, none of our great journals can spare the space to notice the most astounding outrages lately perpetrated near Pittsburgh, Pa.

The facts are as follows: Some time ago, a reduction in wages from four to three cents per bushel for cutting coal was ordered at some of the mines in that district, and the men struck. The operator, a Mr. ARMSTRONG, engaged about 160 Italians to work in the mines at the price offered, of three cents per bushel. The men on strike at once commenced a series of attacks on the Italians, firing on them day and night from the opposite bank of the Youghiogheny River, yet the authorities did absolutely nothing to prevent it. On Sunday last, the strikers, emboldened by this disgraceful connivance, made a bolder attack, killing three Italians, and wounding others. The result has been that the Italians, quiet, peaceable workmen, have been driven *vi et armis* from the mines, and obliged to leave that part of the country.

Had the white league in the South driven out Northern men or negroes in this manner, the papers from one end of the country to the other would justly have been full of denunciation of the act, and we would doubtless have had some new amendment to the constitution to prevent its recurrence; but here, in the great State of Pennsylvania, almost within hearing of the enlightened city of Pittsburgh, a combination of men is permitted to say who shall, and who shall not, work, and to drive off by force and oppression those who are willing to work for fair wages. Foreigners come here with the impression that this is a *free* country where *all* men are protected in the peaceable pursuit of legitimate industry; and not only were these forced to protect themselves with arms, but their opponents, encouraged by the apathy, to say the least, of the officials, finally drive them off the works, shooting them down in their houses, and scarcely a paper in the country has a word of protest on the subject.

Is this a free country? or do we protect only those whose votes our politicians want? Is this disgraceful outrage to pass without protest from the press?—for there is but one paper, as far as we know, *Frank Cowan's Paper*, in Pittsburgh, that has had the courage to take the part of the Italians and expose the manner in which they have been treated. It is simply absurd to suppose that a handful of strangers, in a strange land, were the aggressors, as some of the miners' organs have stated. And it is a disgrace to the State of Pennsylvania that peaceable men, whether citizens or not, are not protected in the pursuit of a legitimate calling. We shall revert to the subject again.

The Mechanical Preparation of Anthracite.

UNDER this heading, we published on the 24th October a paper, with illustrations, read before the Institute of Mining Engineers. We notice in a contemporary, that did not re-publish the paper, and to whose readers consequently the criticism must be unintelligible, some discussion of a few of our statements. Of course, the proper place to have made this would have been in the journal that published the original article, had the object of the writer been the laudable one of correcting misstatements, or giving useful information.

The tenor of the criticism shows very evidently that the principal object was to vent some private personal spleen, which the writer does while appropriately concealing his identity under a false name.

Since our object in the paper referred to was to give information, and draw attention to a subject in which there is room for considerable improvement, we append the views of our critic. He says:

"No coal larger than No. 1 (broken or grate) should pass through a screen.

"The speed of all machinery, especially screens, should be as low as is consistent with doing the work; and the larger the coal the slower the speed should be.

"We have found during an experience of twenty years and more, spent in designing, building and running coal breakers—and we know that our experience is corroborated by that of others—that nothing can be more destructive of coal and screens, whether of wrought or cast iron, than to pitch *all* coal passing through spaces of four to seven inches, left between bars or grating in tip shoot, into the mud screen; the coal in such cases rolls itself mostly into dirt; what is left loses the fine appearance of clean fracture, and looks, on issuing from end of screen, like half-worn river stones of like size. The repairs of such screens amount to something enormous. Ten or fifteen years ago this plan was tried in the Wyoming and Schuylkill regions, but again abandoned in great haste.

"The proper arrangement in this part of the breaker is to separate the steamer by a second set of bars and passing the remainder to the mud screens.

'*There are generally two mud screens, revolving with a periphery speed of 180 to 200 feet per minute.*'

"The speed of screens preparing coal has been thought such an important matter that in many existing contracts for the delivery of coal this speed is one of the considerations. In all cases it is stipulated to be less than the above 180 to 200 feet per minute. It should be enough to turn over the coal without rolling and tunnelling it to such an extent as to prevent the sizing and to roll off the corners and sharp edges, which much detracts from the appearance of the coal, and makes great quantities of dirt. Twenty years ago, 180 to 200 feet per minute was the usual speed, but, after repeated experiments, it has been finally determined that the following speeds give the best results:

For broken (No. 1)	110 feet.
For egg and stove	120 "
For chestnut	150 "

"We leave this part of the breaker with the remark, that the employment of Jackets on mud screens for making of chestnut coal is impracticable without the use of water. Where no water is used, additional counter screens must be employed."

'*The screens are always made with cast iron segments.*'

"So far is this from being the case that no intelligent proprietor will tolerate them of cast iron; they are heavy, brittle, and do not size the coal well—do not "search" it. The old and well founded objections to round wire segments have been thoroughly overcome ten years ago by the introduction of square wrought iron segments, put together by notches on the edges of the bars; and, lately, very neat and durable segments have been made by *casting* them of steel.

"Cast iron segments are only in use where foundries are connected with the collieries, or where parties are ignorant of the fact that square iron mesh will prepare 15 per cent. more coal than cast iron."

The question as to what sizes of coal should pass through revolving screens is one which depends on the nature of the coal itself; if this comes from the vein dirty, the fine "dirt" cannot be separated in running over bars, and if it be desired, as it should be, to get rid of this at the earliest possible stage in the preparation, it is necessary to put it through a revolving screen. This is the practice of many of our most advanced coal operators. The statement made that "the coal in such cases rolls itself mostly into dirt" is simply nonsense. The mud screen is the shortest screen in the breaker, and the coal passes through it quicker, and is less broken, than in passing through any of the others; it is also more durable than main screens. As to the statement that "ten or fifteen years ago this plan was tried in the Wyoming and Schuylkill regions but again abandoned in haste," we would say that, ten years ago, there was no breaker in the Wyoming region, so far as we know, that used mud screens at all, or ever had used them. Among the first to use them, that we know of, were Messrs. SHARPE, WEISS & Co., of Eckley, and Mr. D. BERTCH, at Upper Lehigh, than whom there is no better authority in the coal regions, on the preparation of coal. These gentlemen still continue their use, and a great number of others now follow their example. As we stated, *only some* breakers use a steamboat screen, and as there was one shown on the drawing accompanying our paper, no coal larger than No. 1 went through the mud screens. Of course, where there is no steamboat screen, it is usual to separate the steamboat on bars, but many prefer the former to the latter. The steamboat screen is always quite short and the coal is but little broken in it.

The periphery speed of screens, as we stated in our paper, varies with the condition of the coal, the quantity to be put through, and the length, size and pitch of the screens. If the quantity be large, as is the case with our modern breakers, we have to use large screens and give them a more rapid movement than is necessary where but a small amount is prepared. The speeds given, of 110 feet for broken, 120 feet for egg and stove, and 150 feet for chestnut, are the minimum that can be used with clean dry coal, or where the coal is washed in the screens and the quantity put through is small; cases which are rather the exception than the rule. As broken and egg are generally, and stove sometimes, sorted in the same screen, the speed has to be adapted to the smallest size made.

We have had cases where even more than 200 feet speed was found necessary in chestnut screens. As the mud screens referred to in our paper, and shown on the drawing, were provided with jackets which were intended to separate as large a proportion as possible of the dirt from the smaller sizes of coal (not to make chestnut coal), the periphery speed (of the jacket) was made higher than if the screen had been separating only the larger sizes. The shortness of the screen would prevent the undue abrasion of the coal, or as Mr. JOHN B. SMITH, of the Pennsylvania Coal Company, does, an inner tube of plain sheet iron could carry the large coal through the lower half of the screen with less breakage than if it ran all the way on open meshes.

Our critic appears more familiar with the practice of 20 years ago than with that of to-day; or he would know that the speeds given by us are common, and especially where work is pushed in a lively manner, and where water is not used on the screens.

A few days spent in examining the large new breakers in the Wyoming, Lackawanna and Lehigh regions—breakers that have the largest capacity of any in the anthracite fields—would show our critic that cast iron segments are almost universal for the large sizes. About 8 or 9 years ago, when iron screen shafts generally took the place of wood, wrought iron segments were generally replaced by the cheaper and more durable cast iron. The segments woven with wrought iron rods having a square section are excellent, and we prefer them, for small sizes particularly, but they are much more expensive than those of cast iron, and so have not been generally introduced; while cast steel segments are as yet in their experimental stage. We would like to know the particulars of the tests in which it was *proved* that the wrought iron segments made of square rods (all screens have "square meshes") "will prepare 15 per cent. more coal than cast iron segments." Is it not barely possible that our critic has *an interest* in the introduction of these wrought iron segments, and desires to advertise them?

Our critic may, as he says, have been employed for "twenty years or more in making and running coal breakers"—we will not question his statement, for we have known some who have followed the business as long as that, and are still totally ignorant of the subject—but certainly much less than 20 years' experience should suffice to teach any intelligent man that, for example, the best periphery speed of screens must depend on a variety of circumstances, such as their diameter, length and pitch, the quantity of coal required to be put through them, and the condition of the coal, and that a fixed speed, such as 110 feet for broken, 120 feet for egg and stove, &c., irrespective of these other conditions, would represent very unintelligent practice.

Our paper was intended to call attention to the subject with the view of inducing improvement. We described the mechanical preparation of anthracite as it is to-day, not as we hope it will be 10 years hence, and it cannot but be useful to publish the results of practical experience, and of the views of experts, especially where the information given is not mixed up with statements which the writer is ashamed to put his name to.

Gunpowder Manufacture in the United States.

THE data for the following notes have been furnished chiefly by Mr. BOIES, President of the Moosic Powder Company. Much of the information has never appeared in print, and is especially interesting as tracing the early history, in this country, of this important industry.

In the Code of Gentoo Laws, supposed to have been compiled about the time of MOSES (3,400 years ago), we find the first mention of gunpowder, for the magistrate is prohibited from making war "with any deceitful machine, or with poisoned weapons, or *with cannon or guns*, or any *kind of fire-arms*." The Chinese have known and used powder from time immemorial. SALMONIUS, King of Elis, is mythologically related to have constructed machines to imitate thunder and lightning, so incensing Jupiter thereby, that he slew him with a thunderbolt, which probably means that SALMONIUS was the first powder maker blown up in his mill. Twenty-two hundred years ago, ALEXANDER was repelled from the conquest of India by the Oxydracæ, dwelling between the Hyphasis and the Ganges, who defended their cities with lightning and thunderbolts shot from their walls. DION CASSIUS tells us that CALIGULA, Emperor of Rome (A.D. 37), had machines that imitated thunder and lightning, and threw stones; and several ancient historians mention the use of rockets and terrible pyrotechnics in wars among Eastern nations. It was probably introduced in Europe by the Crusaders. In 1216, Friar ROGER BACON mentions it; and the German monk, BERTHOLD SCHWARTZ, of Freiburg, is credited with its invention in 1320, and has had a monument erected in his honor. For a long time the use of powder was considered as "attended with more danger to those firing than to those against whom it was directed," so that its general introduction was much opposed.

The first powder mills of which we have any record were established in Flanders in 1340, and in Nuremberg in 1435, and were what are known as "pounding millls," the compound being incorporated in mortars with pestles.

In 1589, GEO. EVELYN, grandfather of the celebrated Sir JOHN EVELYN, brought the art from Flanders, and obtained a patent from Queen Elizabeth. He established the first English mills near Kingston, in Surrey. In 1626, the East India Company put up mills, and, by monopolizing the trade in saltpeter, controlled the manufacture of powder in England, and, to a great extent, that of the world, for, down to the time of the independence of the United States, England largely supplied the markets of the world.

The first mention of the manufacture of gunpowder in this country is found in an order of the General Court of Massachusetts, of June 6th, 1639, by which EDWARD RANSON was granted 500 acres of land at Pecoit, "so as he goes on with the powder if the saltpeter comes;" and also in June, 1642, the same Court, to promote public safety "by raising and producing such materials amongst us as will perfect the making of gunpowder, the instrumental means that all nations lay hold on for their preservation, &c., do order that every plantation in this colony shall erect a house 20 or 30 feet long and 20 feet wide, to make salpeter, &c."

In May, 1666, RICHARD WOOLLEY and HENRY RUSSELL, of Boston, were granted certain privileges as an encouragement to engage in the manufacture. There was a mill in Dorcester previous to 1680, and in 1696, powder sold for a pistole the pound.

A law of General Court, enacted before 1704, prohibited the exportation of gunpowder, and authorized the manufacturers to impress workmen by warrant from the magistrate, as in cases of public work. In 1774, previous to the breaking out of our war, the exportation of powder and its ingredients from England was prohibited. Congress and State conventions, consequently, offered great encouragements for its manufacture, for it appears that even at $1 per pound the manufacture was unprofitable, and in 1774 there were the ruins of a number of mills in Massachusetts. In 1875, WILLIAM and GEORGE PITKIN erected a mill at East Hartford, Conn., under an Act of Assembly regulating the manufacture, and giving a bounty of £30 to the first two mills, and £10 for every hundred-weight of saltpeter made during the next year. And there is mention of a mill at Rheinbeck supplying the army with powder, at this time, at £20 per cwt. About this time, also, an expensive mill was erected by the Hon. SAMUEL PHILLIPS (founder of PHILLIPS' Academy), which, after supplying large quantities to Congress, blew up in 1778, and was not rebuilt.

There were mills in Pennsylvania previous to 1775. The Committee of the City and Liberties of Philadelphia established large saltpeter works on Market street. Boston also put up similar works, and several saltpeter and powder works were erected in Pennsylvania for the Council of Safety, which allowed $8 per cwt. for the product. Among these works was the Continental Powder Mill, on French Creek, which blew up in 1777.

Colonel FORD built a mill at Morristown, N. J., during the war. Maryland voted a loan of £1000 towards the erection of saltpeter works, and 50 cents per lb. for the nitre; and a similar sum was voted for a powder mill. The tobacco houses in Maryland and Virginia were dug up, and the earth lixiviated for nitre, yielding an ounce to the quart of liquor. This discovery, we are told, created great enthusiasm.

The reported discovery of a saltpeter mine in Virginia induced Congress to dispatch a special messenger to investigate. Most of the States offered premiums for the erection of mills, and high prices for the powder; this so stimulated the business, that in 1790 there were in Pennsylvania alone 21 mills in operation, and 4 being erected, making 625 tons of gunpowder annually; in 1791, saltpeter was cheaper in Philadelphia than in London, and in 1793, the magazine there contained nearly 50,000 kegs, made in Pennsylvania.

Though the numerous mills erected about this time were inexpensive structures, and of small capacity, the over-production so reduced the price of powder that the mills went out of existence as fast as they blew up.

In the year 1800, Mr. E. J. DU PONT DE NEMOURS came to this country from France, where he had studied chemistry under LAVOISIER, who was then chief of the Government Bureau of Powder and Saltpeter, and remarking the inferior quality of the powder made here he resolved to engage in that manufacture. In 1802, he started his "pounding mill" on the Brandywine. This mill had brass pestels, of 110 lb. weight, preparing the powder for incorporation in a cylinder mill; its capacity was 24 kegs a day, and the powder made was soon celebrated for its quality.

Mr. DU PONT may justly be considered the Father of the Powder business in America. His mills increased in importance, till in 1834, when he died; they were then the most extensive in the country, and are now the largest in the world.

TO BE CONTINUED.

NEW PUBLICATIONS.

TABLES FOR THE DETERMINATION OF MINERALS *by those Physical Properties ascertainable by the Aid of such simple Instruments as Every Student in the Field should Have with Him. Translated from the German of* WEISBACH. *Enlarged, and Furnished with a set of Mineral Formulas, a Column of Specific Gravities, and One of the Characteristic Blowpipe Reactions.* By PERSIFOR FRAZER, Jr., A. M., Assistant Geologist of the Second Geological Survey of Pennsylvania, etc., etc. Philadelphia, J. B. LIPPINCOTT & Co. 1875.

This extremely convenient book is an improvement on the excellent tables of the younger WEISBACH in some respects, while those changes which we do not at once recognize as improvements may be, at all events, set down as harmless. A chief object of the instruction in Mineralogy at Freiberg (where Prof. ALBIN WEISBACH has succeeded the venerable BREITHAUPT) has been to enable the student to recognize mineral species by their simpler physical characters, and hence by such tests as can be readily applied without the aid of the paraphernalia of the chemical laboratory, and the loss of time which even a qualitative analysis involves. At the same time, the student should have before his eye, and so before his mind, the chemical constitution of every mineral species, in order that the association may be indestructibly established between the name and looks of the thing on one side, and its nature and elements on the other. Prof. FRAZER'S chemical formulas represent the most modern theories of atomicity, and will prove a stum-

bling-block to many who have been trained in the old dualistic system of BERZELIUS—a system, by the way, which, though philosophically incorrect, since it presumes a body to *be* what the body only *becomes* under analysis, was nevertheless in many lines of inquiry, and not least in mineralogy, more convenient than the profounder theories of later days. But we will not use the present occasion to discuss so weighty a topic, as the new chemistry. Nor could we deny, in such a discussion, the propriety of making the formulas of chemistry correspond to the facts. The most we should care to suggest would be that in a manual so exceedingly well calculated as this to be widely popular and useful, Prof. FRAZER might better propound empirical than "rational" formulas, according to the general principle which excludes from text-books doctrines not yet fully accepted. Meanwhile, the student need not be repelled by these formulas. As the professor wittily says, in his preface, "In conclusion, I beg to remind those who still persist in calling my rational formulas irrational, that their atomic proportion still remains the same as before, and that such readers may extract all the information from them which they could from the old formulas by disregarding both signs and hypotheses, very much, I must add, as a man might use a chisel for a screw-driver."

THE IRON WORKS OF THE UNITED STATES: *Prepared by the American Iron and Steel Association, Philadelphia.*

Mr. SWANK, the Secretary of the Iron and Steel Associaiu, is doing a good work in collecting reliable statistics, relating to the industries represented in the Association. The pamphlet, just issued, gives a list of the blast furnaces, rolling mills, rail mills, steel works, catalan forges and bloomeries, with their principal dimensions and capacity. There are mentioned 681 completed blast furnaces; 343 rolling mills; 51 steel works; 37 forges; 47 bloomeries. Of the rolling mills 84 make rails. There are 8 finished and 2 building Bessemer steel works.

We have, of course, Mr. SWANK's inevitable appeal for higher duties on foreign iron. We are told "it seems probable that nothing but an increase of duties will enable the American iron master to relight his now extinguished fires." We have, doubtless, all got our hobbies, and we should not ridicule this one, even if it does appear somewhat absurd.

THE AMERICAN IRON TRADE: *A Monthly Journal of Statistics, Reviews and General Information relative to the Iron and Metal Trades.* Subscription Price, $10.

The present time appears singularly inappropriate for launching a new periodical relating to the iron trade. But as "fortune favors the brave," the proprietors can take courage. This publication is an octavo pamphlet of 54 pages; very neatly gotten up, but containing but little else than extracts from other periodicals and some old statistical tables. As this is the first number, we must make allowances, and will look for an improvement in succeeding numbers. The subscription price appears to us out of all proportion to the information given.

Permanent Ice in a Mine in the Rocky Mountains

By R. WEISER, of Georgetown, Colorado.

GEOLOGISTS have been not a little perplexed with the frozen rocks found in some of our silver mines in Clear Creek County, Colorado. I will first give a statement of the facts in the case, and then a theory for their explanation.

There is a silver mine high up on McClellan Mountain, called the "Stevens Mine." The altitude of this mine is 12,500 feet. At the depth of from 60 to 200 feet, the crevice matter, consisting of silica, calcite, and ore, together with the surrounding wall-rocks, is found to be in a solid frozen mass. McClellan Mountain is one of the highest eastern spurs of the Snowy Range; it has the form of a horseshoe, with a bold escarpment of feldspathic rock, near 2,000 feet high, which in some places is nearly perpendicular. The Stevens Mine is situated in the southwestern bed of the great horseshoe; it opens from the northwestern. A tunnel is driven into the mountain on the lode, where the rock is almost perpendicular. Nothing unusual occurred until a distance of some 80 or 90 feet was made; and then the frozen territory was reached, and it has continued for over 200 feet. There are no indications of a thaw, summer or winter; the whole frozen territory is surrounded by hard massive rock, and the lode itself is as hard and solid as the rock. The miners, being unable to excavate the frozen material by pick or drill, to get out the ore (for it is a rich lode, running argentiferous galena from 5 to 1,200 ounces to the ton), found the only way was to kindle a large wood fire at night against the back end of the tunnel, and thus thaw the frozen material, and in the morning take out the disintegrated ore. This has been the mode of mining for more than two years. The tunnel is over 200 feet deep, and there is no diminution of the frost; it seems to be rather increasing. There is, so far as we can see, no opening, or channel through which the frost could possibly have reached such a depth from the surface. There are other mines in the same vicinity in a like frozen state.

From what we know of the depth to which frost usually penetrates into the earth, it does not appear probable that it could have reached the depth of 200 feet through the solid rock in the Stevens Mine, nor even through the crevice matter of the lode, which, as we have stated, is as hard as the rock itself. The idea, then, of the frost reaching such a depth from the outside, being utterly untenable, I can do no other way than to fall back upon the Glacial era of the Quaternary. Evidences of the Glacial Period are found all over the Rocky Mountains. Just above the Stevens Mine there are the remains of a moraine nearly a mile long, and half a mile wide. The debris of this moraine consists of small square and angular stones, clearly showing that they have not come from any great distance. And just over the range, on the Pacific slope, there are the remains of the largest moraine I have ever seen, consisting of feldspathic boulders of immense size. I conclude, therefore, that it was during that period of intense cold that the frost penetrated so far down into these rocks, and that it has been there ever since, and bids fair to remain for a long time to come.—*Am. Journal of Science and Arts.*

CORRESPONDENCE.

The Copper Mines of Knockmahon, County Waterford.

TO THE EDITOR:—I send you the following notes of the County Waterford Copper Works, the most important in Ireland, which may interest some of the readers of the ENGINEERING AND MINING JOURNAL.

These mines were worked in ancient times. Some old tools found in them are supposed to be Danish, but as everything ancient in Ireland is ascribed to the Danes, this is no proof of the assertion. However, Waterford was an old Danish city.

There are two principal lodes, besides many smaller ones, and the first are sometimes as much as 15 fathoms in width. Their direction is about North 30° West, (true) the underlie being nearly perpendicular. The veinstone is mostly mixed with ore in the shape of sulphuret of copper. A cross course, or more properly, a clay slide, of immense width crosses and heaves the lodes, and this runs a little East of North. The richest part of the vein is near this cross slide, and also at the junction of the old red sandstone with the underlying slates; but the ore becomes poor in the igneous and altered rocks.

According to JUKE'S Geological Map, the slates are of the Cambro-Silurian series, through which the igneous rocks, trap, felstone, greenstone, and basalt protrude. Fragments of ore are found mixed through the clay slide, but not with continuous walls, merely as they would occur in gravel or other sedimentary deposit. The old red sandstone overlies the Silurian slates, but, in many places, has been removed by denuding forces. The mineral district extends on both sides of the River Mahon, which runs North South, and is bounded on the South by the sea. The productive veins are on the East or Knockmahon side of the river, though some have been worked pretty extensively on the West or Bonmahon side.

The pumping engine at present working is a Cornish 50-inch cylinder, 9 feet stroke. There is a dismantled Cornish 26-inch cylinder also on one of the shafts, and a small double-acting engine, which serves both for hoisting and pumping. A 40 feet overshot water-wheel was formerly used for pumping, but is no longer in operation. The water power is now used to turn a succession of smaller wheels for driving stamps, jiggers, etc. The very poor ore all goes to the stamps, and, when powdered sufficiently fine, is concentrated in a succession of tanks. The rich and middling goes to the Cornish crushing rolls; the rich, when made sufficiently fine, undergoes no further operation. The middling is concentrated in a most admirable machine, the invention of Mr. THOMAS PETHERICK, now of Pottsville, Pa. A central piston works in a cylinder, and that alternately raises and depresses the level of a body of water, in which are immersed 4 sieves containing the powdered ore from the crusher. This up and down motion soon resolves the sand in the sieves in the order of its specific gravity, and enables the worthless part to be skimmed off from the top. The muddy part flows off with a stream of water which keeps flowing from the apparatus, and is separated into rich and poor parts as in the stamps. Twelve of these pistons work in a row and act most admirably and cheaply, water being the moving force. Indeed, without the aid of water-power, the mines, with the present poverty of the ores, could not be worked. The stamp-heads are of cast-iron, fastened on wooden pestles; the bed of the stamps is formed by the broken stone rammed into the ground by the continued action of the stamps. There are many concentrators, formed by a current of water into which the metallic mud is thrown in shovels, and falls on a horizontal revolving convex iron plate. The muddy water, falling in a thin film over the edges of this plate, deposits gradually a cone of the heaviest part of the mud, the lighter part running off with the waste water. The ore before undergoing the previous operations is sorted by hand into the different classes, and, when finally prepared, it is shipped in bags from the foot of the cliffs near the mine to Swansea for reduction.

The underground workings are carried on with great regularity, the levels being formed at 10 to 12 fathoms below each other. The main shaft is 260 fathoms or 1560 feet deep; the adit which is started a little above high water in a cliff beside the sea, cuts the shaft at 20 fathoms below the surface. The workings extend for 70 fathoms beneath the sea, where the ore disappears and the vein assumes an appearance of decomposition; hence the works have not been further extended on that side. These mines are, and have been, worked by the Mining Company of Ireland for the past 50 or 60 years, and have been very prosperous for great part of that time. The present prospect is rather gloomy, unless some new productive lode should be discovered, as the main lode has been worked under the sea as far as it was productive, and also northward on the land side as far as a bend which occurs at about a mile from the coast, and which seems to affect all the veins in that direction. The miners have the idea, whether correctly or not I cannot say, that this break in the direction of the veins impairs their productiveness, as they say they have never found ore north of this point. That the mineral formation extends further inland, I am sure, however, as I have observed lodes and cross courses of porphyry, at a distance of five miles from the sea. However, none have been worked in the County Waterford at more than one locality. The mineral productiveness of Ireland, as regards metallic deposits, seems to be as defective as its supply of coal, the metallic mines worked being, as compared with those of England, of very secondary importance.

D. COGHLAN.

COAL TRADE REVIEW.

Import Duty on Coal.

Anthracite free. *Bituminous*, per ton of 28 bushels, 80 lb. o the bushel, 75c., gold.

All *slack*, or *culm*, such as will pass through a half-inch screen, per ton of 28 bushels, 80 lb. per bushel, 40c., gold.

Not otherwise provided for, per ton, 40c. gold.

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

NEW YORK, Dec. 4, 1874.

The Production of Anthracite Coal for the week ending Nov. 28, 1874, was as follows:

Tons of 2240 lb. *Wyoming Region.*	WEEK. Tons.	YEAR* Tons.
Delaware and Hudson Canal Co	40,070	2 173,531
Delaware, Lackawanna and Western R.R	39,650	2,284,475
Pennsylvania Coal Co	26,485	1 223,093
†Lehigh Valley R.R.....	26,422	876,716
†Pennsylvania and New York R.R	430	37,596
Central Railroad of New Jersey	27,821	1,376,248
Pennsylvania Canal.....	3,990	320,187
Sold at the mines by L. & W. C. Co.....	851	21,185
	165,719	8,333,031
Lehigh Region.		
Lehigh Valley R.R	70,311	2,962,153
Central Railroad of New Jersey.....	22,766	1,091,951
Danville, Hazleton & W. B.R.R., ...	763	37 758
	93,840	4,091,862
Schuylkill Region.		
Philadelphia and Reading R.R	126,221	5,000,970
Shamokin and Lykens Valley.....	12,084	865,221
	138,305	5,866,191
Sullivan Region.		
Sullivan and Erie R.R	404	32,057
Total of all the regions.....	398,268	18,323,141

* Year beginning Jan. 1.

† Nine days ending Nov. 30.

The following table does not give the entire production of our bituminous mines, but it is by far the fullest report published.

The Production of Bituminous Coal for the week ending Nov 28, was as follows:

Tons of 2000 lb., except where otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lb.....	40,287	2,206,850
Barclay Region, Pa.		
Barclay R.R. tons of 2240 lb.....	10,008	282,576
Broad Top Region, Pa.		
Huntingdon & Broad Top R.R.....	4,072	208,600
Clearfield, Region, Pa.		
Snow Shoe.....	1,084	55,276
Tyrone and Clearfield.....	14,052	573,361
Allegheny Region, Pa.		
Pennsylvania R.R.....	4,235	189,038
Pittsburgh Region, Pa.		
West Penn. R.R.....	4,109	179,348
Southwest Penn. R.R.....	136	7 198
Penn. and Westmoreland gas coal, Pa. R.R.	19,517	807,379
Pennsylvania R.R.....	6,739	412,933
Kanawha Region, W. Va. to Nov. 21.		
Chesapeake and Ohio R.R.....	2,460	125,117
Shipments from *Block House Region, N. S.*, to Nov. 7.		
Consigned to the Provinces, tons 2240 lb...	543	13,745
" " " United States " " " ...	662	15,082
" " Cuba " " "		571
Shipments from *Pictou Region, N. S.*, to Nov. 21.		
Consigned to the United States tons 2240 lb.	1,411	48,941
" " " West Indies " " " .	660	13,399
" " Canada " " "		93,017
" " Other provinces " " " .	400	70,047
" " South America " " " .	460	5,245

The Production of Coke for the week ending Nov. 21.

Tons of 2000 lb.

	Tons.	Year. Tons.
Tyrone and Clearfield.....	....	745
Alleghany Region.....	....	118
West Penn. R.R., " " " " "...	1,111	40,835
Southwest Penn. R.R " " " " "...	7,875	382,876
Gas Coal, Penn. R.R. " " " " "...	880	36,590
Pittsburgh Coal, Penn. R.R. " " " "...	1,534	60,181

The production of Anthracite for the week ending Nov. 28th was as follows: Wyoming Region, 165,719 tons, being 25,234 tons less than the preceding week. In the Lehigh region, 93,840 tons, or 1,623 tons less than the week before, and in the Schuylkill region, 138,305 tons, being 30,337 tons less than the preceding week.

The total production of Anthracite from all the regions was for the week 398,268 tons, as against 455,320 tons the preceding week, (or a decrease of 57,052 tons), and 380,693 tons for the corresponding week last year. From January 1st to Nov. 21th, there were produced 18,323,141 tons, as against 18,244,468 tons for the same period last year. The figures of last year's production are taken from the Pottsville *Miners' Journal*.

The receipts at Port Richmond were 51,500 tons; shipments, 54,500 tons; and balance on hand 155,000 tons.

Returns from Greenwich, Philadelphia:

	Bituminous.	Gas Coals.
Receipts.....	3,515	894
Shipments.....	3,666	914
On hand.....	1,701	653

The receipts of coal by the Michigan Southern RR. at Buffalo for the week were 5,226 tons, The shipments by Lake, 3,564 tons.

The Delaware and Hudson Canal Company has in stock at Honesdale 57,000 tons; at Rondout, 75,000; and at Weehawken, 10,000 tons.

The exports of coal from Baltimore this year amount to 63,366 tons, as compared with 62,111 tons in 1873.

The production of Cumberland coal from January 1 to Nov. 28, inclusive, was 2,206,850 tons of 2240 lb., against 2,436,176 tons to the corresponding date in 1873. The production for the week was 40,287 tons, as compared with 48,176 tons for the corresponding week in 1873. This is a total decrease for the week of 7,889 tons as compared with 1873, and for the year, thus far, of 229,326 gross tons.

	week.	year 1874.	year 1873.
The receipts of coal at Coal Port (Trenton)	2,350	261,200	320,853
" " " South Amboy.....	12,955	576,291	433,249
Shipments at Coal Port (Trenton).....	2,401	260,189	324,439
" South Amboy.....	8,093	580,432	424,271

Production of Bituminous Coal. 1874.

Tons of 2000 lb.	9 months.	Oct.	10 mos.
Blossburgh Region.....	631.451	85,967	717,418
Barclay Region.....	375.737	34,563	410,300
Broad-Top Region.....	174.457	16,009	190,466
Cumberland Region.....	1,942,783	263,340	2,268,010
Clearfield Region.....	507,699	89,212	596,911
Alleghany Region.....	158,854	21,591	180,445
Pittsburgh Region.			
West Penn. RR.....	146,471	24,759	171,230
Southwest Penn. RR.....	5,480	1,453	6,933
Gas Coal, Penn. RR.....	676,814	93,980	770,794
Pittsburgh Coal, Penn. RR.....	344.735	55,404	400,139
Saw Mill Run RR.....	68,957	..	..
Cleveland and Pittsburgh RR..	226,762	24,094	250,856
Pittsburgh, Cincinnati and St. Louis Rit.....	431,040	65,374	496,414
Erie and Pittsburgh RR.....	201,563	41,634	243,197
Pittsburgh, Fort Wayne and Chicago RR.....	159,373	11,399	170,772
Castle Shannon RR.....	87,901	4 878	92,779
A. Y. & P. R.R.....	73	220	293
Pittsburgh and Connellsville RR	296,105	38,792	296,105
Monongahela Nav. Co.....	1,848,656	..	..
Keeling & Co.....	140,014	..	..
Wettengal & Gormley.....	9,585	..	..
J. W. Carlin & Co.....	3,093	724	3,817
St. Louis Region.			
Tenn. Coal & R.R. Co.....	54,603	8,175	62,778
St. L. A. & T. H. R. R. Belleville Branch.....	112,799	..	..
B. & S. I. R.R.....	63,940	..	..
Illinois and St. Louis.....	1,605	231	1,836
Indiana North and South RR...	4,906	945	5,851
Evansville & Crawfordsville RR	10,989	2,166	13,155
Ohio & Mississippi RR.....	78,994	26,320	105.314
Kanawha Region.			
Chesapeake and Ohio RR.....	106,609	..	..
Warrior Region, Ala.			
South and North Alabama RR..	16,460	..	..
Cahaba Region, Ala.			
South and North Alabama RR..	3,085	..	..
S. R. & D. R.R.....	10,855	..	..
Chicago B. & Q. R.R	244.289	..	..
B. & M. R.; R.R.....	54.754	..	..
Union Pacific R.R. Co.'s mines..	114,256	17,121	131,327
" " " other mines..	..	..	81,174
Summit County R.R.....	..	..	17,412
	9,315,738		

The demand for Anthracite coal, upon the whole, is quite light; while some who are determined to quote prices likely to bring business, are selling a very fair quantity. The circular prices of to-day are merely nominal, as it is understood no one expects to get them; all feeling the necessity of meeting the market. With these facts in view, would it not be better to immediately begin a declining scale intended to reach the base of next year's programme? It is felt that the prices for next season will start at least 50 cents a ton lower than this year. The advance, since the opening of the season, has been about $1, and if next year's prices are to start 50c. under last, it will be necessary, if the present programme is followed out, to make an abrupt decline of $1 50; this course would lead to consumers buying only for their most pressing necessities, till the reduction had taken place, and a general "slaughtering" of coal by those who have too large stocks. It appears contrary to all rules of trade to attempt to sustain the highest prices of the year, at a season when navigation is closed, and all manufacturers and dealers are supposed to be fully stocked, and Trade generally light. The feeling appears unanimous, as to excluding the season contract policy from the next programme, and if such should be the case, there may be a more liberal feeling shown by the companies to our Middlemen.

It is rumored that the representatives of the combined companies will meet this week, or in a few days, and the result of their deliberations is eagerly waited for. With large stocks of coal at all the shipping ports, and but little business expected before spring, it is thought a general suspension is necessary, and will likely be brought about by a reduction of wages, in which all will participate, excepting the Pennsylvania Coal Company. This will accomplish two things: Throw the blame upon the miners if they strike, and enable the companies to produce a cheaper fuel—which is not only very desirable, but even a necessity. Although the Pennsylvania Coal Company may not reduce their wages while the other miners are upon a strike, yet it is quite probable that they will follow their old policy—viz., let the other companies fight the battle, and they will reap the fruit of victory without its cost. In other branches of mining and in manufacturing, a general reduction of wages has been made, and there is no reason for Anthracite mining to form an exception. Labor, like all other things, is regulated by the law of supply and demand, and the supply is now everywhere in excess. If the outside laborer, at a colliery had his wages reduced to $1 10 per day, would he leave and go to a furnace where he could get but $1 per day? or, if a miner had his wages reduced to $1 25 per day, would he prefer working upon a railroad at $1 00, or 80 cents, and much time lost during the storms of winter? There are few miners who would not prefer working in the mines for the same remuneration they would receive at exposed work upon the surface. If we were to heed the correspondence furnished by sensational writers to several of the daily papers, headed with "murder," "starvation," etc., we might think that there was no room for a reduction of wages; but we are familiar with that class of correspondents, and no value whatever is to be placed upon their statements, which are furnished by some interested party, instead of from observation and personal research. That many improvident families would suffer in case of a strike, or a suspension of work, is evident. If the true feelings of the men could be ascertained, it would be found that the greater majority would submit to a reduction, but they are likely to be controlled by a few blustering associates, who are almost all men who have nothing to lose, and hope to gain influence, by recommending what is popular and not wise.

We are in receipt of the annual report of shipments of coal over the Philadelphia and Reading railroad, for the fiscal year ending November 30, from which we glean the following: The total shipments paying freight were 6,001,000 tons, of which 5,743,757 tons were anthracite, and 257,243 tons bituminous. The total coal for company's use was 347,811 tons, of which 336,132 tons were anthracite, and 11,679 tons bituminous, making in all a total of 6,348,812 tons handled, or 197,741 tons less than last year. The tonnage of the Schuylkill canal was 717,507, or 26,289 tons less than last year. The total production on the line of the railroad was 5,382,602 tons.

The Lehigh Valley Railroad Company, for their fiscal year ending November 30, report as follows: shipments 4,150,659, as against 4,144,340 tons last year, or an increase of 6319 tons. The Pennsylvania and New York Railroad reports: shipments, 1,016,447 tons, as against 980,242 tons last year, or an increase of 36,505 tons.

Coastwise freights are weaker than at the date of our last, with no prospects of an advance, as there is no demand from other branches of business, and little for coal. The only thing for masters of vessels to do, is to accept the rates offered, or tie up.

In Bituminous and foreign coals there is nothing doing. The Cumberland trade may be stated as at an end for this season, although there is considerable going to stock at Georgetown. Freights from Baltimore and Georgetown are without quotable change. The sale of 2,000 tons, for Cuban shipment, reported in our last, is said to have been made at $4 40 at Baltimore.

By Cable, from Barbadoes on Wednesday, we learn of the sale of the cargo of the *Osage*, Pictou coal, at $7 75, gold, or an advance of 21c. on the previous sale.

A cargo of Pictou coal, per *Amity*, arrived at Matanzas, sold at $6 37, gold, shipper paying duty of 75 cents. This price nets the shipper about $1 25, gold, for the coal, a loss of over $1 per ton.

Wholesale Prices of Anthracite Coal for Dec. f.o.b., at the Tide Water Shipping Ports per ton of 2240 lb.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
Wyoming Coals.						
†Lackawanna and Scranton at Elizabethport & Hoboken.....	5 55	5 65	5 75	5 90	6 40	5 35
*Pittston at Weehawken.....	4 75	4 75	4 85	4 95	5 35	4 50
*Wilkesbarre at Port Johnston.	5 55	5 65	5 75	5 90	6 40	5 35
Plymouth, R. A.....	....	....	5 75	5 90	6 50	5 35
Susque. Coal Co. at Amboy W.A.	5 55	5 65	5 75	5 90	6 50	5 35
Kingston at Hoboken	5 55	5 65	5 75	5 90	6 40	5 35
***Lehigh Coals.**						
Old Company at Port Johnston	6 50	....	6 45	6 45	6 60	5 63
Old Company's Room Run "	6 00	....	6 00	6 00	6 35	5 35
Sugar Loaf at "	6 00	....	6 45	6 45	6 60	5 65
Lehigh Coal Exchange "	6 35	....	6 30	6 30	6 45	5 50
Honey Brook at Elizabethport..	6 35	....	6 30	6 30	6 45	5 50
Spring Mt. C. Co. at Hoboken..	6 35	....	6 30	6 30	6 45	5 50
Beaver Meadow at South Amboy	6 35	....	6 30	6 30	6 45	5 50
Schuylkill Coals at Port Richmond.						
Schuylkill white ash.....	5 05	5 15	5 25	5 40	5 90	4 45
Schuylkill red ash	....	....	5 40	5 50	5 95	4 55
Shamokin white and red ash ..	....	....	....	5 40	5 90	4 45
N. Franklin.....	....	....	5 85	5 85	5 90	4 45
Lorberry.....	....	....	6 30	6 30	6 90	4 50
Lykens Valley.....	....	....	....	6 85	6 85	5 40

* Small or Pea coal is quoted by these Companies at $1 25 per ton less than Chestnut.

† f.o. b. in New York Harbor.

Pittston coal is delivered to carts in New York or Brooklyn at an additional charge of 40 cents per ton to the above quotations.

Freight from Hoboken and Weehawken to New York.....	Per ton. 40c.
" " Elizabethport & Port Johnston to New York.	40c.
" " South Amboy to New York.....	45c.
" " Port Richmond, "Phila." to N. Y. alongside	95c.
" " Rondout to New York by boat or barges of the D. & H. Canal Co. "delivered".....	50c

Wholesale Prices of Bituminous Coal.

Domestic Gas Coals.

Per ton of 2240 lb.	Shipping Ports.	Alongside in New York.
Westmoreland and Penn, at Greenwich, Philadelphia	$6 25	$7 65
" " at S. Amboy	7 00	..
Red Bank Cannel Pa., at Phil.	8 50	8 50
" " at S. Amboy	8 00	....
" Orrel, "	7 00	7 65
" " at Philadelphia	6 25	....
Youghiogheny, Waverly Co, at Baltimore	6 00	7 65
Despard, West Va., "	5 60	7 40
Murphy Run, W. Va. at Baltimore	5 60	7 40
Fairmount, W. Va. "	5 60	7 40
Newburgh Orrel, Md. "	5 50	7 40
Cannelton Cannel, W. Va., at Richmond.	11 00	12 80
" Splint, " "	5 25	7 50
Peytona Cannel, " "	....	12 50
Sterling " Ohio	....	12 00
Straitsville, " At Sandusky, O.	3 65	11 50

Foreign Gas Coals.

	Sterling.	Am. cur'cy.
Newcastle, at Newcastle-on-Tyne	12/@13/6	7 00@ 8 00
Liverpool House Orrel, at Liverpool	29/	13 00
Ince Hall Cannel "	52/	18 00
" Gas Cannel "	40/	15 00
Scotch Gas Cannel, at Glasgow, nominal.	28/	9 50
	Gold.	
Block House, at Cow Bay, N.S.	2 25	6 50
Caledonia, at Port Caledonia	1 87½	5 70
Glace Bay, at Glace Bay	2 00	5 50
Lingan, at Lingan Bay	2 25	6 50
Sydney, International and Reserve mines, at Sydney	2 25	5 75
Pictou, Albion and Vale mines, at Pictou	2 50	6 50

Steam and House Coals.

Broad Top, at the mine, $1 25; at Port Richmond, Phil	4 75@5 00	6 00@6 25
Cumberland, at Georgetown and Alexandria, Va.	4 30@4 40	5 75@6 00
Cumberland at Baltimore*	4 60@4 75	6 25@6 50
Clearfield, " Derby," " Kitanning" and "Sterling," at the mines, $1 25; at Greenwich, Phil	4 75@5 00	6 25
James River, carbonite, at Richmond, Va	6 75	9 00
" " bituminous,	4 00	6 25

*Schooner freights from Baltimore to New York are.....$1 25
Barge " " " " " 1 70

Retail Prices in New York.

Anthracite.

Per 2000 lb.	Grate and Egg.	Stove.	Chestnut.
Pittston coal, in yard	$6 00	$6 20	$5 40
Lackawanna Coal delivered	7 60	7 85	7 10
Wilkes-Barre, delivered	7 60	7 85	7 10
Lehigh & Locust Mountain, del'd	8 00	8 00	7 50
Schuylkill Red Ash del'd	8 25		

The cost of delivering Pittston coal ranges from 40 cents to $1 per ton, according to distance from the yard.

Bituminous.

Liverpool House Orrel, delivered, per ton of 2000 lb	$23 00
Liverpool House Cannel " " "	25 00
American Cannel " " "	16 00
American Orrel " " "	16 00
Straitsville Cannel " " "	16 00
Carbonite " " "	12 00
Cumberland " " "	9 00

Coal Trade of Philadelphia.

PHILADELPHIA, Dec. 3, 1874.

Anthracite coal matters are in great confusion at present—meetings are taking place almost daily amongst the parties in the Combination, and the programe for action at the begining of next year will be known before the holidays. In the meantime most of the collieries in the Schuykill Region are now stopped, and orders for large sizes, at the few working, are scarce. Circular prices are not adhered to any longer by many, and the effect cannot fail to be disastrous. The Schuylkill operators have exceeded the rates which prudence and common sense should have dictated as high enough, and, consequently, Lehigh coal is gaining ground and is now purchased by dealers who generally deal in Schuylkill. Not only the rates of Lehigh are lower to several points in the city, but dealers complain bitterly of short weights on the Reading R. R., and say they get more coal over the Lehigh roads to the ton than they do over the Schuylkill road. This matter of weight has become a very serious one with parties having to contend against the unfair competition of the Reading Coal and Iron Co. in selling coal at retail in carts for less than the same coal could be purchased by the sellers from them, and adding the amount they have to pay for transportation. Those who trusted the grand promises of the Company when they entered the field as retailers—about fairness—have good cause to regret it. Freights from Port Richmond to Boston remain low—$1 50 to $1 70 according to size of vessel, and with very few orders.

The amount of stock at Port Richmond is acknowledged by the Company to be 155,000 tons, of which 80,000 tons dumped and 7,000 loaded cars belong to the Coal and Iron Company.

Bituminous Coal, Wholesale.

Penn. and Westmoreland (Gas), f.o.b., Greenwich	6 25
Broad Top, (according to destination) f.o.b., Port Richmond	4 75@5 00
Clearfield f.o.b. at Greenwich, according to destination	4 75@5 00

Bituminous, Retail.

60 in yard, per 2240 lb., cartage added.

Anthracite, Retail.

Egg, per 2240 lb., $6 20; Stove, $6 25; Chestnut, $5 10; delivery costs, 75 cents extra.

Baltimore, Md. Dec. 2, 1874.

Reported by our Special Correspondent.

Very little is doing in the Cumberland trade. Contract orders are well filled, and the companies generally are slacking up their shipments. The gas coal companies are sending forward a small supply, but are about through for the season.

A large vessel here is loading for San Francisco, but there are no other new orders in the market.

Plenty of vessels here and few freights. Rates low, about the same as last quoted.

WHOLESALE PRICES PER 2240 lb.

ANTHRACITE.

	By cargoes.	In cars.
Wilkes-Barre, "Lee," or "Diamond,"		
Lump, steamboat	$5 15	$5 60
Broken	5 50	5 75
Egg	5 87	6 15
Stove	6 07	6 35
Pittston and Plymouth.		
Lump and steamboat	....	5 50
Broken	....	5 70
Egg	....	6 05
Stove	....	6 25
"Boston," freeburning white ash	....	5 50
Egg	5 87	5 70
Stove	6 07	6 05
Shamokin, (red or white ash)	....	6 25
Egg	5 82	6 05
Stove	5 92	6 15
Lykens Valley, red ash, egg and stove	6 02	6 55

From wharf or yard, wholesale, 50@75c. additional.
By retail, all kinds and sizes, per 2,240 lb, $7@8 25.

BITUMINOUS.

George's Creek and Cumberland f. o. b. at Locust Point for cargoes	4 60	4 75
West Va. Gas Coal f. o. b. at Locust Point	5 50	....
Kanawha Cannel, coarse	13 00	....
Tyrone	7 25	....
Ritchie Mineral of West Virginia	1 00	....

Boston. Dec. 2, 1874.

Reported by our special correspondent.

CARGO PRICES TO TRADE.

Lingan coal	$ 5 75	Westmoreland, and Penn.	7 75
Caledonia	5 00	Waverly Co, Youghiogh'y	7 75
Pictou	6 15	Cannelton Cannel	13 50
Block House	5 60	Cumberland	5 70@ 6 10
Red Bank Cannel	12 00	Anthracite,	6 50@ 7 25
Glace Bay	5 00	" Retail	7 50@ 8 00
Sydney	7 00		

Buffalo, N. Y. Dec. 2, 1874.

Reported by our Special Correspondent.

Per ton of 2000 lb.

	Slack.	Nut & Slack.	Nut.	Lump
Connelsville coke				6 50
Sterling cannel				6 00
Red Bank				5 75
Youghiogheny coal for gas				5 50
Briar Hill coal		3 25		5 00
Fairmount "		3 25	3 75	4 25
Catfish "		3 25	3 75	4 50
Stoneboro "	2 75		3 75	

Briar Hill coal, and Stirling and Red Bank cannels retail at $7 50; all other coals $1 per ton above wholesale prices.

Anthracite f. o. b. vessel.

Grate	6 70	Stove	7 15
Egg	6 70	Chestnut	6 65

Retail prices delivered and screened, $1 per ton additional.

Chicago, Ill. Dec. 1, 1874.

Specially reported by Messrs. RENO & LITTLE, Coal Merchants.

No change in prices of coal.

Retail prices per ton of 2000 lb. delivered to buyer.

		BITUMINOUS.	
Lehigh Lump	$10 75	Briar Hill and Erie	7 50 ....
Lehigh prepared and car load lots	10 25	Walnut Hill (W. Va.)	6 50 ....
Lackawanna, Wilkes-Barre and Pittston,*		Midway (West Va.)	6 50 ....
Grate, egg, and chestnut	9 50	Cannel	8 00@ 9 00
Stove or range	10 00	Blossburg	8 00
		Indiana Block	6 00
		Hocking " Brooks"	6 00
		Wilmington and Illinois	5 00

*75 cents off these prices for car load lots to country dealers and manufacturers.

Cleveland, O. Dec. 2, 1874.

Reported by our Special Correspondent.

Shipping via Lake has now closed for the season. The improvement in business, looked for during the latter part of open navigation, was, to some extent, prevented by the great advance in Lake freights. Trade, as a general thing, remains very quiet. The retail business has improved somewhat, however, the last week, owing to increased cold weather. I beg to offer the following as present very low prices on cars here.

Car lots:

Per ton of 2000 lb.

Youghiogheny, l'p, f.o.b.	$4 40	Straitsville, f.o.b.	$3 25
Youghiogheny, nut	3 40	Columbiana "	3 00
Briar Hill, according to quality	$3 85 to 4 00	Strip Vein "	3 20
" " (Brookfield)	4 10	Mountain Blossburg (blacksmith)., f.o.b.	5 50
Massilon	3 65	American Cannel Coal Co.'s Cannel, f.o.b.	4 50
Hocking Valley, f.o.b.	3 25	Egg	$6 85
Anthracite, Lackawanna on cars,		Stove	7 50
" " " "		Chestnut	7 00
" " " "		here	5 25
Youghiogheny Coke, " "		"	5 50
Connellsville " " "			

50 to 75 cents per ton additional for delivery at retail.

Cincinnati, O. Dec. 1, 1874.

Specially reported by Messrs. A. BUCHANAN & Co., wholesale and retail dealers in coal and coke.

Per ton of 2000 lb.

	Bush.	Ton.
Youghiogheny, or Pittsburgh, afloat	12 c.	
Pomeroy coal	10 c.	
Cannel coal	18c.	
Semi Cannel	11 c.	

The following are retail prices delivered:

Youghiogheny	14 c.	
Pomeroy	12 c.	
Cannel	24 c.	
Kanawha Semi Cannel	15c.	
Anthracite		$9 50@11 00
Foundry coke	12c.	
Soft coke	10c.	

Detroit, Mich. Dec. 2, 1874.

Specially reported by Messrs. ROBINSON & KEYS, dealers in all kinds of coal.

Please continue quotations as last reported. Trade not brisk but fair

Per ton of 2000 lb.

Lehigh Lump, per ton	$10 50	Blossburg	8 50
Lehigh " prep. sizes	10 00	Briar Hill	7 50
Wilkes-Barre, Grate and Egg	9 00	Willow Bank	7 00
Wilkes-Barre, Stove and Nut	9 50	Erie	7 50
		Massillon	7 00

Erie, Pa. Dec. 2, 1874.

Reported by our Special Correspondent.

Wholesale, per ton of 2,000 lb.

Bituminous f.o.b.

Briar Hill lump	$4 00	Beaver lump	$4 00

Indianapolis, Ind. Nov. 23, 1874.

Specially reported by Messrs. H. McCOY & Co.

Per ton of 2000 lb.

BITUMINOUS.

Wholesale on board cars in city.

Best Block coal	$3 10	Indiana cannel	6 75
Best Highland	2 50	Hocking Valley	3 25
Block Nut, per car	20 00	Youghiogheny	6 00
Highland "	18 00	Blossburg (smithing)	7 30
Block slack, per car load	15 00	Piedmont "	7 75
Peytona, cannel per ton	8 75	Gas coke, ... per bushel.	10c

ANTHRACITE (Lackawanna).

Grate	$8 70	Chestnut	8 60
Egg	8 70	Stove	8 85

Retail, per bushel of 70 lb.

Block	16c.	Peytonia Cannel	32c.
Highland	14	Indiana "	26
Highland Nut, dom. use	12	Youghiogheny	26
Block " "	12	Blossburg	27
Slack, steam, "	8	Piedmont	30
Block & Highl'd Mt. steam	9		

ANTHRACITE.

	per ton.		per ton.
Grate	$11 00	Stove	$11 00
Egg	11 00	Chestnut	11 00

Louisville, Ky. Dec. 1, 1874.

Specially reported by Messrs. BYRNE & SPEED.

Pittsburgh, per load of 1900 lb	$4 00
Pomeroy	....
Buckeye Cannel	5 50
Peytona Cannel	6 00
Nut and Slack	2 75
Kentucky lump, per load	....
" nut, "	....
" Slack "	....
City-made Coke, per bushel	10c
Kentucky on cars at wholesale, per bush.	13c
Anthracite, per ton	$10 to $10 50

Milwaukee, Wis. Nov. 30, 1874.

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

Retail prices per ton of 2000 lb.

Lehigh Lump	$10 00	Briar Hill, select	$8 50
Lehigh Prepared	10 50	Blossburgh	8 00
Lackawanna	9 50	Pittsburgh	7 50

New Orleans, La. Nov. 28, 1874.

Please continue our quotations of 21st inst. No change whatever in the market.

Pittsburgh coal, retail, per bbl	75c.
" wholesale	45c.
" to steamboats, per box	60c.
" to manufacturers, per bbl	65c.
" shipments per hhd	$7 00
Anthracite, retail, per ton	$12 50
" wholesale per ton	$8 00
Spadra (Arkansas) coal, retail, per bbl	75c.
Mt. Carbon, wholesale, per bbl	45c.
" " retail per bbl	65c.
Virginia Cannel, per bbl	90c.
Scotch Cannel, per bbl	1 00

Pittsburgh, Pa. Nov. 30, 1874.

Reported by our Special Correspondent.

During the past week about 7,800,000 bushels of coal started for the lower markets, continued rains producing a good coal boat rise. Several weeks since, about 175 Italians were sent to Armstrong's mines on the P. B. and W. RR.; they were armed for self-defence, but at the earnest request or demand of the authorities they were disarmed, some ten days ago. Yesterday an attack was made upon them by the old miners (so it is said), three Italians being killed and seven wounded, with no reported casualties on the other side.

Trade remained dull and prices unchanged.

Per ton of 2000 lb. and Bushel of 76 lb.

	per ton.		per ton
Youghiogheny coal	$2 00	Pittsburgh retail delivered	
" coke	2 50	per bushel	20@10c
Connellsville coal	2 10	Anth'cite on cars Lehigh	$7 75
" coke	2 75	" " Wilkes-	
Pittsburgh coal	1 85	Barre	6 75

Twenty-five to fifty cents per ton additional for delivery.

St. Louis, Mo. Nov. 30, 1874.

Specially Reported by the COLLINSVILLE COAL AND MINING COMPANY.

ANTHRACITE.
Per ton of 2000 lb.

	City delivery.
Lehigh Lump	$13 50
Lackawanna and Wilkesbarre	12 50
Semi Anthracite	9 50

BITUMINOUS.
Per ton of 2000 lb.

	E. St. Louis.	City delivery
Washington Indiana—smithing	$4 00	$4 87
O'Fallon, Ills	2 00	3 00
Collinsville and Belleville, Ills	1 75	2 75
Indiana Cannel	6 00	7 00
Missouri Cannel		5 00

Retail, 25c. per ton additional.

San Francisco.

From the *Commercial Herald* of Nov. 19.

Imports from January 1st to November 16:

Anthracite	11,493	Vancouver Island, tons	44,901
Australian, tons	118,114	Bellingham Bay, tons	13,185
Coos Bay, tons	42,146	Rocky Mountain, tons	343
Cumberland, tons	13,835	Seattle, tons	4,535
English, tons	20,227	Mt. Diablo (10 mos.)	168,182

The bark *C. W. Cochrane* from Boston brings 115 hhds. Cumberland and 227 tons Anthracite; the *Geo. H. Oulton* from Newcastle, N. S. W., has 1,584 tons Walsend, and is held at $12; the ship *Germania* from Bellingham Bay has 1,300 tons household Coal, which is selling ex ship at $8 50; the *Aurora* from Coos Bay has 300 tons; the *Empire* 521 tons same—price $10 50. *Wellington* from Nanaimo commands $11 in lots screened. The *Mariano* has 600 tons from Newcastle, N. S. W.; ship *Himalaya* 1,557 tons from same. The general tone of the market seems to favor the seller. The California Mt. Diablo mines, Black Diamond and others, continue to produce largely of Steam Coals, finding ready sale at $5 25@$6 25 per ton for coarse and fine. The market is well and abundantly supplied with Anthracite and Cumberland at unchanged rates.

Montreal. Nov. 30, 1874.

Reported by our Special Correspondent.
Per ton of 2,240 lb.

Scotch Steam	$4 50@4 75	Cape Breton Steam	$4 00
Pictou "	4 25	Newcastle Smiths	5 50

Anthracite at retail, 2,000 lb., delivered, less 5 per cent.

Egg	$8 00	Nut	$8 00
Stove	8 50	Chestnut	7 75

Toledo, Ohio. Nov. 30, 1874.

Per ton of 2000 lb.
Specially reported by Messrs. GOSLINE & BARBOUR.

	Retail.		Retail.
Wilkes-Barre and Scranton,		BITUMINOUS.	
Large and Small Egg,	$8 00	Blossb'g and Cumberl'd,	$8 00
Stove	8 25	Massillon Lump	6 00
Chestnut	8 00	Briar Hill	7 00
Lehigh Lump	10 00	Straitsville	3 75
		Hocking Valley	4 00

Halifax, N. S. Nov. 30, 1874.

Reported by our Special Correspondent.
Prices per ton of 2240 lb. in gold.

Sydney (old mines)	$4 50	Little Glace Bay	3
Gowrie	3 50	Blockhouse	
Victoria	3 50	Albion (at Railroad)	

Toronto, Ont. Nov. 30, 1874.

Reported by our Special Correspondent.

ANTHRACITE.

	per ton.		per ton.
Broken	$7 65	Chestnut	$7 65
Egg	7 65	Lehigh	9 00
Stove	8 15		

BITUMINOUS.

Blossburgh	7 50	Screenings	5 00
Briar Hill	7 00	Soft Nut	5 50

Freights.

We have but little change to note in the general condition of freights, as compared with our last. The market may be quoted lower; the demand for vessels is so so small, however, that almost any rate would be accepted which would pay owners' expenses. We have received some rates from Baltimore and Georgetown, dated Dec. 2d, quoting as follows: to New York, Boston, New Haven and Portland, &c., $1 50; Fall River and New Bedford, $1 60.

REVIEW OF THE BRITISH COAL AND IRON TRADES.

Compiled from our exchanges bearing date to November 18, 1874.

There is no change to note in the English coal and iron markets since last week. Trade is generally rather dull, but with an improving tone. The following are the prices generally quoted.

London.—Best Wallsend coal, 24/@27/ per ton; being an advance of 2/ over last week. Hartley, 21/ 6d.

North of England.—No. 1 pig is quoted at 70/; No. 3, 65/; Forge, 58/, net cash, being the same prices as last week.

Tyne and Wear.—Wages. Screen men earn from 3/ 6d.@3/ 9d. per day; they generally work from 10 to 11 days per fortnight. Hewers' wages average at present 6/@6/ 6d. per day. Putters, (lads) 3/ 6d.@4/ per day.

North Staffordshire.—Puddled bars have been sold at £7 10/ short weight, delivered into Staffordshire. Crown bars, £9 12/ 6d. House coals, 12/ 4d.@23/ 6d. per ton, delivered on purchasers' premises; manufacturing coals, 9/ 6d.@12/ 6d. per

In South Staffordshire, branded iron is firm at £10 10/@£11, unmarked iron, £9 5/; pig iron, all mine, £5@£5 10/; cinder pig, £3 5/@£3 7/ 6d.

Yorkshire.—The prices of coal delivered in any part of Chesterfield are as follows: Best hard, 16/; soft, 15/; house coal, 12/; slack, 7/ 6d. per ton; coke, 20/ per ton in the West Riding.

In the Barrow District, hematite irons have been sold at from £4 10/@£4 12/ 6d.

Lancashire.—The prices for Middlesbrough pig, delivered in Manchester, are No. 1, 78/ 6d.; No. 2, 76/; No. 3, 73/ 6d.; No. 4, foundry, 69/ 6d.; No. 4, forge, 66/ 3d. per ton. About 2/ 6d. less is quoted for delivery over the first three months of 1875. Bars of ordinary quality, £9 5/; a better class, £9 15/@£10; puddled bars, 2/ 6d. less than last report, or at £6 10/ delivered. Rails of light section, delivered, £8 17/ 6d.@£9 2/; heavy sections, £8 2/ 6d.

Scotland.—Glasgow.—Warrants, 85/@86/ 6d. Coal, f.o.b. at the Glasgow Harbor cranes: Wishaw main, 8/ 3d.@9/ 6d.; house coal, 9/ 6d.@12/; splint coal, 9/@10/ 6d.; steam coal 10/ 6d.@13/; smithy coal, 17/.

The above quotations give a good idea of the general condition of trade and the prices obtained. The tendency is still towards lower prices, those absurd Englishmen still clinging to the old-fashioned idea, that to increase business it is necessary to lessen cost of manufacture and sell cheaper. Our American ironmasters propose to attain the same end by combining to keep the prices up. Time will show, if it has not done so already, in which course there is wisdom.

IRON MARKET REVIEW.

Import Duties.

The following are the duties in Gold on Iron:

Flat Iron, not less than 1, nor more than 6 inches wide, nor less than ¼, nor more than 2 inches thick. *Round Iron*, not less than ¾, nor more than 2 inches in diameter, and *Square Iron*, not less than ½, nor more than 2 inches square ₰ lb. 9-10 of 1c. *Flat Round or Square Iron*, of larger or smaller sizes than the above mentioned, per lb 1 35-100

Provided, that all iron in slabs, blooms, loops, or other forms, less finished than bars, and more advanced than pig iron, except castings, shall pay the same as iron in bars.

Provided, that none of the above iron shall pay less than 31½ per cent.

Railroad Iron ..... 630. per 100 lb.
Boiler plates, or other plate iron not less than 3-16 of an inch thick, per lb ..... 1 35-100 c.
Scrap castings per ton $5 40
" *wrought* " " 7 00
Pig iron per ton 6 30
Iron ore 10 per cent. *ad valorem*.

New York.

Dec. 4, 1874.

American Pig.—There is no change in the demand or quotations, although the latter are merely nominal, the prices at which iron can be purchased being a mere matter of negotiation. The sales made are generally of so little importance as not to show the true tone of the market. Whenever a large sale is made, it is generally found that it is at a very low figure. We note a sale of 1,000 tons of Gray Forge, Lehigh (said to be Coleraine) iron, at less than $20 per ton on the furnace bank. We are informed that parties have been trying to export some Lehigh iron at a very low figure, and although the price at which they offer here, would give them 13/ per ton advantage over what is considered an equal brand in Glasgow, yet foreign freights are entirely too high to permit of exporting with only that margin, the best rates to Glasgow being 30/, which is considered low when compared with what is being paid to other ports, on similar kinds of freight. With a protective duty of $6 30 per ton, and brands of American iron offering at less than brands of Scotch iron of equal quality in Glasgow; the cry for an increase of duty may be considered dead—for the time being at all events. We quote: No. 1 Foundry at $26@$27; No. 2, $25@$26; and Gray Forge, $22@$24.

Scotch Pig.—We note sales of $100 tons Glengarnock, to arrive, at $37 75, and 100 tons Coltness on private terms. The Glasgow market is a little weak. There were, Nov. 13, 119 furnaces in blast, as compared with 122 at the same time last year, and 18,630 tons of pig iron in store at Glasgow, against 36,755 tons in 1873. When navigation closes, and the stocks begin to increase, it is very probable that prices may still further decline. The arrivals here, since our last, amount to about 500 tons. The imports from Jan. 1st to Dec. 1st amount to 28,403 tons, against 58,835 tons at the same time last year, or less than one half. We quote English at $36@$37; Glengarnock $39@$40; and Coltness $41.

Rails.—There have been no transactions, and we learn of offers under our quotations. We quote from Messrs. BIGELOW & JOHNSTON'S review for last month:

"The season for inland navigation and for work on railroads being nearly over, the business of the past month has been very light, and a foreshadowing of the usual winter's inaction. About 1,000 tons 56 lb. English were sold at $49½ gold, thus reducing the available stock of *Foreign* make to a few thousand tons. For American there are numerous enquiries, but the doubts surrounding all Bonds of unfinished roads, and the paucity of cash resources with nearly all, form a fatal barrier to successful negotiation. For Steel the enquiries are fitful but the prospects good. The Canadian government have lately contracted for 30,000 tons for 1875 delivery, at about $54 gold, delivered at Montreal. In this market the import of English made Bessemer Rails has nearly ceased, the present duty of $25 20 per ton being practically prohibitory."

We quote American rails at $50@$53, currency, at the mills, and Foreign at $49@$50, gold, here. Steel rails are held at $75@$80 at the mills.

Old Rails.—We note the sale of 180 tons at $29 50, 4 mos., with interest, and quote at $29@$30.

Scrap Iron.—We note the sale of 500 tons on private terms, and quote at $30.

Boston.

From the *Commercial Bulletin* of Nov. 28, 1874.

Pig has had a moderate business considering the disposition of a few holders to push their stocks; not that the market is weak or has any asymptoms favoring future buyers, but here and there a holder, anxious to realize from financial incidents, as January approaches, is disposing of his lots a shade under going quotations, which are named as $31@$33 for No. 1 American; $28 50@$31 for No. 2. One or two dealers have stepped into the breach during the week and picked up the bargains the foundry men had not reached.

Bar continues to sell in an erratic way, the ordinary grades showing a tendency to settle further to a 2½c. basis while the prime stock holds at 3c. with a moderate business. Special occasions have occurred similar to those met by one of our large machinery manufacturers, where special sizes were offered at $55 but, wanting a guarantee, were not taken.

Chicago Dec. 1, 1874.

Specially reported by Messrs. ROGERS & Co., dealers in Scotch and American pig iron.

Quotations are as follows:

No. 1 Coltness	$46 00@ ....
No. 1 Gartsherrie	45 00@ ....
No. 1 Summerlee	44 00@ ....
No. 1 Glengarnock	42 00@ ....
No. 1 Eglinton	40 00@ ....
Warner's "American Scotch"	41 00@ ....
Massilon No. 1 Foundry	37 00@ ....
No. 1 Grand Tower Mo. ores (Bituminous)	33 00@ ....
No. 2, " " "	30 00@ ....
No. 1 Mill	28 00@ ....
Union "A" 1 (Anthracite)	32 00@ ....
Union "B" 1 (Anthracite)	30 00@ ....
No. 1 Lake Superior (charcoal)	34 00@ ....
No. 2 Lake Superior "	32 00@ ....
No. 3 Lake Superior "	36 00@ ....
No. 4 Lake Superior "	42 00@ ....
Bessemer Steel Rails	85 00@90 00
New Iron Rails	55 00@ ....
Old Rails	28 00@30 00

Cleveland. Dec. 2, 1874.

Specially reported by Messrs. C. E. BINGHAM & Co., dealers in pig iron and iron ore

We note a decline in most quotations of $1@$1 50 per ton. quotations.

No. 1, Bituminous "	29 00@....
No. 2, " "	28 00@....
No. 1, " Gray Forge	25 00@....
No. 1, Lake Superior Charcoal	31 00@....
No. 2, " "	30 00@....
No. 3, " "	32 50@....
No. 4, " "	33 50@....
Nos. 5 and 6 "	35 00@....
American Scotch, No. 1, Cherry Valley	34 00@....
" " No. 2	31 00@....

Cincinnati. Dec. 1, 1874.

Specially reported by Messrs. TRABER & AUBERY, commission merchants for the sale of pig iron, blooms, ore, etc.

Our pig iron market remains without material change. We quote:

CHARCOAL.

Hanging Rock, No. 1, Foundry	$29 00@30 00—4 mos
" No. 2, "	27 00@28 00—4 mos
Mill	25 00@26 00—4 mos
Tennessee No 1, Foundry	28 00@29 00—4 mos
Tennessee. No. 2 "	27 00@28 00—4 mos
" Mill	25 00@26 00—4 mos
Missouri, No. 1, Foundry	@ —4 mos

STONE COAL.

Ohio No. 1, Foundry	27 00@28 00—4 mos
" No. 2, "	26 00@27 00—4 mos
Ohio Mill	25 00@26 00—4 mos
Missouri, No. 1, Foundry	29 00@30 00—4 mos
" No. 2, "	27 00@28 00—4 mos
" Mill	26 00@27 00—4 mos

CAR-WHEEL.

Hanging Rock, C. B	45 00@50 00—4 mos
Tennessee "	45 00@48 00—4 mos
Missouri "	45 00@48 00—4 mos
Alabama "	45 00@48 00—4 mos

BLOOMS.

Charcoal	80 00@ 90 00—cash

SCRAP IRON.

Cast	75@ 85—cash
Wrought	1 00@ 1 25—cash

Indianapolis, Ind. Nov. 30, 1874.

Specially reported by NELSON KINGMAN, broker and dealer in pig iron, etc.

Continue quotations.

New Rails at mill	$62 00@64 00
Old Rails "	30 00@31 00
Hanging Rock Charcoal Pig No. 1 foundry	35 00@36 00—4 mos
" " " " " 2 "	32 00@33 00—4 mos
" " " Mill	29 00@31 00—4 mos

STONE COAL.

Indiana No. 1 Foundry pig Planet furn'e.	32 00@34 00—4 mos
" 2 " " "	31 00@32 00—4 mos
" 1 Forge " "	29 00@ —4 mos
" 2 " " "	27 00@ —4 mos
Ohio No. 1 Foundry pig	33 00@34 00—4 mos
" 2 "	31 00@32 00—4 mos
" 1 mill	28 00@30 00—4 mos
Merchant Bar, card rates	60 00@62 00—3 mos
1st quality C. H. No. 1 Boiler Plates, per lb	5¾@6 c.—3 mos
1st " Com. Sheet, for No. 24, W. G. "	5 c.—3 mos
1st " Charcoal Sheet " " "	6 c.—3 mos
Best Bloom Galvanized Sheet, discount 20 per cent	—cash.
2d quality " " " 30 "	—cash.

f. o. b. in Indianapolis.

Louisville. Dec. 1, 1874.

Specially reported by GEORGE H. HULL, Esq.

The market is dull and lower. Sales are confined to small lots for immediate use.

The usual time, 4 months, is allowed on the quotations below.

HOT BLAST—CHARCOAL.		
No. 1 foundry, from Hanging Rock ores	$28 00	@32 00
No. 2 " " "	20 00	@27 00
No. 1, forge, " "	24 00	@25 00
No. 1, foundry, " Tennessee "	26 00	@38 00
No. 2 " " "	25 00	@26 00
No. 1, forge, " "	23 00	@25 00
No. 1, foundry, " Alabama "	26 00	@28 00
No. 1 " " Iron Mountain "	30 00	@32 00
HOT BLAST—STONECOAL.		
No. 1, foundry, from Missouri ores	30 00	@32 00
No. 2, " " "	28 00	@30 00
No. 1, forge " "	27 00	@28 00
COLD BLAST—CHARCOAL.		
Wheel from Hanging Rock ores	40 00	@45 00
" " Tennessee "	36 00	@40 00
" " Alabama "	40 00	@43 00
" " Georgia "	40 00	@43 00
" " Missouri "	38 00	@42 00
" " Kentucky "	35 00	@43 00

Milwaukee, Wis. Nov. 30, 1874.

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

Per ton of 2,240 lb.

Scotch ranges	$40 00	to $45 00
No. 1, Lake Superior Charcoal	36 00	to 8 00
" 2, " " "	34 00	to 36 00
" 1, " " Anthracite	35 00	to 36 00
" 2, " " "	33 00	

Pittsburgh, Pa. Dec. 1, 1874.

Specially reported by A. H. CHILDS, Esq., commission merchant for the sale of pig iron, blooms, ore, &c.:

This market remains substantially as per last report. A few days more will terminate the notice given by the mill-owners, and then, unless either they or the puddlers recede from their present stand, or a compromise be effected, the mills will shut down. In the meantime, there is very little sale for pig iron.

Quotations are :

No. 1 Foundry, anthracite or bituminous	$26 50@27 00	—4 mos
No. 2 " " "	25 50@26 00	—4 mos
Gray Forge " "	24 00@24 50	—4 mos
White and mottled " "	22 50@23 00	—4 mos
Hot blast charcoal	30 00@35 00	—4 mos
Cold " "	40 00@45 00	—4 mos

From the *American Manufacturer* of Dec. 2, 1874.

PIG IRON.

There has been no improvement in the pig iron trade since the date of our last review, and the market continues very much depressed and devoid of any new or important features to which reference has not previously been made. The reported aggregate of sales during the past week was the lightest, if we mistake not, during any single week this year, and in the present unsatisfactory and unsettled condition of the market, no change for the better can reasonably be expected. Negotiations are still pending between manufacturers and puddlers, the latter still refusing to accept the reduction, and it is certain that there will be but little pig iron wanted until this matter is settled. In the event of puddlers utterly refusing to accept the reduction, it is strongly intimated that a general suspension of all the mills will be the result, as manufacturers claim that it is impossible for them to compete with the eastern mills and continue to pay present rates for boiling. It is not to be expected that the mills will stock up as long as the hitch in question continues unsettled, and besides, even if it was, we do not look for any increased activity as compared with what it has been, as the hand-to-mouth policy will no doubt be closely adhered to until there is some prospect of an upward turn in the market. Notwithstanding prices are lower now than they have been since before the war, there are some operators who predict a still further shrinkage, that the bottom is not reached, and no improvement in the demand may be looked for as long as this feeling prevails, as consumers will not carry any more stock than they can possibly help as long as there is a possibility of prices going still lower. Considering the unsettled and unsatisfactory condition of the market, the production holds out well; and, notwithstanding a large percentage of furnaces, both here and in other sections tributary to this market, have blown out, there is not much doubt but that there is still more being made than is being consumed, and that the stock in first hands is steadily accumulating. As noted in our last issue, a movement has been inaugurated in the East with a view to curtailing production, as it is believed to be the only course that can be pursued that will tend to restore confidence, strengthen the market, and enable producers to realize a living profit, and there are those who think that a similar movement should be inaugurated in the West.

MANUFACTURED IRON.

The market for all kinds of finished irons continues to drag, as it usually does at this season of the year; orders are coming in sparingly, and some of the mills have been obliged recently, in consequence, to change from double to single turn. The general outlook at this writing is, to say the least, not very encouraging, but our manufacturers, in the event of the puddlers acceding to the proposed reduction in wages, will make a vigorous effort to fight it out until the spring trade opens up. We cannot expect much business from the West during the next sixty days, and our mill owners, in order to keep their mills running, will have to turn their attention eastward, and this they cannot do with any show of success unless the cost of manufacturing can be reduced; in other words, they cannot successfully compete with the eastern mills and pay one dollar per ton more for boiling, to say nothing about cost of transportation and other expenses. Prices continue weak, in sympathy with the raw article, but no irregularity that it is impossible to give accurate quotations.

Pig metal sales for the week ended December 2, 1874:

BITUMINOUS COAL SMELTED FROM L. S. ORE.		
20 tons No. 1 foundry	$26 50	— cash.
10 " No. 2 foundry	25 50	— cash.
110 " gray forge	24 50	—4 mos
640 " gray forge	24 50	—4 mos
200 " gray forge	24 00	—5 mos
100 " mixed lot	23 00	—4 mos
CHARCOAL.		
15 tons No. 1 foundry, H. B	$45 00	—4 mos
10 " Cold Blast, Eastern	34 00	— cash.
CONNELLSVILLE COKE.		
50 tons gray forge	$24 50	—4 mos
30 " close and mottled	23 00	—4 mos
ORE.		
750 tons Iron Mountain	$12 50	— cash.

San Francisco.

From the *Commercial Herald*, November 19.

There is a demand for Oregon Charcoal Pig Iron far in excess of the supply, by reason of its superior quality. The *Oregonian* brought down 134 tons, which sold quickly at $46. We also note sales of 140 tons Eglinton Pig Iron ex ship at $38. Block Tin from New South Wales is slow of sale at 23c.@25c. Tin Plate is plentiful and dull of sale at nominal rates. There is a steady fair jobbing trade in Bar, Bundle and Sheet Iron at current rates.

St. Louis.

From the *Railroad Register*, November 27.

No. 1 foundry. Stone coal, Mo	$32 00	@$34 00
No. 2 foundry, " "	28 00@	30 00
Mill " "	26 00@	28 00
No. 1 foundry, charcoal, Mo	30 00@	32 00
No. 2 " " "	28 00@	30 00
White and mottled charcoal, Mo	33 00@	34 00
Tennessee charcoal, No. 1 foundry	32 00@	34 00
Alabama charcoal, No. 1 foundry	32 00@	34 00
Scotch, according to brand	43 00@	45 00
Massillon	38 00@	40 00
American Scotch	40 00	
Hanging Rock	34 00	
Missouri, cold blast charcoal	43 00@	45 00
Tennessee, " "	45 00@	49 00
Kentucky, " "	55 00@	57 00
Alabama & Georgia, cold blast charcoal	46 00@	48 00
Missouri charcoal blooms	85 00	
Ore—Iron Mountain	7 00	
Maramec	6 50	

METALS.

NEW YORK, Dec. 4, 1874.

Gold Coin.—During the week past, gold has ranged from 112⅛ to 112⅜, and closed yesterday at 112⅜.

Bullion.—Fine silver bar is quoted at $1 27@$1 28, gold, per ounce, and fine gold bar at par ($20 67, gold, per ounce.)

Copper.—The transactions of the past week have been quite light, aggregating about 100,000 lb. for February delivery, at 24c., and 100,000 lb. spot at 23¼@23⅜c. Yesterday's cable quotation for Chili bars was £88, as against £87 the day before, and £89 last week. A slight decline in London has but little bearing on this market, as the stock is not large, and there is nothing but a "bull" influence here. There is but little for sale with the mining companies, and that in second hands is firmly held, while the larger manufacturers who have good stocks do not want to see the prices of their wares affected by a decline in ingot copper. With the demand which may be expected, prices are likely to continue firm, and a slightly increased consumption would cause an advance. Lake copper on spot is quoted at 23¼c @23⅜c., and for future delivery at 24c. Baltimore copper is held at 23⅜c., with transactions in a small way.

Tin.—The sales during the past week were 2000 slabs of Straits, to arrive, said to be at 21⅜c., and 500 slabs on spot at 22c. We quote to-day at 22⅛c. for Straits; Refined, 22⅜c.; Banca, 26⅜c.; and L. & F. 22c., all gold. Yesterday's quotations from London were: Straits, £93 10/, and Common £98 @£99, which are almost the same as last week. The Dutch Trading Company sold 20,100 slabs of Banca at an average of 58⅛ florins per 50 kilos., which is a very satisfactory figure, and has given additional strength to prices, both in this country and Europe. The latest telegraph quotations at Penang were $24⅛@24⅜ per picul, and at Singapore $25½. There is a fair business doing in tin plates in a jobbing way.

Lead.—The Government has made no sales, but is holding at $6 35, without throwing any light upon its probable future actions. Selby is held at $6 35@$6 40, with nothing doing. The sales of Domestic lead aggregate about 75 tons at about 6¼c., and Foreign 100 tons at 6¼c., gold, which are the nominal quotations of to-day. Owing to a lack of demand prices are a little weak.

Spelter and Zinc.—There is nothing doing in Spelter, which may be quoted at 6¾c. currency for Domestic; 7c. gold for Foreign; and 11c.@11½c. currency for Lehigh. Foreign sheet zinc is scarce, and cannot be bought at 9c. gold, so that 9¼c.@9½c. may be given as a quotation. We note sales of 300 casks of Lehigh at 10c., cash, currency. The "star" brand of Lehigh is held at 9¾c.

Antimony.—There is but little in the market, and it is being held at 13c. gold.

Manganese.—The higher grades are scarce, while the common are in good supply. Georgia manganite is quoted at 3¼c.; Virginia Psilomelane, 2¼c.; and New Brunswick manganite, 3c.

Quicksilver.—The demand keeps well ahead of the supply, and the price is advancing in sympathy with the London market, which is now at £26 per flask (75 lb.), or an advance of £1 since our last. The consumption is constantly upon the increase, while the supply has decreased about one-half from what it was a few years ago. The quotations are $1 55 per lb., in San Francisco, and $1 65 here.

Miscellaneous Stocks.

NEW YORK, Dec. 4, 1874.

The general tendency of the following list during the operations of the past week has been to lower prices, in fact, with but few exceptions, a gradual decline, with a continued weaker feeling, has characterized the markets at both boards throughout the week. We note small transfers of St. Louis and Iron Mountain and Lackawanna during yesterday's sales, at our quotations. At the Philadelphia Board, yesterday, small sales of Lehigh Coal and Navigation Company and Lehigh Valley R.R. transpired at our quotations. On the 2d instant, Quicksilver Mining Company, both common and Preferred sold quite freely at $35½ and $45½, respectively. On the same day, about 3,500 shares of Lehigh Coal and Navigation Company changed hands at from $45¾ to $47¾. We also note sales, on the same day, of D. and H Canal Company, at our quotations; and also 550 shares of Consolidation Coal Company at $48. A dividend of 4 per cent on its capital stock has been declared by this Company, payable on the 2d prox. The Reading Coal and Iron Company Mortgage Bonds Locust Mountain Summit Improvement track) recently sold in the Philadelphia Board at 80.

New Jersey Central R. R. Co	—	106¾
American Coal Co	—	50
Maryland Coal Co	—	18¾
Pennsylvania Coal Co	—	245
Quicksilver Mining Co. Preferred	—	42¾
" " " Common	—	35¼
Reading R. R. Co	—	54½
Delaware and Hudson Canal Co	—	116
Lehigh Coal and Navigation Co	—	47¾
Lehigh Valley R. R. Co	—	61½
Catawissa Preferred	—	39¾
Delaware, Lackawanna & West. R.R.Co.	—	108½
Consolidated Coal Co	—	47¾
Little Schuylkill R. R.	—	48
Huntington & Broad Top R. R. prefrd	—	12
St. Louis & Iron Mountain	—	26¼
Susquehanna Canal	—	6
Delaware Division Canal	—	52
Spring Mt. Coal Co*	—	68
Cumberland Coal and Iron Co	—	—
N. Y. & Nova Scotia Iron Co	—	116

* Ex dividend.

Boston Stock Market.

BOSTON, Dec. 3, 1874.

The following list still exhibits a continued advance over our quotations of last week. Calumet and Hecla, as usual, forms the principal feature of the report, being $7 per share in advance of our last quotations. We note the following sales on the 2d inst.: 50 shares of Allouez at $11¾; small transfers of Quincy at from 43¾ to 44; Calumet and Hecla changed hands during the day in small amounts at from $144½ to $145 per share. A sale of 100 shares of the Superior Mining Co. transpired at 30c. per share.

Allouez	10¾	Pewabic	—
Calumet and Hecla Co.	143	Phœnix	—
Copper Falls	10½	Quincy	43¾
Central	25	Ridge	8
Franklin	—	Rockland	1¾

San Francisco Stock Market.

BY TELEGRAPH.

NEW YORK, December 3, 1874.

We have advices from the San Francisco Stock Board, dated the 2d inst. A slight decline has manifested itself in Raymond and Ely, this being the only exception to a notable advance of the list. A few of the prominent items are enumerated $18⅛ higher than last reported. Yellow Jacket is $17 in advance, and Consolidated Virginia leads the list with an advance of $21½ per share over our last quotation. This item has daily advanced to this improvement during the operations of the week, sales of which were made during yesterday's transactions at $182½ per share.

A recent contemporary remarks that:

"The Crown Point and Belcher mines on the Comstock lode in four years past have produced $47,973,200, or $5,473 per inch of the ore length. The line between the Belcher and Crown Point cuts the ore body nearly in the middle, and there are about 700 feet of ore from its north point in the Crown Point to the south point in the Belcher. The ore body, being thus 700 feet long, has been worked down in both mines from the 500-foot level to the 1,400, inclusive. The product in round numbers, $46,000,000, has been distributed one-half in dividends and one-half in wages."

The report is as follows:

Savage	91	Raymond & Ely	16
Crown Point	75½	Meadow Valley	5¼
Yellow Jacket	125	Eureka G. V Bid	8½
Kentuck	23	Ophir	99
Chollar Potosi	67	Alpha	—
Gould & Curry	23½	Consolidated Virginia	189½
Belcher	57	Overman	67
Imperial	15¾	Sierra Nevada	12¾
Hale and Norcross	55¼	California	135

American Institute of Mining Engineers.

OFFICIAL BULLETIN.

Announcements to Members and Associates.

I. The ENGINEERING AND MINING JOURNAL, which is the Organ of the Institute, and contains its proceedings, transactions and notices of meetings, will be sent to each Member and Associate on the payment of his annual dues. Back numbers cannot, as a rule, be sent.

II. Dues (ten dollars per annum) are payable on election and at the annual (May) meeting. Members and associates elected at the February meeting pay ten dollars only to May of the following year. Remittances should be made, as far as possible, by P. O. Order, payable to the Secretary.

III. The Council earnestly requests members to forward to the Secretary, for preservation, copies of all printed mining and geological reports, particularly pamphlets, which may fall in their way. It is believed that by this means a large amount of valuable fugitive information concerning different regions and properties in this country, may be caught and preserved.

IV. Blank proposals for membership can be had on application to the Secretary.

V. The first volume of Transactions of the Institute will be sent by the Secretary to any address, on the receipt of five dollars.

THOMAS M. DROWN, Secretary, Lafayette College, Easton, Pa.

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Water	. 38	Carbon	.821
Insoluble Siliceous matter	4. 32	Phosphorus	.048
Sulphur practically	none.	Sulphur practically	none.
Phosphorus	.038	Calcium	.140
Alumina	.28	Metallic iron	94.838
Lime	.14		100.000
Undetermined matter and loss	.592		
	100.000		

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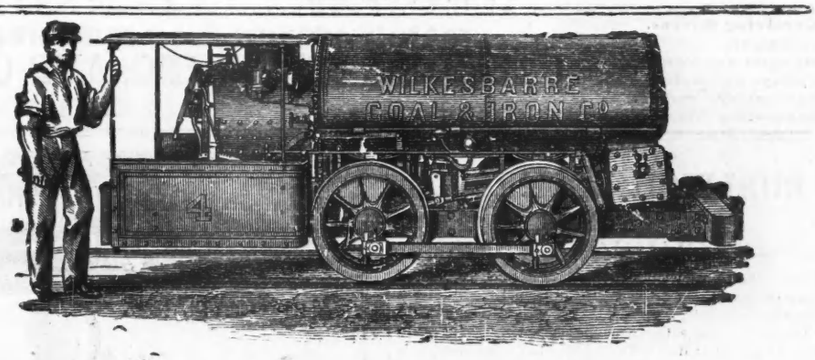

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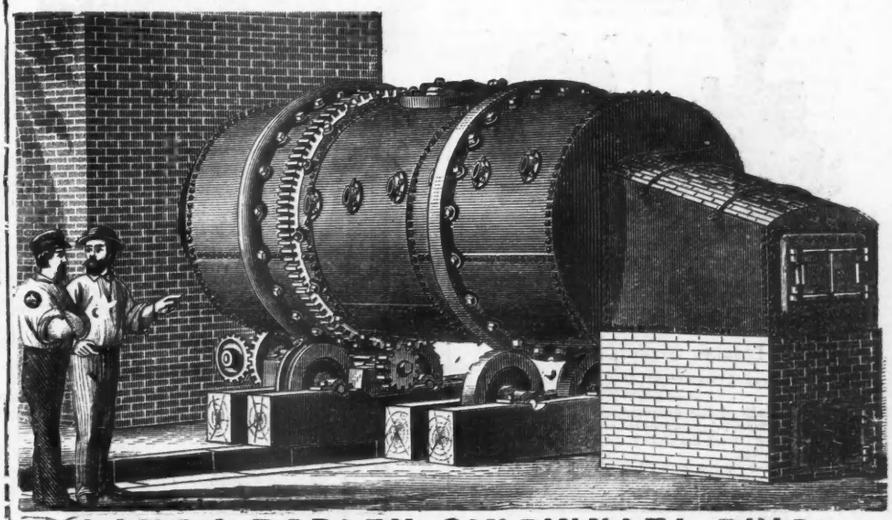

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