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ENGINEERING and MINING JOURNAL. VOL. XXXI., No. 6.

BICHAED P. ROTHWELL, C.E., M.E., Editors. ROSSITER W. RAYMOND, Ph.D., NOTE.—Communications relative to the editorial management should be addressed to RICHARD P. NOTHWELL, P.O. BOX 4404, New York. Communications for Mr. RAYMOND should be addressed to ROSSITER W. RAYMOND, P.O. BOX 1465, New York. Articles written by Mr. RAYMOND will be signed thus "; and only for article's so signed is he responsible. SUBSCRIPTION PRICE, including postage, for the United States and Canada, \$4 per annum: \$2.25 for six months; all other countries, including postage, \$5.00 = 20s. = 25 france = 20 marks. All payments must be made in advance. REMITTANCES should always be made by Post-Office Orders or Bank Drafts on New York, made payable to THE SCIENTIFIC PUBLISHING COMPANY. THE SCIENTIFIC PUBLISHING CO., PUBLISHERS, 27 Park Place, New York.

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MESSRS. E. B. & S. W. ELY, agents for Messrs. Coxe Brothers & Co., the proprietors of the Cross Creek, Lehigh, collieries, have opened an office in Boston, under the charge of Mr. HENRY G. ELY, Jr. In addition to the New York and Philadelphia branches of this firm, which have been established some years, it has but recently opened an office at Chicago, Ill.

THE friends of Mr. CHARLES A. ASHBURNER, a member of the American Institute of Mining Engineers, long connected with the Pennsylvania Geological Survey, will receive with pleasure the news of his marriage, on the 27th ultimo, at Pottsville, Pa., to Miss ROBERTA JOHN, daughter of the late Dr. HENRY JOHN, of Columbia, Pa. The congratulations and good wishes of the JOURNAL are hereby extended to the happy pair, with the hope, however, that the claims of matrimony may not supersede those of science, or withdraw Mr. ASHBURNER from the field in which he has so creditably accomplished so much.

In noticing the annual general meeting of the shareholders of the Canadian Copper and Sulphur Company in the JOURNAL for January 15th, reference was made to a telegram received from FRANCIS BENNETTS, the superintendent in charge, in which it was stated that " in the adit we have rich silver ore." Since then, we have seen the report of Captain BENNETTS, in which he writes encouragingly of the appearances in the important new discoveries in the St. Francis mine. The following is a certificate of a sample of ores taken from the adit-level and assayed by Mr. HUNT, of the Orford Nickel and Copper Company : "I hereby certify that I have assayed a stone of ore from St. Francis mine that you gave me, and found it to contain as follows: Copper, 3.44 per cent (wet); silver, one assay, 19.5 ounces; one, 17 ounces; and one, 1 ounce to the ton of 2000 pounds of ore; it also carries about \$4 worth of gold .- F. F. HUNT. I am not satisfied with the above results for silver, and will remix the samples and assay it again."

THE announcement of the death of SAMUEL H. BROWN, of the firm of S. H. BROWN & Co., coal merchants, was a blow to a large circle of friends both in and out of the trade. He was born at Haverhill, Mass., twenty-one years of age, he was carried away with the California excitement, and went to the gold region, where he became known as one of the "Forty-niners." Mr. BROWN was very successful in that part of the country, and returned East in 1862 with a good supply of money. He then became connected with and partly owned the New England coal mine, of Plymouth, Pa., and this led him into the coal business. About five years ago, he came to this city, and founded the firm of S. H. BROWN & Co., of

in Boston and Philadelphia, and has an extensive business. Mr. BROWN died of typho-malarial fever, from which he had been suffering since August last.

THE Philadelphia meeting of the American Institute of Mining Engineers, of which we have given the programme, promises to be one of extraordinary interest and enjoyment. The preparations in the latter particular are reported to be making, on the part of the Philadelphia committees, in a manner heretofore unequaled ; and we hear on all sides of the determination of members to "come up to the feast" in throngs. On the other hand, the professional importance of the meeting is assured in advance by the announcement of Dr. CHARLES B. DUDLEY'S paper on "The Wearing Power of Steel Rails in Relation to their Chemical Composition and Physical Properties." Preliminary copies of this paper, "subject to revision," have already been sent to the members ; and a hasty inspection of it convinces us that it is one of the most elaborate and valuable ever presented to the Institute. When we say that it contains the records of sixty-four chemical analyses of rails, with the history, section, and physical tests of each, we say enough to prove its exceptional value as a contribution to the discussion of the subject. If it should elicit as lively a debate as that which followed the former paper of Dr. DUDLEY, it will make the Philadelphia meeting memorable.

PRE-CAMBRIAN GLACIERS.

One of the most interesting contributions of the past year to the science of historical geology was the publication of Professor GEIKIE's observations of the Laurentian gneiss of the North of Scotland. This gneiss, where it is exposed along the western margin of Sutherland and Ross, exhibits bare, rounded hummocks and ridges, happily called by Professor GEIKIE "mammillations" of the surface-equivalent, we suppose, to the roches moutonnées of the French. The smooth polish and striation which glaciers only are known to produce may also be easily found on this gneiss. There would be, therefore, no reasonable doubt that, in a glacial period (presumably the recent period known to geologists by that name), this region had been worn down and rounded by the passage of moving ice, but for the startling fact that Professor GEIKIE has been able to trace the rounded outlines of the ice-worn Laurentian rock passing distinctly beneath the overlying Cambrian rocks.

Already in 1855, RAMSAY argued before the Geological Society the existence of glaciers in the Permian period; others have less positively asserted the probability of Silurian glaciers ; but these latest observations, if they should be confirmed in data and in interpretation, show a still greater antiquity for the effects of ice. All that Professor GEIKIE claims at present is, that these ancient rock-surfaces, if found in a recent formation, would certainly be pronounced without dispute the work of land-We need not point out that if a Cambrian, a Silurian, a Permian ice. (and who knows how many another) glacial period should be established,

AIR-MOTORS FOR ELEVATED ROADS.

some conclusions concerning the Glacial Period might need revision.

When our New York elevated railroads were new, and especially while they were operated with some degree of rivalry, the companies made great professions of readiness to adopt all the improvements which science could suggest, for diminishing the annoyances and dangers and increasing the public benefits attendant upon their enterprise. The noise of the trains was to be ingeniously deadened ; the smoke of the engines was to be swallowed ; the systems of signaling, of heating and lighting, of starting and stopping-in short, all parts of the railway practice were to be overhauled and perfected ; and if the public would only wait a little, it should have no cause of complaint.

Time has brought no very striking improvements in any of these particulars, while it has, we fear, removed some of the motives which might lead to improvements. The roads have demonstrated their great usefulness, and the wrongs of individual property-owners have thus far been left without remedy. The consolidation of rival lines has done away with the necessity of emulation, and the practical watering of stock has called for an economy resembling parsimony in management. There is apparently less need of conciliating public sentiment by mechanical reforms, and less money available for experiments. Things seem to be settling into a rut; and the elevated railway system of the metropolis bids fair to remain what it now is, a great public convenience, based on an outrageous disregard of private rights and administered in such a way as to secure the profitable patronage of the people-and give in return as about the year 1828, and received his education in that vicinity. When little as possible. So long as folks don't prefer to take horse-cars or omnibuses, or go afoot, there is no pressing motive for further improvement in these railroads.

The worst nuisances of the elevated lines are connected with their use of steam-motors. The experience of the old Greenwich street road, though really not decisive, seems to have put stationary motors out of the question; and of all the substitutes for ordinary steam-power, there is but one which promises at present to be practically successful. That one is which he became the head. This house subsequently established branches compressed air. We are aware that various experiments in this direction have been made elsewhere, with unsatisfactory results; but there is the highest authority for the assertion that an appeal to thorough engineers, rather than mere inventors (who are notoriously often unable to perfect of plans on which convenient and effective compressed-air locomotives could be constructed.

Colonel BEAUMONT, of the British Royal Arsenal at Woolwich, is indeed reported to have solved the problem already. A feature of his engine which evidently increases its economy, and also diminishes the well-known difficulties of refrigeration, is the use of several cylinders, in which the air is used at different pressures, as in a compound steam-engine. The BEAUMONT locomotive weighs ten tons; carries in its reservoir one hundred cubic feet of air, compressed to one thousand pounds per square inch ; will draw a load of sixteen tons ; has traveled thirty miles in sixtythree minutes ; and works in comparative silence. Thus, at least, speaks Chambers's Journal.

A year ago, there was some talk of compressed air upon the horse-railroads of New York; and an air-motor was actually run for some time upon the Sixth Avenue. The reports of its performance were favorable, but we have heard nothing of it lately. We hope the idea is not abandoned. Sooner or later, the reform must come; and when every hody perceives its feasibility as clearly as experts already do, the elevated roads will be forced to give up their smoking, snorting, cinder-dropping dummies.

REVIEW OF THE COAL TRADE OF THE UNITED STATES FOR 1880. (Continued from page 73.)

CIRCULAR PRICES OF LACKAWANNA COAL IN 1880.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut
	8	8	8	\$	S	
January	3.40	3.40	3.40	\$ 3.45	\$.00	3.75
February	3.40	3.40	3.40	3.45	4.00	3.75
March	3.50	3.70	3.70	3.70	4.00	3.90
April	4.00	4.00	4.00	4.00	4.00	4.00
May	4.00	4.00	4.00	4.00	4.25	4.00
June	4.00	4.00	4.00	4.00	4.25	4.00
July	4.00	4.00	4.00	4.00	4.25	4.00
August	4.00	4.00	4.00	4.00	4.25	4.00
September	4.00	4.00	4.00	4.20	4.45	4.10
October	4.00	4.00	4.00	4.20	4.45	4.10
November	4.00	4.00	4.00	4.20	4.45	4.10
December	4.00	4.00	4.00	4.20	4.45	4.10

CIRCULAR PRICES OF PITTSTON COAL IN 1880.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
	\$	\$	\$	\$	\$	\$
January	3.20	3.10	3.10	3.10	3.50	3.50
February	3.20@3.55	3.10@3.55	3.10@3.45	3.10@3.50	3.50@3.95	3.50@3.80
March	3.55	3.55	3.45	3.50	3.95	3.80
April	3.90	3.90	3.80	3.80	3.95	3.90
May	4.00	4.00	3.85	3.85	3.95	3.90
June	4.00	4.00	3.85	3 85	3.95	3.90
July		4.00	3.85	3.85	3.95	3.90
August	4.00	4.00	3.85	3.85	3.95	3.90
September	4.30	4.30	4.00	4.10	4.35	4.00
October		4.30	4.00	4.10	4.35	4.00
November		4.30	4.00	4.10	4.35	4.00
December	3.95	3.95	3.95	3.95	4.20	3.95

LEHIGH COALS AT AMBOY, PORT JOHNSTON, AND ELIZABETHPORT.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut,
January	\$4.00	\$3.50	\$3.60	\$3.60	\$4.00	\$3.75
February	4.00	3.50	3.60	3.60	4.00	3.75
March	5.00	3.50	4.25	4.25	4.00	3.90
April	5.00		4.25	4.25	4.00	4.00
May	5.00	5.00	4.25	4.25	4.25	4.00
June	5.00	5.00	4.25	4.25	4.25	1 4.00
July	5.00	5.00	4.25	4.25	4.25	4.00
August	5.00	5.00	4.25	4.25	4.25	4.00
September	5.25	5.00	4.40	4.40	4.45	4.00
October	5.25	5.00	4.40	4.40	4.45	4.00
November	5.25	5.00	4.40	4.40	4.45	4.00
December	5.25	5.00	4.40	4.40	4.45	4.00

WILLERS-BARRE	COAL	AT	PORT	JOHNSTON.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
	8	8	\$	\$	8	
January	3.40@3.15	3.40@3.15	3.40@3.15	3.45@3.20	4 00 0 3 75	3 75@3 50
February	3.15@3.40	3.15@3.40	3.15@3.40	3.20@3.45	3 75@4 00	3 50@ 3.85
March					4.00	3.90
April	4.00	4.00	4.00	4.00	4.00	4.00
May	400	4.00	4.00	4.00	4.25	4.00
June		4.00	4.00	4.00	4.25	4.00
July	4.00	4.00	4.00	4.00	4.25	4.00
August		4.00	4.00	4.00	4.25	4.00
September	4.00	4.00	4.00	4.20	4.45	4.00
October		4.00	4.60	4.20	4.45	4.00
November	4.00	4.00	4.00	4.20	4.45	4.00
December		4.00	4.00	4.20	4.45	4.00

The above, being circular prices, are not nearly so satisfactory as auction sales returns. The latter, however, became so much of a farce that even they were not to be relied upon. The average of the Scranton sales for nine months of 1879 was \$2.33 per ton. The average circular price for Lackawanna coal for the remaining three months was \$3.05, making the consumption w

an average of \$2.51 for the year. The average price of Lackawanna coal for 1880 was \$4.01, or \$1.50 per ton more than in 1879. The Scranton sales, although at times "bolstered," were very much nearer the market in detail even their meritorious designs), would result in the preparation than were the circular prices of 1880. Taking the most unfavorable view of the situation, the prices of 1880 were from \$1 to \$1.25 greater than in 1879, affording an increase in revenue on the full shipments of say from \$23,500,000 to \$29,000,000.

Our review of the coal trade for 1880 is prepared more to make complete the series, and from which to draw future lessons, than for any teachings it will yield at present. It is the object of these reviews to point out the dangers which the trade passes through or is likely to pass through. The year under review has been one of comparatively plain sailing, and the chief value of its history will be to afford hope to those who may be in the trade during some storm similar to that which the companies were but recently passing through. The reviews to which we can look with the most pride, and which are of unquestioned value to those interested in all departments of the coal trade, are those covering the periods of great danger, and to these we refer our readers now. That history repeats itself in the coal trade, has been proved over and over again, and so will it probably continue ; but still there are those among our readers who will prepare for the storm that must surely follow the present bright weather, and those who do, although they will not pass through without some injury, will probably avoid wreck.

The year 1880 witnessed in this country a degree of prosperity unequaled in the commercial history of the world. The wave was so powerful that every thing was carried before it, and apparently incapable managers became successful, and companies on the verge of bankruptcy became financially strong, and gave promise of substantial returns to their stockholders in the future. That the year developed a very encouraging and highly satisfactory condition of affairs, is beyond all question ; but whether this condition is permanent, is a matter now worthy of consideration.

The causes of our prosperity are numerous. The most prominent are : A series of unusually large crops in this country and unfavorable ones abroad, which have compelled the world to draw upon us for its necessities; a large production of gold and silver, which we have been able to retain as a sound basis of a medium of exchange; economy and skill in all departments of manufacturing, which have not only enabled us to supply our own wants-which were abnormally large, created by the long period of depression-but to enter foreign markets, and thereby swell the balance of trade in our favor so much as to compel the world to increase our wealth by shipping us large amounts of precious metals. In addition to the active causes of prosperity, the country has passed through a period of liquidation which has placed it upon the soundest basis.

These causes produced confidence, and with it there was revived the speculation natural to our people. Manufactories were re-started, and the public, having confidence in full employment for labor and activity in other branches of industry, purchased the products of the factories; the demand for transportation became so great that established railroads were extended, new roads were built, greater repairs were required and justified, resulting in a very large demand for iron and steel ; and so could we pass through first one and then another branch of industry, and find cause for a large increase in the consumption of coal. The farmers of the West, after several years of hard labor, were enabled to free their properties from mortgages to a very large extent. This period was followed by very favorable crops, good prices for grain, and surplus earnings which enabled them to participate to a considerable extent in the luxuries of life, among which may be noted the large introduction of base-burner stoves and the creation of a demand for coal in the West that anthracite companies have been unable to supply this winter.

The coal combination was continued during 1880, but upon a new basis. The plan adopted was for all the collieries to stop work at the same time, and for none of them to be under any restrictions when work was resumed. It was claimed that no effort was made to regulate prices; but whenever any of the companies varied particularly from the rates that seemed to be established as if by common consent, there was considerable opposition shown. Without the restriction, there would have been produced last year, beyond all question, very much more coal than the market would have taken, and, as a natural consequence, prices would have ruled decidedly lower. Although there were temporary benefits derived from the combination during last year, the business was to an extent curtailed and the seed for trouble in the future was planted. Under this programme, it was and will be the object of the companies when mining to produce and place upon the market as much coal as possible during the time that they are at work. This situation has stimulated the development of unnecessary mines and the enlargement of the facilities for preparing coal. The result is, that the capacity for producing is becoming so great that the collieries will have to be closed down so much of the time as to make it necessary to greatly increase the wages of the miners and laborers, that they may live under the short-time system.

Although the shipments of coal last year were not quite 23,500,000 tons, ery mich larger. During 1879, in which year there were larger shipments of anthracite coal than ever before in the history of the trade, households, manufacturing concerns, furnaces, dealers, and, in fact, all far-seeing persons, purchased coal far beyond their immediate necessities, and the result was, that they carried over into 1880 a very much larger stock than usual. The mild winter of 1879-80 reduced the consumption of domestic sizes to a great extent.

There is a class whose attention we desire to secure, and whom we wish to protect, now that we are able to do so. They will be known as "widows and orphans" who will be suffering ruin, owing to the operations of what are known as "wreckers. (We are reading up history.) A great many of the officers of the coal companies are speculators in Wall street, and they can make more in a day or week by speculation than their salaries furnish them in a year. They will do all in their power to "bull" the prices of the coal stocks up to a certain point; but when they see that their efforts in that direction are fruitless, they will perceive how easy it will be to create a large decline, and they will take the "bear" side of the market, and put to work elements that must make their efforts successful. At the present writing, the demand for coal is so great, and the ability to secure and move it so inadequate, that it would be almost impossible to hurt the trade much ; but there will be a decided change within three or four months, and then some company can show its unwillingness to abide by the propositions of the other companies, and the announcement can be made that the combination has dissolved and another war of prices has set in. If history repeats itself, this awaits the public in the future.

There were at times during the year indications of strikes, but nothing of that sort of an important nature occurred. Efforts were made to revive the Miners' Union, but it has not assumed the position of an important factor as yet.

THE ANTHRACITE COAL PRODUCTION OF PENNSYLVANIA, IN TONS OF 2240 POUNDS.

BY RICHARD P. ROTHWELL.

YEARS.	Luzerve an Coun	d Sullivan	THE LEHIG Carbon, C and Luzern	olumbia.	THE SCHUYLI Schuylkill, land, Columi and Lebano	Northumber-	ALL THE REGIONS.
XE	Shipments,	Total Production.	Shipments	Total Produc- tion.	Shipments,	Total Production.	Total Production,
efore							
64.6.8		10,000		3,000		5,000	18.000
		800	365	665	***********	500	1,965
		1.000	1,073	1,473		800	3,273
		1,200	2,240	2,740	**************	1,000	4,940
		1,300	5,823	6,523		1,200	9,023
		1,300 1,700	9,541	10,441		1,500	13,641
825 .		2,000	28,393	29,493	5,306	7,006	38,499
1826 .		2,700.	31,280	32,180	16,835	19,335	54,815
1827 .	***********	4,000	32,074	34,274	29,493	32,893	71,167
1828 .	***************	6,200	30,233	33,233	47,181	52,481	91,914
1829	7,000	16,800	25,110	29,110	78,293	87,293	133,203
1830	42,000	58,200	41,750	46,850	89,984	104,584	209,634
1831	54,000	78,300 121,700	40,966	47,166	81,854	104,854	230,320
1832 1833	84,500	121,700	75,000	82,700	209,271	243,771	448,171
	111,777	161,777	123,000	132,100	250,588	298,333	592,210
1834	43,700	53,008	106,244	128,874	226,692	274,977	456,859
1835	90,000	108,900	131,250	158,812	339,508	410,805	678,517
1836 1837	103,861	125,360	148,211	178,891	432,045	521,478	825,729
1838	115,387	139,041	223,902	269,802	523,152	630,398	1,039,241
1859	78,207	94,083	213,615	256,979	433,875	521,951	873,013
1810	122,300 148,470	146,760	2/1,025	265,230	454,538	545,446	957,436 1,008,220 1,127,005
1811	192,270	177,867 229,955	225,318	269,932	467,796	560,421	1,008,220
1842	252,599	301,856	143,037	171,072	607,005	725,978	1,127,005
1843	285,605	340,441	272,546	325,692 319,209	551,504	659,047	1,286,595
1844	365,911	435,434	267,793	448,633	687,312	819,276	1,478,926
1845	451,836	536,329	377,002 429,453	509,761	853,465	1,015,523	1,899,690
1846	518,389	614,291	517,116	612,783	1,093,796 1,249,154	1,298,336	2,344,426 2,707,321
1847	583,067	689,185	633,507	748,805	1,598,278	1,480,247	
1848	685,196	808,531	670,321	790 979	1,672,191	1,889,165 1,973,185	3,327,155
1849	732 910	862,635	781,656	920,009	1,650,101	1,942,168	3,572,695 3,724,812
1850	732,910 827,823	972,692	690,456	811,286	1,769,691	2,079,387	3,863,365
1851	1,156,167	1,355,028	964,224	1,130,071	2,308,525	2,705,591	5,190,690
1852	1,284,500	1,502,865	1,072,136	1,254,399	2,536,653	2,967,884	5,725,148
1853	1,475,732	1,723,655	1,054,369	1,231,433	2,555,450	2,984,765	5,939,853
1854	1,603,478	1,868,052	1,207,186	1,406,372	3,066,208	3,572,132	6,846,556
1855	1,771,511	2,060,267	1,284,113	1,493,423	3.551,893	4,130,852	7,684,542
1856	1,972,581	2,288,194	1,351,970	1,568,285	3.571,800	4,143,288	7,999,767
1857	1,952,603	2.261,114	1,318,541	1,526,871	3,373,797	3,906,857	7.694.842
1858	2,186,094	2,527,125	1,380,030	1.595,315	3,236,843	8,741,790	7,864,230
1859	2,731,236	3,151,846	1,628,311	1,879,071	3,448,708	3,979,809	7,864,230
1860	2,941,817	3,388,973	1,821,674	2,098,569	3,749,632	4,319,576	9,807,118
1861	3,055,140	3,513,411	1,738,377	1,999,134	3,160,797 3,432,584	3,634,916	9,147,461
1862	3,145,770	3,608,198	1,351,054	1,549,658	3,432,584	3,937,175	9,095,031
1863 1864	3,759,610	4,304,754	1,894,713	2,169,446	3,911,683	4,478,877	10,953,077
	3,960,836	4,526,635	2,054,669	2,348,233	4,161,970	4.756.532	11,631,400 10,783,032
1865 1866	3,255,658	8,720,717	1,822,535	2,082,858	4,356,959	4,979,457 6,245,599	10,783,032
1867	4,736,616 5,328,322	5,413 958	2,128,867	2,433,280	5,464,209	6,245,599	14,092,837 14,345,644
1868	5,990,813	6,089,272 6,846,699	2,062,446	2,356,867	5,161,671	5,899,505	14,345,644
1869	6,068,869	7,279,543	2,507,582	2,865,820 2.313,989	5,335,737	6,097,947	15,810,466
1870	7,554,909	8,814.024	1,929,523 2,990 878	3,489,364	5,653,855	6,782,146	16,375,678
1871	6,713,773	7,690,251	2,249,356	2,568,764	4,728,242 6,234,974	5,516,312	17,819,700 17,879,355
1872	9,191,171	10,750,050	3,610,674	4,202,824	6,126,468	7,120,340	11,010,000
1873	19,047,241	11.744.141	3,263,168	3,801,447	6,294,454	7 225 200	22,084 083 22,880,921
1874	9,513,042	10 241,032	3,868,749	4.139,561	6,810,087	000,000	22,000,921
1875	10,519,998	11,062,520	2,731,311	2,867,876	6,393 441	7,131,209 7,335,333 7,286,793 6,713,113	21,667,386
ISTG	8,100,000	8,530,000	3,800,000	3,970,000	6,200,000	6,500,000	20,643 509 19,000,000
1877	7,900,000	8.323 000	4,200,000	4.400,000	8,200,000	8,600.00	1.523,000
1878	7.750,000	8,250,000	3,245,000	3,146 000	6 520 000	6.910.000	12 600 000
1879 1880	12,575,00 11,419,27	13,300,001	4.550,000	4,825,00	9.015.300		27,711,25

165,283,074 185,048,805 76,043,917 85,418,245 161,535,590 182,250,481 452,717,559

Wyoming includes the Loyalsock region in Sullivan County, opened in 1871. The production of this region has been as follows: 1871, 23, 122 tons; 1872, 51, 527 tons; 1873, 32, 558 tons; 1874, 38, 208 tons; 1875, 16, 522 tons; 1876, 30,000 tons; 1877, 23,000 tons; 1878, 37,000 tons; 1879, 50,000 tons; 1880, 50,000 tons; 1878, 37,000 tons; 1879, 50,000 tons; 1880, 50,000 tons; 1878, 37,000 tons; 1879, 50,000 tons; 1870, 50,000 tons; 180,000 tons; 1

Last year, we were compelled to make up our statistics before the official figures were obtained, and although the difference is only about 100,000 tons, as compared with the official figures, we make the correction. It will be observed that the shipments for 1880 aggregated 23,437,242 tons, while the total production, including the consumption at the mines, which is estimated at 6 per cent, was 24,843,477 tons. It will further be observed that the Lehigh region suffered but very little loss, while the Schuylkill shows a larger loss, as compared with 1879, than the Wyoming. With the exception of September, October, and November, the production of 1880 was less than during 1879.

EXPORTS AND IMPORTS OF COAL.

The following table shows that our exports, both of anthracite and bituminous coal, have fallen off, as compared with 1879, while our imports of bituminous coal have increased :

		E	XPORTS.			1	MPORTS.	
	Quantitiestons of 2000 lbs.		Valu	ies,	Quan	tities,	Valu	les.
	11 m	onths er	ded Novem	ber 30th.	11 m	nonths er	nded Novem	ber 30th.
	1879.	1880.	1879.	1880.	1879.	1880.	1879.	1880.
	Tons.	Tons.	1		Tons.	Tons.		
nthra- cite	406,852	398,377	\$1,246,808	\$1,720,079				
nous	206,832	189,951	621,709	690,732	415,499	523,592	\$1,447,656	\$1,562,108
Total.	613,684	588,328	\$1,868,517	\$2,410,811	415,499	523,592	\$1,447,656	\$1,562,108

(TO BE CONTINUED.)

ASPEN (COLO.) MINING NEWS.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: This camp, located just over the range from Leadville, in the valley of the Roaring Forks, enjoys, from its natural advantages, a growing popularity. This prominence is due to the energy of its people and the disclosing of extensive and rich bodies of mineral in over one hundred mines during the past four months. Several months ago, there were no mines worked, and but two mines, the Silver Bell and the Smuggler, had mines during the past four months. Several months ago, there were no mines worked, and but two mines, the Silver Bell and the Smuggler, had any outside reputation. It was not until the strikes in the Silver Bell, Spar, and Pioneer demonstrated the fact that the whole of Aspen Moun-tain was a storehouse of rich mineral, and that only a small amount of labor and expense had to be performed on each mine to uncover it, that energy and activity began to pervade the whole camp. More than 50 mines are developing, while 20 mines already show extensive bodies of mineral that have obtained mill-runs of 100 ounces of silver to the ton. The contact-vein, on which so many strikes have been made lately, is renarkable for its length, being about four miles long, trending north and south, with a dip to the west, and traced by such mines as the Swedish Boy, Castle No. 1 and No. 2, Buckhorn, the Silver Bell, Camp Bird, Ruby, Bob Ingersoll, Silver Star, Chloride, Little Giant, Spar, 1001, Chance, and beginning again on the other side of the town with the Smuggler mine. Another rich contact-vein, although not so long, contains the following developed mines, showing rich brittle silver ore, with a large percentage of galena : Three to One, Galena, Grand Duchess, Mother Shipton, Pioneer, Traynor, and Little Mac. A third contact, commencing at Tourtelotte Park and run-ning northwest, is disclosed by the Evening Star, Louise, Eva Bella, Little Russell, and New York mines, the ore showing copper, sulphurets, and galena. The width of vein varies from 4 to 50 feet. The mineral characteristics on the long contact show chlorides, bromides, and a fine grade of galena, with an abundance of lime, iron, and lead, and wood and water for smelting purposes. The ore contains no refractory sub-stances, and can be reduced at the lowest possible expense, in ordinary smelters. After a personal examination of all the mining towns in the Gunnison country, I can say without prejudice that, for the time and amount of work performed, Aspen stands pre-e of her mineral deposit.

of her mineral deposit. Owing to the lateness of the season before the wagon-road by way of Buena Vista was completed, Aspen has been without a smelter; but early next spring, with two wagon-roads completed, three smelters are assured—one each by the Spar and Smuggler mines, and the third by Maxwell & Slaten, who propose erecting their smelter in Tourtelotte Park, where it will be kept running by the ore from the Silver Bell and Eva Bella mines. At present, the Spar and Chloride are shipping their ore to Leadville, per jacks, at a cost of \$80 per ton. The Silver Bell and Swedish Boy are making arrangements to ship ore tri-weekly, by the first of next month. There are 20 mines that can furnish 200 tons of ore per day that will produce mill-runs of 100 ounces in silver to the ton. The Spar mine has been shipping ore to Leadville smelters for the past two months, netting the owners mill-returns of 1000 ounces to the ton. The Spar has some rich mineral, and a large body, and is developing by shaft and tunnel. The Chloride mine is also shipping ore, the mill-re-turns going as high as 2000 ounces silver per ton. The ore found is rich chlorides, the drift showing four feet of high grade and four of low-grade mineral, while some assays have reached 11,000 ounces per ton. The Camp Bird mine, near the summit of Aspen Mountain, and the direct exten-sion of the Silver Bell, has just made a strike in its tunnel, the breast show-ing fine line heaven and chloride and provide sine show-

Camp Bird mine, near the summit of Aspen Mountain, and the direct exten-sion of the Silver Bell, has just made a strike in its tunnel, the breast show-ing fine lime, heavy-spar, galena, and chlorides, assaying 500 ounces in silver per ton. The Silver Bell mine is one of the most valuable in Aspen. It is in the heart of the contact-vein, upon which are located the Spar, Camp Bird, Chloride, Smuggler, and others. An unusually rich mineral outcropping appears on the Silver Bell, showing an 11½-foot vein of a fine quartie studded with chlorides and bromide-, which mill-runs 150 ounces silver per ton. The value of this outcropping has been variously estimated at between \$50,000 and \$75,000, while the cost of mining and hauling to the smelter may be \$2. A winze has been started in the

tunnel to ascertain the depth of vein. Since the strike in the Camp Bird, tunnel to ascertain the depth of vein. Since the strike in the Camp Bird, it is shown that this contact-vein runs through the entire length of the Silver Bell mine. The southern extension of the Silver Bell is the Buck-horn mine, which reveals the same fine quartzite and mineral at a depth of 50 feet. The Castle mines were among the first located on Aspen Moun-tain by Hank Tourtelotte. A shaft has been sunk 65 feet on each, which shows the southern portion of this contact-vein to be over 40 feet deep. The ore on the Castles is galena and native silver, and mill-runs over 100 ounces silver per ton. The Swedish Boy mine, on the same vein as the Silver Bell, about two miles south, is taking out some chloride ore that assays over 5000 ounces. The owners are preparing to make regular as the Silver Bell, about two miles south, is taking out some chloride ore that assays over 5000 ounces. The owners are preparing to make regular shipments to Leadville. The Tioga mine has a tunnel 40 feet in, with a fine showing of lime and galena. The Little Giant, Forrest, Tip Top, Durant, Evening Star, and Silver Star mines are vigorously worked. The Lottie V., Covington, and Little Bess are worked with good prospects. The Monarch is pushing ahead, and the indi-cations point to the same body of galena in the tunnel that is exposed to view in the adit above. The Little Mac has a 60-foot shaft, with a drift running north in mineral for 40 feet. The ore shows a fine galena, chlorides, and gray copper, and assays high in silver. The Inter-Ocean joins the Little Mac, and is worked by a tunnel now in 130 feet, with the possibility of cutting the same body of mineral. The Washington mine was parallel to the spar, and is worked by an inclined shaft that shows fine lime and galena, stained with chlorides. The Mother Shipton shows an immense vein, the croppings of heavy-spar and mineral being shows an immense vein, the croppings of heavy-spar and mineral being in places 60 feet wide; it is opened by a 30-foot tunnel, showing lime, spar, and galena in the whole breast. The Grand Duchess has two shafts in places 60 feet wide; it is opened by a 30-foot tunnel, showing line, spar, and galena in the whole breast. The Grand Duchess has two shafts —No. 1 having five feet of mineral, fine galena, and gray copper, with good hanging-wall, the foot-wall not yet cut. No. 2 shaft shows six feet of mineral; this No. 2 shaft is 75 feet west of No. 1, and is a distinct vein, thus showing two distinct mineral veins running through these claims, parallel with each other. Assays show 1500 and 2400 ounces silver per ton. The Pioneer and Galena mines run parallel with the Mother Shipton and Grand Duchess. The Silver Bell, Pioneer, Spar, and Smuggler are the best developed mines. The Pioneer has a large body of galena and gray copper, and is further developing by a cross-cut tunnel, which will enable the owners to furnish at least 50 tons of ore per day. The Pride of the Hills mine and Traynor lode are in large bodies of good milling ore. The Steamboat Tunnel is actively pushed, and has a good showing for mineral. The same may be said of the Town Site Tunnel. The 1001 mine, belonging to the Smuggler Company, has had no work done outside of its assessment ; it shows a fine face of mineral. The apathy shown by the company in developing this claim has caused the mine to be jumped by three sepa-rate claimants, which will involve a tedious litigation. For two months, the Smuggler lay idle, pending a sale ; but since it has passed into the hands of Mr. Thomas Ewing, Mackey's expert, the work now begun will be carried on with vigor all winter. The mine is opened by three shafts 70 feet apart, No. 1 showing the vein 40 feet deep, and the foot-wall not yet specimens of which will assay nearly 20,000 ounces silver per ton. The Chance lode, north of 1001 mine, is located but 300 feet above the town site, and offers easy facilities for extensive development, while the ore contains sufficient line, iron, and lead for smelting purposes. This mine,

spectmens of which will assay hearly 20,000 ounces silver per ton. The Chance lode, north of 1001 mine, is located but 300 feet above the town site, and offers easy facilities for extensive development, while the ore contains sufficient lime, iron, and lead for smelting purposes. This mine, like the Silver Bell, shows the vein running through its entire length. It was opened first by adit and then tunnel, both showing an 8-foot vein containing lime, iron, galena, and chlorides that assay 1500 ounces silver per ton. A shaft was recently sunk which uncovered the same vein 750 feet from tunnel. The ore contains no refractory elements, and shows an extensive body and high-grade character. In concluding these remarks upon Aspen, I would like to say that no more promising field is offered to the miner or prospector than the Gun-nison country, which has more than fulfilled the predictions of last win-ter, as was verified by the rich mines found at Aspen, Ashcraft, Gothic, Ruby, Irwin, and Pitkin. Two wagon-roads will be opened by the way of Buena Vista and Twin Lakes. I can say to those intending to go to the Roaring Fork country, that they are not by any means too late for prospecting, and the country is not staked for miles around. Not over 1600 persons came to the Roaring Fork region last year, and out of this number 1000 remained at Aspen; and as there were but 500 to prospect a mineral belt over twenty miles long, it is very obvious how small a fraction of this mineral country has been prospected. This year will also see the immense tract of land embraced in the Ute Reservation opened up for settlement. Accounts of those who have returned from there errort the altitude lower thom at more whole there are thousende see the immense tract of land embraced in the Ute Reservation opened up for settlement. Accounts of those who have returned from there report the altitude lower than at Denver, while there are thousands of acres of land that are fertile and productive for farming pur-poses, and the grazing for cattle can not be surpassed. An unex-plored mineral section lies between the Grand and White rivers, while fine-looking specimens have been shown from Snow Mass Mountain and Sopris Peak. But the mineral section that offers the best in-ducements for prospecting is the extensive mineral region ground Ash ducements for prospecting is the extensive mineral region around Ash-craft, at the head of Castle Creek, and about 13 miles from Aspen. Late in the summer, several specimens from the Little Alice and Angelo mines were brought into Aspen that assayed very high in silver. Sufficient develop ment has been made to demonstrate the fact that this is the most exten-Sufficient develop ment has been made to demonstrate the fact that this is the most exten-sive mineral belt yet found, with every indication of large veins, free-smelting ore, showing ruby and brittle silver, black sulphurets, and galena, specimens of which have assayed into the thousands. Ashcraft is 60 miles from Leadville, and the same distance from Buena Vista, and can be reached by wagon-road from Buena Vista, which passes directly through the town; or from Leadville, by way of Twin Lakes and Red Mountain Pass. ASPEN COLO Jen 15 and Red Mountain Pass. ASPEN, COLO., Jan. 15.

A MINERS' STRIKE SUCCESSFUL.—PITTSBURG, PA., Feb. 2.—The Low-Grade Division coal miners of the Alleghany Valley Railroad, numbering 4000, who have been on a strike for an increase of 10 cents a ton on screened coal, and 6 cents on unscreened, have gone in, the operators conceding the advance.

The coal miners at Steubenville, Ohio, have struck for higher wages. The colliers at over 80 collieries in North Staffordshire, England, gave notice on the 2d inst. for an advance of wages.

SAN JUAN SILVER MINES-REVIEW OF THE YEAR 1880.

SUPPLEMENTAL PAPER.

Special Correspondence of the Engineering and Mining Journal

Special Correspondence of the Engineering and Mining Journal. Regarding the camp of Rico, on the Dolores River, I can only speak in a general way, as I have not visited it since August, 1879. That, for extraordinary abundance of ore-deposits and lodes, this is a phenomenal district, no one can deny. Several good mines have been discovered and doveloped ; and now that they are getting down to systematic work and development, I think a great many more will be found. A smelter has been erected and made a successful trial-run ; and now that there is a home market for the ores, obviating the necessity of shipping to Ouray and Silverton at a cost of from \$30 to \$40 per ton, I think Rico will come to the fore as a large producer. Then again the Denver & Rio Grande Railroad, reaching Durango this spring, will place Rico within 40 miles of the end of the railroad, and render mining facilities greater and cheaper. Rico has suffered great injustice at the hands of snide operators, the camp offering superior facilities for the operations of these mining ver-min. The extraordinary abundance of earthy ores, and of the same char-acter, enabled hundreds of holes to be dug which showed up mineral-stained earth, float, and earthy ores, some of them perfectly valueless, but similar in appearance to the ores of some of the really good mines in the camp, and there is no doubt but that a great deal of "salting" was done, the "salt" being obtained from the good mines aforsaid; but on the homeopathic principle of *similia similibus curantur*, people have learned to take statements of mine venders *cum grano salis*, and I think the halcyon days of mining sharps in Rico are past and gone. Market hew work done in the camp, I consider that so far the hills have simply been scratched over, the aim of each prospector being prin-tipe bounds of possibility that this year some big discoveries may be made. What little systematic mining has been done has shown that some of the ore-bodies are permanent and paying,

The mines of this camp are situated in a beautiful country, in the

The mines of this camp are situated in a beautiful country, in the midst of pine and quaking aspen forests, with abundance of never-failing streams and large beds of splendid coal; so that, in my opinion, with the close proximity of a railroad, rendering supplies cheap, very low-grade ores can be worked to pay largely.
The early history of Rico was fully described in my letters to the ExoneErnixo and MiNING JOURNAL of August 23d and 30th, 1879.
Rico's mines are not by any means a new discovery, as they are said to have been first visited in 1860 by Baker's ill-fated expedition; and in 1869, John Eckels, "Pony" Whitmore, and two others made their way thither from the Merino mines, near Elizabethtown, New Mexico, and discovered many of the mines now worked at Rico. In 1870, Gus Begole, now of Ouray, went in there with an assay outfit, and joined his partner, Eckels. These two prospectors sunk several shafts and ran some tunnels, and, although they exposed abundance of ore, it proved too low-grade to pay at that early day; they therefore abandoned their claims. As greater depth, however, was gained by other men in the old workings in succeeding years, richer ore was found, and the fall of 1879 witnessed a blaze of excitement which has since then never entirely "let up," and Rico is plenty of room for all, an immense tract of country only half prospected, and a big opening in the town for business in almost any branch. But I would here warn any and all against going there without means. If a man is going there to prospect, let him have enough money to pay for an ample outfit for six months and some spare cash besides. It is no country for paupers, and such will invariably suffer.
As to Rico being a "carbonate camp" and a "second Leadville," that is simply twaddle, as, in point of fact, it is *not* a carbonate camp, the ores being principally oxides and sulphides; and it resembles Leadville, "that is some ytwadelle, as, in point of fact, it is not a carbonate camp, the ores being

ger and credulous newspaper reporters are either ignorant asses or

a good camp, and men who will go East and make such statements to eager and credulous newspaper reporters are either ignorant asses or mining sharps and thieves. In Silverton, of course, I consider the success of the camp as assured, as, with the railroad terminus at Durango, the facilities for cheap mining will be so increased that the immense veins of argentiferous galena con-tiguous to Silverton will be made to pay permanently and handsomely. One of the most remarkable properties of this kind is the Veta Madre and its extensions, owned by Gus Begole and John Munro. I visited it last fall, and it is no exaggeration to say that, where this magnificent vein out-crops on the mountain side, you can walk for 2000 feet on galena ore which varies from two to four feet in width, and will run from 40 to 150 ounces silver to the ton. I saw no zinc in it and no gray copper, simply argentiferous galena associated with copper pyrites. There must be sites for at least ten drifts on the vein, and the amount of ore that could be produced daily from this vein when developed would be enormous. It is only about seven miles from the town of Silverton, and half a mile from the toll-road over Stony Pass. The New York & San Juan Mining and Smelting Company (I think

from the toll-road over Stony Pass. The New York & San Juan Mining and Smelting Company (I think that is the title) has bought a large group of the best paying mines around Silverton, together with Greene & Co.'s smelter, and is also building a large smelter at Durango, in close proximity to the enormous Animas coal-beds, which, I believe, it also owns; and I am informed that the directorate is largely composed of prominent men connected with the Denver & Rio Grande Railroad, with General Palmer at the head, which, if true, is sufficient guarantee that the enterprise will, in all human prob-ability, be pushed to success. One source of great congratulation to Ouray and her mines is the fact

ability, be pushed to success. One source of great congratulation to Ouray and her mines is the fact that the treaty with the Utes is ratified, the money paid over to them, and the Indians will be moved in the spring. As soon as the President issues his proclamation declaring the reservation open for occupancy

FEB. 9, 1881.] THE ENGINEERING AI upward of fifteen millions of acres of mining, agricultural, and pastoral lands, now tied up for red men, will be thrown open for settlement and cultivation by white men, for the benefit of this portion of San Juan and our miners. A great portion of this tract, especially that watered by the Uncompahgre and San Miguel rivers, is adapted to ranching, and more of it for cattle-farming. What the mineral resources of the mountainous portion are, remains to be determined by future prospectors. Wild stories have been told about gold and silver. But 'twas ever thus—the richest mines are always in the "great beyond." For my part, I very much doubt the truth of these yarns. The land which ought to be available for raising hay, cereals, and vegetables for the use of our miners, has, up to this date, been occupied by Granny Schurz's pets, and consequently we pay enormous prices for the same. For instance, I paid, this fall, for oats for my animals, 8½ cents per pound ; 5 cents per pound for 10,000 pounds of potatoes for our miners; 5 cents per pound for a ton of cabbages ; 10 cents per pound for onions ; \$10 per hundred pounds of beef : add to this, 1½ cents per pound for packing to the mines, and some idea may be formed of how much more it costs us to produce ore than it really ought to. Thus has the absurd policy of the Interior Department helped to retard the greatest industry of the United States. I think, however, that the removal of the Indians, and the consequent enlargement of our ranching interests, will put a stop to exorbitant prices, and we shall be able to produce ore at a correspondingly small cost per tom. Ouray itself, the most picturesque and beautiful little town I ever saw, is now thriving and comfortable, plenty of money afloat, and nearly every one in business making money. Perhaps the best idea I can give of its size is by enumerating its places of business. They are as follows: Watchmakers and jewelers, 2 ; gentlemen's furnishing goods and cigars, 1 : boot and

enterprises, such as a fire-company, school-house, water-works, etc., are on the tapis.

the *tapis*. In my description of Imogene Basin, I omitted to mention the Hancock and Tuscola, two of the most promising properties up there. They are adjoining claims on the same vein, and a cross-lode to the Gertrude. The owners, Butler & Jackson, have been working them since last October, and have run a drift 80 feet on the vein, having an average of 15 inches solid pay-streak the whole distance, with nearly two feet of ore showing in the breast now. The ore is galena, carrying from 20 to 30 ounces of silver per ton, and about 7 per cent lead, and copper pyrites yielding 65 ounces silver to the ton. In doing this dead-work, they have taken out 80 tons of ore, which is now on the dump. There are sites for seven drifts on the vein without sinking. It is in a trachyte formation, about five feet between the walls, the vein-matter being soft porphyry, and the matrix of the metal a white quartz. This property is on the same vein and next southerly extension of the Talisman, one of the Allied Mines group.

I also omitted to mention the Eldorado in Sneffels Basin. This most proup. I also omitted to mention the Eldorado in Sneffels Basin. This most promising prospect has, I believe, produced more than \$4000 with 250 feet of work, and upward of 75 tons of 50-ounce ore yet on the dump, which would not pay to ship at the time it was produced. I think it is a caunter lode to the Yankee Boy. The ore is brittle and ruby silver, sometimes associated with red blende, in a matrix of quartz and heavy-

spar. There are many splendid mines in San Juan, of course, that I have There are many splendid mines in San Juan, of course, that I have omitted to mention, simply because my personal knowledge is confined to those contiguous to my own district, Ouray. Having lived and worked in the Sneffels Mining District, winter and summer, for now nearly four years, I have not had the time to visit the mines of other San Juan districts, and it is not from any feeling of jealousy that I have not given them more extended mention. Of the thousands of promising prospects with which our hills are covered, having little more than assessment-work done on them, I have said nothing ; but in the blessed absence of any "boom" in this camp, mining values are not inflated, and there is no camp where, in a proper, business-like, and judicious way, capital can be invested to so great an advantage as in the mining districts contiguous to Ouray ; at least, such is my opinion ; if it were not, I should hardly be here myself. OURAY, Jan. 1, 1881.

MAINE MINING NEWS.

Special Correspondence of the Engineering and Mining Journal.

The Blue Hill is now hauling the slate for the roof of its smelting-works from Bucksport. The building is nearly completed, and the rest of the material for furnaces is expected here soon. Sinking is going on on the incline for the 200-foot level.

The new buildings (smelting-works, engine-house, etc.) at the Twin Lead are nearly completed. The smelting-works building is roofed with corrugated iron. The machinery (breaker, etc.) arrived several days ago. The Stewart Company is sinking on its vertical shaft, and has taken some ore from the bottom of the shaft.

some ore from the bottom of the shaft. The Douglass is doing the usual amount of work in the mine, and also a great deal of work on furnaces, etc. Two furnaces are nearly com-pleted, and the work on the building to cover them is well forward. The foundation for the large building for the other furnaces is also nearly or quite done. The company is roasting more ore, and the immediate pros-pect is excellent for an extensive smelting business. DIRIGO. BLUE HILL, ME., Jan. 31.

At the Sullivan & Waukeag mine sinking is going on below the 200-foot level and with a wider vein than before encountered, showing ruby silver with the other forms of pay-ore. Above the 200-foot level, the stoping of rich ore is pushed by as large a force as can be worked in the mine to advantage. At the mill, the machinery having at last been landed, the completion of the mill will be rapidly pushed forward.

At the Milton, work is progressing in both shafts. In shaft No. 1, the At the Milton, work is progressing in both shafts. In shaft No. 1, the rock is improving. There was a little excitement last week, owing to the report of a strike in this shaft; but I have seen nothing to corroborate the report as yet. This mine is one of the best-equipped mines in the State, and will show up the vein as soon as it is struck. At the Golden Circle, there is hardly a piece of quartz taken out but what shows more or less free gold. The directors have decided to erect a stamp-mill as soon as practicable. The mill will be erected in Portland, owing to the lack of accumendation on the island

a stamp-mill as soon as practicable. The mill will be erected in Portland, owing to the lack of accommodation on the island. At the Gouldsboro', a very fine showing is still made, and with the amount of ore now on the dump, and the mill running regularly, con-centrating about twenty tons of ore per day, it is more than probable that a dividend will be declared before next summer, as the manager intends to use the receipts for the payment of dividends, the funds in the treasury being sufficient to work the mine for some time. Little change has been made at the Cherryfield. The company is pre-paring to ship its ore to the Lehigh Zinc-Works, instead of taking it to the Gouldsboro' mill. The Grant is encountering stringers of well-mineralized quartz and

The Grant is encountering stringers of well-mineralized quartz, and portions of the dark rock contain more or less mineral. The vein will probably be reached in the course of ten or fifteen feet ; but as the rock continues very hard, the progress with the hand-drill is quite slow. ELLSWORTH, ME., Feb. 1. DOUGLASS.

PETROLEUM IN 1880.

Stowell's Petroleum Reporter for January gives the following review for the year 1880 : "The year 1880 greatly distanced all its predecessors in the volume of production and in the consequent accumulation of stock. For the first time, we have accumulated a stock in excess of a year's sup-For the first time, we have accumulated a stock in excess of a year's sup-ply, and the production still remains in excess of the current demand. Any considerable appreciation of values in the near future would seem improbable, were it not for the strong counterbalancing facts—namely, that the territory is clearly defined; that the gas is failing; that salt water (a sure sign of the end) is making its appearance on the outskirts of the field; and that the production is, without doubt, declining. Add to this the plenitude of money in the country, and we have a combina-tion of facts which warrants better prices, and which will surely bring better prices as these facts come to be more clearly realized. "The falling off of production is very likely to enlarge the confidence of the holders of this stock, especially if money continues as easy as it has been for some time past, although we may look in the present year for a gradual and continued reaction from the exceedingly low prices which have prevailed during the two years just passed." As regards production, stocks, etc., for the year, the following figures are given:

As regards production, stocks, etc., for the year, the following figures are given: "Total production, 26,032,421 barrels; daily average, 71,124 barrels; total stock in the producing regions, 18,928,430 barrels; in the custody of the pipe lines, 16,594,136 barrels; in private iron tanks, 566,000 barrels; at the wells, 1,768,295 barrels; producing wells, average number for the year, 13,260 barrels; average daily production, per well, 5_{10}^{*} barrels; number of new wells completed during the year, 4217; average daily production of the new wells, 22_{10}^{*} barrels; number of dry holes, 168. Shipments of crude and refined reduced to crude equivalent during the year: To New York, 7,072,234 barrels; to Pittsburg, 960,336 barrels; to Cleveland, 2,535,214 barrels; to Philadelphia, 1,748,556 barrels; to Boston, 478,365 barrels; to Baltionce, 611,505 barrels; to Ohio River refiners, 205,997 barrels; to California, 7636 barrels; to other local points, 1,477,-181 barrels; destroyed by fire, 582,490 barrels; total shipments, 15,674,-492 barrels."

PETROLEUM STATISTICS.

COMPARATIVE SYNOPSIS OF REPORTS FOR NOVEMBER AND DECEMBER, 1879 AND 1880.

42 Gallons = 1 Barrel	1880.	1880.	1879.	1879.
42 GALLONS = 1 DARREL.	Novemb'r. 30 days.	Decemb'r. 31 days.	Novemb'r. 30 days.	Decemb'r. 31 days.
Production for the month, bbls Daily average Stock at the wells	75,814	72,214		
Iron tank stock. Total stock. Number of producing wells. " " drilling wells. " " " completed	18,025,409 14,400 475	18,928,430 14,700 408	8,051,169 11,960 372	11,960
" "dry holes Aggregate daily production of new wells Average Number of rigs building	9 8,198 24 4-10	12 6,890 28 8-10	21 4,459 20	15 4,200 16 1-10
Total shipments out of the region			1,453,645	

-Stowell's Petroleum Reporter.

LABOR TROUBLES ABROAD.-A thousand colliers at Tyldesley, England, have resolved to return to work; but a meeting representing twelve thousand colliers at Pendlebury, Lancashire, resolved to strike for an advance of wages.

COLORADO'S COAL PRODUCT FOR 1880 .- This is estimated at 587,314 tons. The coal mines around Golden, Colo., are constantly multiplying in number, and they add very much to the importance of the city. In 1879, the output was about 30,000 tons; in 1880, it is estimated at about 50,000 tons.

Fossil Plants in the Red Sandstone of Prince Edward's Island.— At a meeting of the Natural History Society, held at Montreal on the 1st instant, Prof. John William Dawson remarked that Mr. F. Bain, of North River, Prince Edward's Island, had discovered fossil plants in a higher horizon in the Red Sandstone of that island than that in which they had been previously known to occur. The effect of this would be to require us to recognize part of the sandstone hitherto regarded as Triassic as being really Permian really Permian

W Gi Ni Ai Di

THE VALUATION OF COAL.

By Prof. Charles E. Munroe, U. S. N. A.

By the valuation of coal is meant the estimation by experiment of its value as a calorific agent, and it will be admitted that the discovery of some method which will readily give accurate and reliable results, and which will enable us to avoid the costly and prolonged test of actual use —a test which may involve great waste and prove very vexatious—is a

-a test which may involve great waste and prove very vexatious-is a great desideratum. In valuing a coal, the estimation of the calorific power is of the first importance, yet there are other characteristics of the fuel to be considered, which will render it more or less suitable for the use to which it is to be put, and which should not be overlooked in an examination of, and deciding upon, its fitness. These are the nature of its ash, the readiness with which it burns, the presence of sulphur, and, when the coal is for naval use, the loss by attrition ; and in this paper it will be the aim, after briefly stating the properties and composition of coal, and describing some of the means proposed for estimating its calorific power, to allude to the methods employed in the estimation of these secondary properties. properties

properties. Since the heat developed by a fuel depends upon the union of the car-bon, hydrogen, and other combustible constituents which it contains, with the oxygen of the air, and since also the heat produced by the combustion of measured quantities of each of these substances in oxygen has been determined with great accuracy, it would appear a simple thing to deter-mine the calorific power of a coal by subjecting it to an elementary substances obtained the heat produced by its combustion; and this method has been followed to a considerable extent in the past, but it has been found in practice to give very erroneous results, some of the sources of which we will consider. We have in coal a substance whose composition is very variable and

we will consider. We have in coal a substance whose composition is very variable and very complex; but as we have no proximate analysis of coal, it is not possible to make this directly apparent, and therefore we must prove the truth of the statement in another way. The following table gives the results of the ultimate analysis of several varieties of coal, and exhibits the variability in its ultimate composition :

	Lesmahagow Par- rot Coal, Miller.	Wigan Cannel, Vane.	Coking Coal, New- castle, Richardson,	10 Yard Wolver- hampton, Vane.	Newport Steam, Miller,	S. Wales Anthra- cite, Vane.
Sp. gr Coke, per cent. Carbon. Hydrogen. Nitrogen Oxygen Sulphur Ash	$\begin{array}{c}1251\\43\cdot300\\73\cdot440\\7\cdot620\\11\cdot761\\1\cdot145\\6\cdot034\end{array}$	$\begin{array}{c} 1.276\\ 60.360\\ 80.070\\ 5.520\\ 2.120\\ 8.080\\ 1.500\\ 2.700\end{array}$	$ \begin{array}{c} 1 \cdot 280 \\ 86 \cdot 750 \\ 5 \cdot 240 \\ 6 \cdot 610 \\ 1 \cdot 400 \end{array} $	$\begin{array}{r}1\cdot278\\59\cdot210\\78\cdot570\\5\cdot290\\1\cdot840\\12\cdot880\\\cdot390\\1\cdot030\end{array}$	$\begin{array}{c} 1\cdot 309\\ 75\cdot 100\\ 81\cdot 470\\ 4\cdot 970\\ 1\cdot 630\\ 5\cdot 230\\ 1\cdot 100\\ 5\cdot 510\end{array}$	1·392 92·100 90·390 3·280 ·830 2·980 ·910 1·610

An ultimate analysis, however, gives us little real knowledge of the character of a coal; for, as a few experiments will show us, the substances we have determined do not exist wholly in an elementary condition in it. Let us first examine the coal by subjecting a weighed quantity in a con-fined space to the action of a rarefied atmosphere and heat. We shall find that a considerable amount of gas is evolved from the coal, that this gas is a mixture of compound gases, and that in our ultimate analysis we have estimated their constituents as simple substances. The following table gives the results of some of Mr. Thomas's analyses made in the way described: described :

	C. of gas n 100 grms., ved at 100°		Percent	age Con	position	of Gas.	
	froi	CO2	CO	CH4	C_2H_6	0	N
Lignite, Bovey Cannel, Wigan Jet, Whitby Bituminous coal, S. Wales Semi-bituminous """ Steam coal """ Anthracite """	$\begin{array}{c} 114.3\\ 350.6\\ 30.2\\ 55.9\\ 73.6\\ 218.4\\ 555.5\end{array}$	$\begin{array}{r} 96.74\\ 9.05\\ 10.93\\ 36.42\\ 12.34\\ 5.46\\ 2.62\end{array}$	2.80	77.19 C ₄ H ₁₀ 72.51 84.22 93.13	7.80 86.90	0.80 0.64 0.44	$\begin{array}{r} 0.46 \\ 5.96 \\ 2.17 \\ 62.78 \\ 14.51 \\ 9.88 \\ 4.25 \end{array}$

If, in addition to this, we heat the coal in closed vessels, out of con-tact with the air, if the coal be other than anthracite we shall find that, in addition to the gases evolved, as given above, the coal will yield a large number of substances, solid, liquid, or gaseous, which exist already formed in the coal, or which are produced by the action of heat on sub-stances existing in the coal, and there will be left behind a mass of coke. We may thus prove the complex composition of the coal but our methods

stances existing in the coal, and there will be left behind a mass of coke. We may thus prove the complex composition of the coal, but our methods of analysis do not yet admit of our estimating these constituents. However, our ultimate analyses have shown that carbon is the most important element present, and it is probable that it exists to a large ex-tent in the coal in a free state. Let us consider what would result if we were to estimate the calorific power of the carbon present from a simple determination of the percentage of free carbon. Carbon is one of the elementary substances which exists in several allotropic or unlike states. In all of these, its chemical properties are precisely the same, though its physical properties are widely different. These differences are believed to be due to the difference in the arrangement of the atoms in the mole-cules. Among other differences Favre and Silbermann have found that

^a A paper read at the Naval Institute, Annapolis, Md., April 8th, 1880. From the Pro-ceedings of the Naval Institute.

their heats of combustion differ considerably, increasing inversely as the density, as the following table, embodying their results, shows:

Substance.	Product.	Units of Heat.	Density.
Vood charcoal	CO2	8080 8047 7797	1.500 1.885 2.300
rtificial graphite	66 66	7762 7770	3.530

"These figures point to the conclusion that the heat of combustion of an elementary substance depends not only on its chemical constitution of but also upon its physical state before combustion. It varies not only with the nature of the atoms, but also with the manner in which they are grouped together. We can not deduce the calorific power of graphite from that of charcoal, nor that of the diamond from either. If, then, the grouped together. We can not deduce the calorific power of graphite from that of charcoal, nor that of the diamond from either. If, then, the mere fact that the substance is composed of pure carbon is not sufficient to determine its heat of combustion, it is not reasonable to suppose that the like information can be acquired in the case of so complex a substance as coal, by a calculation based on a knowledge of the quantities of carbon, hydrogen, and oxygen which it contains."* These substances exist in the coal in a state of combination, the compounds of the various elements being mixed together. Hence, when they are burned, these com-pounds must be broken up before they can unite with the oxygen of the air, and, as a general rule, heat is absorbed by the analytical process, and consequently the true heat of the compounds, however, be of such a na-ture that their decomposition is attended with an evolution of heat, the true heat will be greater than the calculated. Another source of error is due to the fact that the calorific power of hydrogen would certainly exist in the coal in a solid or liquid state, and, during the process of combustion, would be converted into a gas. We know that if a solid or liquid is converted into a gas, heat is absorbed. "Therefore, even if the assumption that the 'available' hydrogen is not combined with any of the other elements present in the coal were cor-rect, the calculations themselves would be open to objection, since the hydrogen in its conversion to the gaseous state would absorb heat. Hence, in assuming that the calorific power of solid hydrogen is, like that of gaseous hydrogen, 34,462 units, we commit an error, the ex-istence of which we are certain of, while we are totally ignorant of its magnitude."

magnitude.

inagnitude." Experimental proofs are not wanting to confirm the doubts which theory suggests as to the accuracy of this method of calculation. Two physicists,† Scheurer-Kestner and C. Meunier, have made a long series of experiments on the heat of combustion of coal. They analyzed numerous specimens, calculated their calorific power by the ordinary rules, and then made direct experiments to determine their heat of com-bustion. A comparison of the numbers obtained by calculation and observation proved that they did not agree. Thus, in the case of two coals, one from Ronchamp and the other from Creusot, which contained almost precisely the same proportions of carbon, hydrogen, and oxygen, the calorific powers, instead of being identical, were 9117 and 9622 re-spectively. The difference between the real and calculated calorific pow-ers amounted in some instances to as much as fifteen per cent. In the case of two specimens of coal from England, and several from France, the calculated heat of combustion was too small. In that of six kinds of brown coal from France and Germany, it was too large, while experiments on several different coals from Russia proved that in these cases the discrepancies between calculation and experiment were com-

France, the calculated heat of combustion was too small. In that of six kinds of brown coal from France and Germany, it was too large, while experiments on several different coals from Russia proved that in these cases the discrepancies between calculation and experiment were com-paratively unimportant. It is evident then, that, in order to determine the calorific power of a coal with precision, we must resort to direct ex-periments, and that we can not trust to the calculations based on the ele-mentary composition of the coal. To determine this factor with accuracy, we must use the delicate calorimeters employed by the physicist, and at the same time estimate the amount of incombustible matter present. But such precise results are not necessary for the examination of coal for use in the generation of steam ; coarser methods will yield results which are sufficiently accurate for this purpose, some of which we will consider. Thomson has devised a calorimeter which has sometimes been used for determining the calorific power of coal. It consists of a thin copper cylin-der placed inside another, of similar material, which is perforated with holes at the bottom and furnished with a stop-cock at the top. The coal to be examined is finely powdered and mixed with the to twelve times its weight of a mixture of three parts of potassic chlorate and one of potassic nitrate, and this mixture, which will burn out of contact with the air, is then placed in the inner cylinder and the whole submerged under a known weight of water. As the mixture burns, the hot gases bubble up through the holes and warm the water, until the combustion is completed, when the stop-cock is opened and the water flows in to fill the vessel. The heat of combustion is deduced from the elevation of temperature of the vessel and water. The quantities of coal and water employed are so adjusted as to make the calculation extremely simple. It has been shown, however, by Dr. Percy, that there is an error in this method, due to the fact that the bubbles

$2PbO + C = CO_2 + 2Pb;$

and, calculating from the known atomic weights of carbon and lead, we find that for every gram of carbon present, thirty-four and five tenths (34.5) grams of lead will be obtained. Berthier proposed to perform the

experiment by heating the coal, in a finely-divided state, in a crucible, with about forty times its weight of litharge, and continuing the process at a red heat, for some time. The crucible was then allowed to cool; it was then broken, the button of lead extracted, washed, dried, and weighed; and on the above equation the weight of carbon calculated. Suppose we find that a given sample yields 25 grams of lead; then the heating power is $\frac{95}{25}$

 $\frac{34\cdot5}{34\cdot5}$ of that of pure carbon, or, assuming that 1 kilogram of carbon raises 34.57900 kilograms of water 1° C., 1 kilogram of the sample of coal is capable of raising 5724 kilograms of water 1° C. To estimate the evaporative power by this method, we have simply to divide the number of units of heat obtained by 537, the units of heat necessary to vaporize 1 kilogram of water at 100° C.

Many objections to this process have been raised, but it seems to me as unobjectionable as any that have been devised. Among other objections, it is urged that hydrogen may be present in the coal to a greater extent than the oxygen necessary to combine with it to form water, and that this free hydrogen, if we may so term it, will reduce a part of the lead, and that, by assigning the whole to the carbon, very serious errors may be introduced. On the other hand, it may be said that, according to the re-section action.

$PbO + 2 H = H_2O + Pb$,

PbO + 2 H = H₂O + Pb, one part of hydrogen will reduce 103.5 parts of lead, while one part of carbon reduces 34.5 parts of lead, or 3:1; but at the same time, the units of heat produced by the hydrogen are to those produced by an equal weight of carbon as 4.265:1. Now, as the hydrogen is in the solid condition, some heat will be absorbed in converting it into a gaseous form ; therefore, in valuing the coal for purchase, when this error exists, it will be in the right direction. In using the method, however, I have found a source of error which has led me to modify the details of it. When a crucible is used, it is placed in a furnace where it is difficult to manage, and there is great danger of the reducing gases of the furnace reaching the litharge. Hence, instead of the crucible I employ an iron tube or gas-pipe. Into a piece of gas-pipe (ungalvanized), one inch in diameter and one foot long, a plug, tightly fitting, is screwed at one end, and a second piece of pipe, one-half inch in diameter and three feet long, is screwed at the other. One gram of the coal to be examined, finely powdered, is now mixed with about forty times its weight of litharge, and poured into the tube and covered with a small quantity of litharge. The tube and the placed in the tube is the removed, the closed end over the and the placed in the furnace under a boiler, the open end extending out six inches, and allowed to remain there until, upon placing the finger over the open end, no pressure is felt. The process does not occupy over ten minutes. The tube is then removed, the closed end rapped sharply on the hearth to cause all the molten lead to descend, and it is then placed in a vise. In the mean time, a small box is lined with plaster of Paris for the reception of the lead. This is placed under the tube and the plug is removed and the lead allowed to run into the box. During this operation, the tube is rapped with a hammer, to facili-tate the escape of the molten lead. After the tube is cooled, it is fre-quently found that some of the metallic lead has been caught in the thread, but it is easily got out. Care must, however, be taken not to is washed, dried, and weighed, and the calculation made as above. It is found that, after a tube has been used two or three times, it gives more constant results than at first.

The following determinations, made in this laboratory, prove that this process gives closely agreeing results. One gram of coal was taken for each experiment :

				Calo-			Calo-
			Weight	rific		Weight	rifie
Coa				Power.	Coal.	Lead.	Power.
Lee Wilk	es-Barre (a	nthracit	e).31.60	7235	Lignite		5404
44	**	66	31.65	7247	**		5311
66	44	66	31.09	7099	66 ·····		5489
8.6	66	66	31.13	7128	66		5457
Newburg	Orrel (bit	uminous		7238	66	23.58	5400
**	6.0	6.0	31.26	7158	66 ····		5393
Lao-ping	(Chinese)	46	27.10	6206	Peat		520
**	**	**	27.46	6288	46		5182
66	6.6	6.ú	27.47	6290	46		5135
66	66	66	27.10	6205			

All but the last four of these analyses were made by Lieut. Charles Belknap, U.S.N., Instructor in Physics and Chemistry. The last four were made by Cadet Eng. A. T. Woods, U.S.N. (TO BE CONTINUED.)

PROGRESS IN SCIENCE AND THE ARTS.

Determination of Sulphur in Iron Pyrites.—On oxidizing pyrites with nitric acid and precipitating the sulphuric acid from the ferriferous solution, slightly acidified with hydrochloric acid, there is always ob-tained a barium sulphate, contaminated with iron, and still the results were too low. Bernhard Dentecon therefore adopts the following pro-cess: 1 gram pyrites was mixed in a large covered crucible with 8 grams of a mixture of equal parts potassium chlorate, sodium carbonate, and sodium chloride. The crucible is heated at first gently, so as to dry the contents, which are afterward melted at a high temperature. The mass when cold is treated with boiling water, and the solution, together with the deposit, is introduced into a measuring-flask of 200 c.c., filled up, filtered, and the sulphuric acid is determined in aliquot parts, say 50 c.c. The insoluble residue does not retain any sulphuric acid. In this man-ner, the use of nitric acid is evaded. The decomposition of the potassium chlorate is complete.

Scientific methods, backed by capital and perseverance, must now be employed. The useful minerals now raised in Japan rank as follows in the order of their importance: Coal, copper, silver, gold, iron, kaolin, petroleum, sulphur, lead, antimony, tin, salt, mercury, marble, jasper, agate, amber, and graphite. Nickel, zinc, and arsenic have not been found in sufficient quantities for industrial purposes. Coal is annually exported to the extent of 160,000,000 catties (1 catty = $1\frac{1}{3}$ pounds avoirdupois), but 47,3896,160 catties are still imported. Charcoal-burning is carried on in a reckless and wasteful manner, and the mountains are consequently becoming denuded, and the climate and the productiveness of the soil consequently deteriorated. Sulphur and sulphuric acid are among the articles exported ; the former to the amount of one and a half million catties; and the latter, 1,400,000 catties.

Explosive Preparation of Antimony.—E. Mascarenas y Hernandez, in the *Chemisches Central-Blatt*, describes the following preparation: A solution of crystalline antimony chloride and hydrochloric acid at 1·12 specific gravity was made so as to stand at 38° B. On electrolysis with the Leclanché element, there was obtained, in from twenty to twenty-four hours, a bigbur or propund four hours, a highly explosive compound.

four hours, a highly explosive compound. **Conversion Tables for French and English Measures of Length.**— London Engineer, in its issue for January 7th, 1881, gives the first of a series of tables, which it "hopes to publish by degrees, for enabling French measures to be turned into English, or English into French, at a glance, and without any calculation whatever." A column of figures is carried forward from 100 to 1000, by the side of six other columns, headed respectively, Meters=Feet, Feet=Meters, Centimeters=Inches, Inches= Centimeters, Kilos=Miles, Miles=Kilos. Suppose the question is, "233 meters=how many feet?" Finding 233 in the number-column, opposite to this, in the "Meters=Feet" column, we find the number 764:4, which is the equivalent in feet of 233 meters. If, as is perhaps the case once in a hundred times, we desire a closer equivalent, we find the tables still sufficient. Thus, 200 meters=656:2 feet; 300 meters= 984:3 feet, and therefore 30 meters=98:43 feet, and 3 meters= 984:36 teet, and therefore 30 meters=98:43 feet, and 3 meters= 984:36 teet, and therefore 30 meters=98:43 feet, and 1 meters= 9:437 feet, and therefore 30 meters= 9:438 teet, and therefore 30 meters= 9:438 teet, and therefore 30 meters= 9:439 teet, and therefore 30 meters= 9:443 feet, and therefore 30 meters= 9:443 feet, and therefore 30 meters= 9:443 feet, and therefore 30 meters= 9:443 teet, and therefore 30 meters= 9:444 feet, and therefore 30 meters= 9:443 feet, and therefore 30 meters= 9:443 feet, and therefore a decimal. The remaining columns, of course, are to be used in the same way. The table has been compiled with great care by Herr C. Capito, assistant to Professor Ayrton; and hints will be gladly received which may render this table, and those to appear in the future, more complete ord related by and valuable.

and valuable. The History of Copper-Smelting in Swansea.—We are informed by the author that there will shortly be published a second edition of The History of Copper-Smelting in the Swansea District of South Wales, from the Time of Queen Elizabeth to the Present Day, by Colonel GRANT-FRANCIS, F.S.A., Vice-President of the Royal Institution of South Wales, Mayor of Swansea, 1853–4, and author of The Charters of Swan-sea, and other historical works. The first edition, published in 1867 in a limited number of copies, has now become rare. The work will be pub-lished by subscription, in demy 8vo, at 10s. 6d., and in crown 4to, at 15s. As Colonel FRANCIS is a Swansea man by birth and life-long residence, and has been led by his tastes and pursuits into researches specially con-nected with that district, we have no doubt but that his book will be eagerly sought by those interested in the history of copper-smelting and of its famous center, so familiar to the readers of the JOURNAL. Sub-scriptions may be sent to this office, and copies forwarded on publication, due announcement of which will be given in these columns. New Reilroad Construction.—The Railroad Gazette of February 1st

New Railroad Construction.—The Railroad Gazette of February 1st gives a total of 24 miles of new railroad, being 71 miles reported for 1881.

GENERAL MINING NEWS.

ARIZONA.

From late issues of our Arizona exchanges we condense the following :

CENTENNIAL.—An additional force of men has been put at work on this mine recently, and it is stated that the company intends to sink the main shaft to a depth of 500 feet, and drift 100 feet each way on this level before any further stoping is done. The hoisting-works will be in position in a few weeks, and the erection of a 10-stamp mill will speedily follow.

erection of a 10-stamp mill will speedily follow. SILVER BELT.—This mine is situated about 18 miles east of Prescott. The de-velopments consist of a shaft No. 3, 17 feet ; No. 3 shaft, upper level, running south, 100 feet ; No. 3 to No. 2, 92 feet; No. 3 west of winze, 48 feet ; from winze to No. 1 shaft, 88 feet. Besides which, there are other short stopes and levels. HOUSE & ROUSE GROUP.—This group consists of the Succor, Silver Crown, Favorite, Aurora, and Saratoga. The development on this property consists of one shaft 25 feet deep, with a three-foot vein in bottom ; one shaft 18 feet deep or same vein; one tunnel 25 feet long, to strike the ledge, then drifted 30 feet on ore and stoped to the surface 20 feet. A working-shaft has been sunk to a depth of 45 feet, to connect with the main tunnel, which has been extended a distance of 145 feet, having passed through a 6-inch streak of ore at 80 feet from the mouth of the tunnel, and another streak farther on, 18 inches wide.

CALIFORNIA.

THE BODIE DISTRICT.

The deposit, is introduced into a measuring-flask of 200 c.c., filled up, filtered, and the sulphuric acid is determined in aliquot parts, say 50 c.c. The insoluble residue does not retain any sulphuric acid. In this manner, the use of nitric acid is evaded. The decomposition of the potassium chlorate is complete. Glass Manufacture in Ohio.—In 1880, five new glass-works were erected in the State, and probably as many more will be built this year. The nineteen firms engaged in the making of glass use 292 pots and employ 2032 men. Mineral Resources of Japan.—From the Memoirs of the Science Department of the University of Tokio, it appears that there is no warrant for the extravagate expectations entertained some time ago of the mineral wealth of Japan, especially in gold and copper. Such rich and easily worked deposits as there may have been were long since exhausted.

in the north drift, sixth (incline) level, and it presents the same appearance as where exposed on the fourth level south, in the fourth and fifth levels, east cross-cut, and in the fifth level, north drift. Samples of the quartz irregularly dis-posed throughout it gave better assays from the sixth level than any other point where it has been cut, but it is evident that the quartz has only been enriched from the faulted Fortuna vein at and near the zone of contact. This north drift is now in 228 feet, a gain of 12 feet since last report, and it will be driven 20 feet north of its point of intersection with the faulting vein, where a west cross-cut will be driven to the Fortuna vein as on the fifth level. You will note, from the mill report for the week, the marked improvement in the average quality of the ore milled. In the stope just started from about half-way up the winze between the fourth and fifth levels, north, the vein is narrow, but very rich in gold. The stope gangway south from the bottem of the north winze, sixth level, is also in ore showing free gold. Borto CONSOLIDATED.—The vein in upraise No. 2, above the 200-foot level, is from three to four feet wide, all good ore. Progress for the week, 10 feet; total hight above the drift, 19 feet. The vein is well defined and free from waste. The stopes on this level continue to look well. The north drift on the 300-foot level has now reached a point 305 feet north of the station, the drift being con-tinued on the wees side of the vein. The width of the vein, as ascertained by drill, is between three and a half and four feet, passing through quartz and clay. BULWER CONSOLIDATED.—During the week ending with Saturday last, the drift on the Homestake lege, from the top of the up-raise, was advanced 20 feet ; total length, 122 feet. There is no change to note in the size or appearance of the vein.

drift on the Homestake ledge, from the top of the up-raise, was advanced 20 feet; total length, 122 feet. There is no change to note in the size or appearance of the vein.
CONSOLIDATED PACIFIC.—The west cross-cut, 600-foot level, was driven 10 feet last week; total length, 65 feet. The face is in better-looking ground, and of the same favorable character reported last week. The north drift, same level, is in 19 feet; progress for the week, 7 feet, with no change of any importance in character or value of the vein-matter, and no walls in sight. After considerable delay in getting the track and dump in order, have finally got to work driving a drift on Pacific Lode No. 1, tunnel level.
GODSHAW.—The Miners' mill was started up on Goodshaw ore on the 22d, and an ample supply is now raised and shipped to keep the mill going. Ore is stoped from the 660-foot level, near the winze from the 600. The south drift, 660-foot level, is tradily upshed, and is looking well.
NORTH NOONDAY.—The superintendent's report for the week ending the 22d inst. The stopes from the 312-foot level, North Noonday, are looking well, and the ore-body is from 12 to 15 feet wide. The 412-foot level north slope, North Noonday, is about 22 feet wide, and the quality of the ore is improving as we extend the stope. The 512-foot level north drift on vein No. 1 is now 128 feet north of the cross-cut, 11 feet having been run the past week.
StynicArtz.—Still stoping ore all around the old chute and keeping the company's mill fully supplied. The ore is paying about as usual, and the shipments of the current month will equal if they do not exceed those of December. As soon as the ore is extracted from the immediate vicinity of the chute, so that the smoke stack from the underground steam-engine can be replaced, prospecting-work will be resumed on the 950-foot level. This, however, will not occur for some weeks, and it is barley possible that a cross-cut may be run from one of the uper levels to cut the large and rich vein de

The mines of this district are thus noticed in the Greenville Bulletin of the 19th

The mines of this district are thus noticed in the Greenville Buttetin of the laten ult.: CHEROKEE.—No hauling has been done at this mine since the commencement of the last severe storm, the roads being so bad as to render it impossible. It is expected that work will be resumed early next week. A new steel wire rope for hoisting purposes arrived last evening, and has been sent to the mine. GREEN MOUNTAIN.—The face of No. 5 tunnel is advancing in good milling ore, which has continued to improve ever since the chinney was first encountered some weeks ago. All other portions of the mine are yielding ore abundantly, sufficient to keep the mills constantly supplied.

CANADA.

NOVA SCOTIA.

NOVA SCOTIA. A Halifax paper states that Messrs. Kaye, Symonds & Co. have opened up an 18-inch lode, some 2000 feet west of their old workings; 10 tons having been crushed gave three ounces to the ton. The new opening on the Hose lode promises to eclipse any thing ever yet seen in Montagu, and arrangements are making for opening new shafts along the entire length of the property. The barrel lodes are tapped in several directions, and show well, and prospecting parties are waiting anxiously the approach of spring to resume operations. The Halifax Chronicle says: Tangier at one time was looked on as the richest gold-field in the province, and it seems to be fast recovering its former reputation. There can be little doubt that the whole of Tangier is one vast bed of slate, per-mented with aurilerous quartz. Mr. Joseph Townsend has twice within the past three months succeeded in striking very rich quartz in sinking shafts. A few weeks ago, he struck a remarkably good lead in one shaft, and he has just taken some heavy gold from another which he is now sinking.

COLORADO.

CLEAR CREEK COUNTY.

CLEAR CREEK COUNTY. ATLANTIC-PACIFIC.—The Georgetown Courier of the 27th ult. says: The steam-engine, diamond drill, and air-compressor lately purchased by the Atlantic-Pacific Tunnel Company, will reach Georgetown this week, and at once be sent up to the mine and put in running order. The tunnel has reached a length of 140 feet, and near the breast a lode about five feet wide that carries iron pyrites has been intersected. As soon as the tunnel heading has been driven far enough, so that work will not be interfered with, a level will be driven on the lode each side of the tunnel. PELCAN & DIVES.—The new hoisting machinery at the Pelican & Dives prop-erty has been started up. SIMPSON MINING AND MILLING COMPANY.—According to the Georgetown Miner, work will be at once resumed on the Simpson mine by leace. Some pre-liminary work has already commenced. Dritting will be resumed on the main adit, which is already reveral hundred feet in length. The property is located mear the north end of Leavenworth Mountain. The Sweepstakes lode, which is also the property of this company, is intersected by the Rocky Mountain tunnel, and will be worked from that point. The lode has been opened a short distance on the tunnel level, and shows six inches of solid ore of low grade. In some places, the ore is scattered, and appears to be of a better quality. By drifting sixty feet east, the Sweepstakes shaft will be encountered, which will secure good ventilation, if nothing more. CUSTER COUNTY. GAME BINGS — The Paciet ROUNTY.

CUSTER COUNTY.

GAME RIDGE .- The Rosita Journal says that during the month of December,

1880, the Game Ridge Consolidated Mining Company has worked a force of twelve men upon its vast property. The Graphic shaft as driven is now 80 feet deep. The fourth or topmost level, counting from the first or tunnel level, is 62 feet from the surface. Here, north and south drifts are driving, which are 18 feet in north and 10 feet in south at the present. This work is prosecuted with day shifts, and will be extended to the south, so as to meet the north drift upon the same level from the Tecumseh shaft. These drifts, as well as the shaft, are in ore all the way. The Tecumseh shaft is now cutting out to proper shape and size eight feet by four feet. The fourth level will here be 86 feet deep from the surface. So soon as this shaft is in shape north and south, drifts will be started upon this level. A blacksmith-shop west from the Tecum-seh shaft, 24×20 feet shaft, is in course of construction. West from the black-smith-shop about 100 feet, is the old Blacktail shaft. This shaft will in due time be cut out and sunk down 880 feet to meet the work tunnel No. 1. This tunnel will be 900 feet long when it is driven through to the Blacktail shaft. When that work is done, the whole of the great horn-silver bearing ledge or mass of trachyte rock which is forming Game Ridge Mountain, will be thoroughly opened. opened.

Proconta.—The Silver Cliff *Miner* says : The working-shaft of the Polonia mine, at Rosita, has attained a depth of 235 feet, and has levels at 70, 150, and 200 feet, aggregating 800 linear feet. Three hundred feet of the vein is exposed in the 150, and about the same in the 200 level, and although the pay-streak waves and varies in thickness at different places, it has never yet been lost, but ranges from 3 to 10 inches in thickness throughout all of the workings. The mineral is gray copper, and with a working force of 28 men produces about 30 tons per week. The richest ore ever extracted from the mine is that now surfacing from the 200-foot level. The cross-cut at that level is driving northward, has advanced 65 feet, and is near its junction with the north vein, which is to be opened and worked from the shaft now in use. VALLEY CITY.—The Silver Cliff *Gazette* says : The most important discovery made in the county for a year past was that on the Valley City Company'sclaim, the California, on the 19th inst. The general manager had ordered a cross-cut driven from station No. 1 in shaft, 72 feet down, for the purpose of exploring the ground, and his workmen penetrated a body of ore within 20 feet of the starting-point, the extent of which is unknown at this writing. <u>GILPIN COUNTY.</u>

GILPIN COUNTY.

The Register-Call of the 24th ult. has the following notes of the mines in its

The Register-Call of the 24th ult has the following notes of the mines in its vicinity : The lowa capitalists, who have been developing the Iowa lode, on the mountain back of the Wheeler mill, are coming into a very good pay-streak in the breast of their tunnel driven on the line of the lode. OAKLAND.—The Oakland Company has graded off a plat of ground over its main working-shaft on the Paola lode, and will commence the erection of a building over the mine. As developments are made on the Paola, the vein increases in width and richness. SILVER KING.—The agent of the Silver King Company has cut into a fine body of silver-bearing ore in the Alaska mine. This new find is in the last 250-foot level. Sinking the main shaft will be resumed to morrow, and continued until a depth of 460 feet is attained. ST. LOUIS.—Davis S. Green, superintendent of the St. Louis Mining and Milling Company, has a force of miners at work in the 300 and 500-foot levels of the Ralls County mine, on Quartz Hill. To-morrow, developing the vein by sinking will be resumed.

LAKE COUNTY.

LAKE COUNTY. CHRYSOLITE, —A decision was given in the district court at Leadville against the Searles patent to a placer claim taking in a portion of Fryer Hill, and in favor of the Chrysolite Mining Company. The patent covers a portion of the ground of the All Right and Kit Carson claims, belonging to the Chrysolite Com-pany. In regard to the decreased ore-product of this mine, the Leadville *Herald* of the 25th says: Mr. Rolker has been holding back the output from the Chrysolite, simply because he did not desire to exhaust his reserves until he knew what he had before him. In the mean time, he has pushed forward his development, and will now increase his output of ore. The developments show a resource in the mine of a vast amount of ore, and the increase of output now determined upon is justified by the appearance of the mine. — DENVER CITY.—The Leadville Democrat says that little is being done at this is now expected in a few weeks. The shaft, which is a trifle out of plumb, is being straightened for the cages, and guides will be placed in it. The walking-beam of the pump, which broke about a week ago, has been repaired, and the pumps are working nicely again. Considerable difficulty and delay has been en-rountered in the erection of buildings, on account of the storm which has been prevailing, but now, with the appearance of better weather, faster progress is made. There is guite a large dump of very fine-looking iron on the west side of the shaft-house, which the company has been unable to move heretofore, on ac-count of the deep snow and lack of facilities for handling ore after it is raised from the shaft. The higher grade of ore from the Deuver City consists of fine inv, making a desirable smelting ore, which the smelters will treat and pay all over eight ounces. No large shipments of mineral are expected from the mine before the expiration of six weeks or two months, when the new machinery will be in place. — Here Mathere is under the mine, the Leadville Deuver of a late

before the expiration of six weeks or two months, when the new machinery will be in place. HIBERNIA.—Concerning this mine, the Leadville Democrat of a late date says : The developments of the property consist of two shafts, which are being worked at the present time, also several others, which are now in use. The Hibernia shaft taps the main ore-body, is 150 feet deep, and is located on the northern end of the claim. The ore-body here seems to have made a dip, giving it great thickness, and just north of the shaft there is quite a large stope, forty feet in hight. The bulk of the mineral which is now being produced comes almost exclusively from this section of the claim. The territory stoped out in this vicinity, while quite extensive, still leaves considerable ground yet untouched both north and west, also toward the Lee line between the shaft and stope. The wedge-like strip of ground, running up between the Matchless and Lee mines, is now be west side of the stope, the Matchless miners are eugaged, and the two workings look like those of one mine to a visitor. The amount of mineral in sight is quite considerable and very rich, much of it showing a great deal of chloride of silver. From the foot of the Hibernia shaft, a drift extends in a southwesterly direction a distance of 240 feet. The Surprise shaft is located on the other side of Dry Stray Horse Gulch, 300 feet south of the Hibernia shaft, and has a depth of 150 feet. From this shaft a drift was run nearly south, a distance of S0 feet, were some fine-looking black iron, showing an abundance of chloride of silver, was encoun-tered. The drift was then continued 80 feet farther, and subsequently a cross-cut driven to the west about 40 feet. About 85 feet more are required to connect this drift with the one driven in a southwesterly direction from the Hibernia shaft. IowA GULCH.—The Leadville *Herald* says : In the Scooper mine, the property shaft

shaft. Iowa GULCH.—The Leadville *Herald* says : In the Scooper mine, the property of this company, the ore-body continues to improve in quantity and quality. Some of the richest chloride ore ever mined about Leadville is now being takeu out, and the large ore-house is piled full of ore of an excellent grade. The north-east drift, where the ore was first struck, is being carried forward two sets of timbers high. A winze has also been sunk for 15 feet in the iron below. The regular-sized drift pushed on ahead has reached a distance of 60 feet. The ore took a raise from this drift, but is now again showing down from the roof, and the face of the drift is now nearly all in ore. From the south drift, a cross-cut is

THE ENGINEERING AN being run to connect with the main drift, and the face is now in ore. This assures a large reserve of ore ahead. No effort has been made to stope out the ore in sight, but to carefully prospect ahead. There BOX.—The Leadville Democrat of the 28th contains a description of this mine, the substance of which we give below: The miner BOY, on Breece Hill, shows up much more favorably than it did best since been made with the Colorado Prince tunnel, and the mine can now be worked more expeditionally and economically, the ore being carried from the stopes directly to the mill without a second handling. The northern shaft on the claim has a depth of 270 feet. The vein which it opens is but a few degrees from the vertical, and at the surface is a little to the west of the shaft. At a depth of 225 feet, it is crossed by the shaft. The vein has very nearly a north and south course, running parallel with the side-lines of the location, and almost in the center of the claim, which comes very near the north slope of Breece Hill, and extends southward across the hill. From the shaft there are six drifts or levels at various depths, following the vein, the breasts of all showing fine ore. The first level is 98 feet from the sur-face, and driven in on the vein a distance of 120 feet. The second level is only about 20 feet below the first, and has been run on the vein 80 feet. The third level is at a depth of 155 feet, and shows fine ore its entire length—about 40 feet. The fourth drift of the shaft is on a level with the Colorado Frince tunnel. It is a depth of 200 feet, and has a total length of 75 feet, connecting with the tun-the west to the east side. The ore here is of a finer quality and higher grade than in the upper levels, and shows considerable free yold. At a depth of 245 feet, a drift has been run to the ext disclosing here in about seven feet from the shaft. The rich pay-streak shows in the breasts of all here drifts and levels in the mine, generally about two feet in width, although in or or f

The result of the lot of ore now being reduced at the mill is anxiously awaited, as a practical test of this nature only will give reliable figures of the true value of the ore. ROBERT E. LEE.—The Leadville *Democrat* says : The reduced ore-product of the Robert E. Lee mine, and the fact that the managers are shipping a large quantity of low-grade mineral from some old dumps, has recently caused some comment on the condition of the mine, and its present resources. Among those familiar with every detail of the affairs of the Robert E. Lee, there is nothing surprising in its present reduced product. The amount of territory opened pre-vious to January 1st was very small. None of the drifts were of great length, and nearly all showed ore in the breasts. During the last four months of 1880, the mine produced about one hundred tons of ore per day, from its limited devel-opment, through a single shaft, operated by buckets, and at the same time also hoisting water. During this time, it was, of course, impossible to prosecute development work, and the entire force was employed on the stopes. Now it has become necessary to resume development-work, and open new sections of the rich ore-deposit. The work being done in the Lee is frequently referred to as prospect-work. This, however, is a misnomer; for the drifts which are being run, and the new shaft in course of sinking, are not in search of mineral, but to open up the northern and eastern extension of the mineral body, and make it accessible to the miners by a series of levels and cross-cuts. The superinten-dent of the Lee reports that the mine looks exceedingly well, and nearly all the faces of the drifts now driving are in good ore. The mine is employing 100 men, a very small force, considering the nature of the work, but will nevertheless pay a ten thousand dollar dividend for January. The ore from the dump, which is now being shipped, is sold to the stamp-mills at nominal figures, as the dumps have proved an incumbrance. It is all very low grade, and much of it

SUMMIT COUNTY.

SUMMIT COUNTY. ROBINSON CONSOLIDATION.—The Leadville Herald of the 19th ult. says : George Daly, manager of the Robinson, came over to the city last night. He has been pushing improvements, and is now ready to turn out an unlimited amount of ore. A cross-cut is being run to connect the tunnel with the fifth and fourth levels, northwest from the main incline. Tracks now extend from the tunnel, one extending to the smelter, where the ore is dumped into bins numbered one, two, etc. Another track extends to the large ore-house built alongside the railroad track, where the bins are lettered A, B, etc. The ore-car is tagged before it leaves the mine for the particular bin it is designed for, and so no mistake can occur. One stack of the smelter is running constantly, and the other would be started up were there a sufficient supply of lead ores. At the railroad ore-house, 600 tons of first-class ore are piled up, besides large amounts in the mine and on the surface. With so great an accumulation, no effort is being made to break a large amount of ore at present. Negotiations are now pending with smelters at Kansas City, Pueblo, and other points for the sale of ore, the company not being satisfied with bids received here. The smelter at the mine has been using some low-grade bul-lion from Leadville to assist in fluxing. MONTANA

MONTANA.

From late dates of the *Butte Miner* we condense the following: ALICE.—The face of the 700-foot cross-cut has penetrated the ledge for a total distance of 68 feet—inclusive of the horse, which at that depth is 12 feet wide. The cross-cut has penetrated the north ledge for a distance of 20 feet, and is still passing through ore without any indication of a hanging-wall. The face of the cross-cut is 180 feet from the shaft. In the upper levels, there are no important developments to report.

cross-cut is 180 feet from the shaft. In the upper levels, there are no important developments to report. BELL.—The east drifts from the whim-shaft are forwarded on a wide vein of first and second-class ore, of which it is estimated there are between 12,000 and 15,000 tons in sight by those who have made measurements lately with a view of purchasing stock. The lower east drift is now 120 feet long, and the exceedingly high-grade ore-chute which dips east in the 60-foot level may be tapped at any moment.

moment. BONANZA CHIEF.—The shaft on this mine is down about 80 feet, and the ore-body is uniform, and free gold is shown at the deepest point reached. BOULDER.—It is reported that this property has been stocked in New York, and that on the opening of spring a new shaft will be started to develop the ledge on a large scale. Should the present indications as to the extent and richness of the ledge be verified by future exploration, a quartz mill will be erected at an early day, as it is now believed that below water-level the ore, though carrying gold, will be principally valuable for silver. This is in accordance with the theory advanced by Prelessor Clayton, and is furthermore the belief of the present owners of the property, who have had abundant opportunity to acquaint them-selves with the characteristics of the ledge. HECLA CONSOLIDATED.—It is rumored that this company has sold out its works and mines to the old Telegraph Company.

MOULTON.—The shaft has attained a depth of 118 feet. The blind ledge, the discovery of which was reported last week, and which appeared to be dipping from the shaft, has changed its course to an almost vertical direction, and is now nearly two feet wide, having increased nearly a foot during the past ten days. NEVADA.

nearly two feet wide, having increased nearly a foot during the past ten days. NEVADA CONSTOCK LODE. The Gold Hill Netes of the 26th ult says that there never was a time when there was so much waiting along the lode : Best & Belcher and Gould & Curry to get their pumps in, Savage to repair and connect, Hale & Norcross to rebuild Chollar and Potosi for relief from water, Exchequer and Alpha and Con. Imperial and Crow Point and Belcher for the Jacket to reach the Sutor Tuhnel and then start its pumps, New York to get its shaft in working order. Caledonia for a new opening on the 2276 level, Lady Washington and Benton Con. and Justice for Alta to sink and drift ; and there's scarce a mine on the lode but must do something which is delayed before going on with its full work of pros-peting. It may be that hope thus deferred is making the public heart sick : but that sichness is not unto death. In Sierra Nevad, the stopes from cross-cut No. 1, 900 feet north of the incline and on the 2300 level, are yielding ore and giving hope beyond expectation. Union is nearly ready to begin explorations from the shaft on the 2000 level, and to demonstrate how much it has there. The joint Mexican-Ophir winze is joineering below that level and opening a promising way for the 2740 level. The confidence of the management of the mines along this portion of the lode is not based upon any thing so unreliable as the damond thil, and it is not true that one has been run in this winze. Market 200 level, is increasing its depth at the rate of nearly three feet 100 level, 110 feet. The grown is getting to be a little harder. The most as one more the 2000 level, is increasing its depth at the rate of nearly three feet 100 level, is proven, is getting to be a little harder. The water advince be some start devine the offer feet per day. A cross-cut 100 revel as the rate of about three feet per day. The joint California cross-cut has been started east from the 2000 level, is marking usual progress in the califor the s

MEXICAN. YELLOW JACKET.—The drift north to connect with the Sutro Tunnel south lateral branch continues to make favorable progress through dry ground; tota length from the switch, 200 feet. The usual work at other places is continued.

PROPOSALS AND SALES.

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

Feb. 5, 1881.

- Furnishing Ten Thousand Feet of Rubber or Rubber and Cotton Hose, with the necessary Couplings, for the Use of the Fire Department; Fire Department; 367 Jay street, Brooklyn. For Repairing Pier 12 East River and the adjoining Bulkhead ; Board of Commissioners, Department of Do.ks, 117 and 119 Duane street, New York. For the Erection of the Superstructure of a New Almshouse in Mercer. Pa, : Parties can bid on our structure of a New Almshouse in Mercer. Areparing rier 12 East River and the adjoining Bulkhead; Board of Commissioners, Department of Do.ks, 117 and 119 Duane street, New York.
 For the Erection of the Superstructure of a New Almshouse in Mercer, Pa.; Parties can bid on any part of the work, or on the whole job, the bids then must be separate on each kind of work; Commissioners of Mercer Co., Mercer, Pa.
 Furnishing and Delivering 6000 Cubic Yards of Sand and 2000 Cubic Yards of Cobble-stone for Street Repairs; Commissioner of City Works, Room 15, Municipal Department Building, Brooklyn.
 Erecting a New County-House on the County Farm, in the City of Troy; M. F. Cummings, Architect, Times Building, Troy, N. Y.
 Erecting Frame Buildings necessary to form Two Ranges for Passing the Horseshoe Shoal, Delaware River; William F. Raynolds, Colonel Corps of Engineers, 532 Walnut street, Philadelphia, Pa.
 Furnishing and Laying or Setting Pipe-Valves and Hydrants at the Water-Works of the City of Springfield; Trustees of Water-Works, Bowman's Building, Springfield, O.
 Furnishing and delivering at the Jeffersonville Depot, the following articles: Army-Wagon Axles, Spring-Walves, Ambulance Axles, Dump-Carts, Sand-Boards, Bolsters, King-Bolts, Tongue-Bolts, Hounds, Linch-Pins, Coupling-Poles, Tongues and Wheels for Army Wagons, Ambulance Tongues, Riding-Bridles, Head-Halters, Cart-Harness, Riding-Saddles, Wagon Sadelse, Couplings and Army-Wagon Covers; James A. Ekin, Deputy Quartermaster-General U. S. Army, Jefferson-ville, Ind.
 Furnishing Materials and Labor necessary to the Construction and Final Completion of the Water-Works of the City of Springfiels and Army-Wagon Covers; 10. " 12, 66 14. 22. This and a set of the set of the

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Gold and Silver Stocks. NEW YORK, Friday Evening, Feb. 4.

There has been considerable activity and some excitement in mining stocks during the past week. We regret to say, however, that the operations in some of the stocks have done but little for the cause of legitimate mining. There are good indications of a greater interest being taken in mining matters. Amie has not been so active as it was, although there has been a very fair business ; the sales aggregate 70,425 shares at 51@45c. Argenta has been dealt in to the extent of 400 shares at 45@ 40c. Barbee & Walker records sales of 100 shares at \$4. Belle Isle has been very quiet and weak, with sales of but 150 shares at 65@50c. Bodie Consolidated has been very active, irregular, and a little weak, the sales aggregating 2805 shares at \$6.25@\$5.75. Breece has been quiet and steady, with sales of 700 shares at \$1.35@\$1.30. California has had a moderate business at declining prices ; the sales aggregate 6100 shares at \$1.40@\$1.10. Chrysolite has had a very business at strong prices; the fair sales \$5.63@\$6.88@ aggregate 14,840 shares at \$5.75. Climax has been quiet and steady, the sales amounting to 9200 shares at 53@47c. Consolidated Virginia has had an active business at very much lower prices, the sales aggregating 9755 shares at \$2.15@\$1.40. Copper Knob has had a moderate business, the sales amounting to 23,000 shares at 8@7c. Dunkin has been liberally dealt in at declining prices; the sales amount to 7000 shares at \$1.40@\$1.20. Eureka Consolidated, although quiet, has continued to show strength the sales amount to 215 shares at \$21.38@\$22. Findley has shown a little activity at steady prices, the sales amounting to 5400 shares at 25c. Gold Stripe, under sales of 550 shares, sold from \$2.50@ Grand Prize has been steady and quiet, \$2.60 the sales amounting to 600 shares at \$1.60@\$1.50. Great Eastern has been quite active and somewhat irregular; the sales amount to 29,100 shares at 19@24@21c. Green Mountain has had some inclination to weakness, although, upon the whole, fairly maintained ; the sales aggregate 1850 shares at \$5.50 2 \$6@\$5.88. Hibernia has been very active but weak, the sales amounting to 84,450 shares at \$1.40@96c. Horn-Silver has been quiet but improving ; the sales amount to 405 shares at \$12.75@\$13.50. Hukill has been quiet and steady, the sales aggregating 4350 shares at \$1.55@\$1.40. Independence has been quiet and steady, with sales of 1950 shares at 46@42c. Leadville Consolidated has been quiet and steady, with sales of 2875 shares at 57@50c. Little Chief has shown considerable activity and some strength; the sales aggregate 19,500 shares at \$1@\$1.30@\$1.15. Pittsburg has been the leading Little market, selling at feature in the \$2.70 on Saturday, \$5.75 yesterday, and down to \$4.90 to-day, the sales amounting to 43,864 shares. Moose has been very active and irregular ; the sales aggregate 25,300 shares at \$1.75@\$1.30@\$1.50. Moose Silver records sales of 1200 shares at \$1.95@ \$1.70. North Belle Isle has been quiet, with sales of 500 shares at 40@42c. Ophir records a very fair business at declining prices ; the sales aggregate 2725 shares at \$5.50@\$4.25. Plumas records sales of 200 shares at \$1.40. Rising Sun has had a moderate business at strong prices, the sales amounting to 6800 shares at \$2.85@\$3.10. Robinson Consolidated has been quiet, the sales amounting to but 150 shares at \$7.88@\$7.50. Stormont was for a time entirely neglected ; the sales, however, aggregate 4100 shares at \$2.75. Sierra Nevada has been very liberally dealt in at declining prices, the sales amounting to 2440 shares at \$6.75@\$5.13. Silver King records sales of 800 shares at \$14.50@\$14.25. Spring Valley has had a moderate business at declining prices, the sales aggregating 1110 shares at \$3.75@\$3. Standard has been quiet but strong, the sales amounting to 831 shares at \$223/@\$24. Calumet & Hecla makes its appearance in the dealings in this market; the sales aggregate 200 shares at \$2481/2@\$2473/4. Alta-Montana records sales of 1165 shares at \$1.85 @\$2. Alice was dealt in on Monday to the extent of 300 shares at \$7. American Flag has

been quiet and steady, the sales amounting 3300 shares at 23@25c. Bechtel Consolito

quiet, with sales of 100 shares at \$8. Bonanza Chief has been quite active and steady, the sales aggregating 27,700 shares at 33@30c. Bull-Domingo, under a moderate business, has been strong ; the sales amount to 2550 shares at \$3.45@\$3.75@\$3.60. Boulder Consolidated has been a little weak, with a business of 1700 shares at 60@55c. Boston Consolidated has been quite liberally dealt in at weakening prices ; the sales amount to 44,050 shares at \$1,10@82c. Buckeve, under a moderate business, has been steady ; the sales amount to 21,300 shares at 23@25c. Bulwer has been quite liberally dealt in at prices a little weak ; the sales amount to 3120 shares at \$2.35@ \$1.85@\$2.15. By-and-By records sales of 600 shares at 70@65c. Calaveras has been liberally dealt in at steady prices; the sales amount to 24,200 shares at 20 Caledonia (B. H.) has been quiet but strong @23c. with sales of 1200 shares at 60c.@\$1. Central Arizona has been irregular, but inclined to strengthen at the close ; the sales aggregate 3570 shares at $$4\frac{1}{4}$ @\$51/4@\$51/2. Cherokee has had a moderate business at declining prices; the sales aggregate 3510 shares at \$2.05@\$1.80. Consales solidated Imperial has been quiet but stronger, with sales of 3900 shares at 10@19c. Consolidated Pacific has had a moderate business at improving prices, the sales aggregating 4075 shares at 88@\$1.05. Crowell has been dealt in to the extent of 12,500 shares at 5c. Dahlonega has been very quiet, with sales of but 300 shares at 9@10c. Dunderberg records sales of 500 shares at \$1.35@\$1.40. Durango has had a moderate business at irregular prices; the sales amount to 6450 shares at 10@15c. Gold Placer has been quiet and steady, the sales amounting to 1400 shares at 45@44c. Goodshaw has had a moderate business at weak prices, the sales amounting to 10,000 shares at 75@ 55c. Glynn Dale has been dealt in to the extent of 200 shares at 7c. Granville has had a moderate business at steady prices, the sale a amounting to 8350 shares at 4@6c. Harshaw records sales of 200 shares at \$9.13. Lacrosse has been quiet and steady, the sales aggregating 4200 shares at 28@29c. Leviathan has been very quiet, the sales amounting to 600 shares at 1@6c. Lucerne has had a moderate business at steady prices, the sales aggregating 7400 shares at 11@13c. Mariposa Preferred has been dealt in to the extent of 500 shares at \$3@\$4, and Common, 1556 shares at \$2.10@\$3. May Belle has been quiet, the sales amounting to 700 shares at 20@24@21c. Mineral Creek has had a liberal business at irregular prices, the sales aggregating 15,900 shares at 35@45@38c. Miner Boy has been quite active and a little strong, the sales aggregating 20,700 shares at 75@90c. Mexican shows a moderate business at weak prices, the sales amounting to 750 shares at \$5.75@\$5.13. Navajo has been quiet but stronger, the sales amounting to 1500 shares at \$2.10@\$2.60. The sales of North Standard amount to 72,050 shares at 61@30@45c. Quicksilver Preferred has had a moderate business at improving prices; the sales amount to 1000 shares at \$55@\$57@\$56. Common has had a moderate business at steady prices. the sales amounting to 1450 shares at \$15@\$14. Rappahannock has been quiet and steady, with sales of 2600 shares at 15@14c. Red Elephant has been quiet and a little weak, with sales of 6300 shares at 40@35c. Silver Cliff has been quite active and the sales amounting to 11,750 shares strong, at \$3.75@\$4.80. Silver Nugget has been very active and steady, the sales aggregating 40,700 shares at 11@13c. South Bodie has been dealt in to the extent of 200 shares at 21c. South Bulwer has had a moderate business at 45@35@41c., with sales of 1300 shares. South Hite has been quiet and weak, with sales of 2300 shares at 45@40c. Sutro Tunnel has been quiet and weak, the sales amounting to 5030 shares at \$1.50@\$1.10. Tioga has been quiet and weak, with sales of 1300 shares at 75 @65c. Tuscarora has been quiet and a little weak, the sales amounting to 2100 shares at 44@39c. Unadilla has been dealt in to the extent of 20,100 shares at 14@16c. Union Consolidated has had a very liberal business at declining prices ; the sales aggregate 2410 shares at \$9.38@\$8.50. Vandewater has been quite active and weak, the sales amounting to 81,700 shares at 78@53c. Willshire records sales of 7795 shares at \$1.20@\$1.40@\$1.30.

The opening of the National Mining Stock Exchange

The Philadelphia Ledger says :

The Philadelphia Ledger says : The Philadelphia Stock Exchange has just made some very liberal concessions in favor of mining stocks, though we are not aware that it will materially advantage the public. The commissions have been reduced, and are now as follows: On stock selling under \$1, one cent per share ; selling at \$1 up to \$2, two cents per share : selling at \$2 up to \$5, three cents per share : selling at \$2 up to \$5, three cents per share : selling at \$2 up to \$2. The fee of \$250 for listing mining stocks has been abolished. They are about to organize a mining annex for trading in shares of mining companies ex-clusively, and will admit subscribers on payment of \$10 mout-side parties who desire to become subscribers to this min-ing branch.

Mr. L. V. Deforest, under date of February 4th, 3 P.M., reports the current quotations of unlisted stocks as follows :

Bid. O	ffer'd	Bid. Offer'	d
Barcelona\$1.60	\$1.70	North Hite \$0.7	5
Big Pittsburg. 1.60		O. K. & Winne 1.0	0
Breece 1.25	1.35	Patagonia \$0.50 .7	5
Bald Mountain68		Rico 1.2	5
Carbonate Hill25	.45	Rollins 1.5	0
Empire, Utah	2.00	Sacramento 2.0	0
Grand View	.70	Santa Cruz50 .7	5
HighlandChief	8.00	Sir Rodr'k Dhu15 .2	15
Hortense40		Stormont \$25% \$2	1/2
Julian 1.00		Stormont \$25% \$2 Spring Valley 3.7	5
Mack Morris	4.00	Silver Nugget11 .1	
May Flower25	.35	Trinity 1.0	0
Mohawk	.30	Van de Water., .54 .5	1.6
Native Silver	.55	Legal Tender 2.7	15
New Philadel.	.50	-	

The stockholders of the Huntingdon & Broad Top Mountain Railroad Company held their annual meeting on the 2d inst., Thomas T. Neilson, President, in the chair. The annual report was read, and showed that the receipts of the road were \$312.421.10, and the colliery and coal receipts were \$812.35, making a total of \$313,312.45. The road expenses were \$100,-928.14, making the net \$152,384.31. An election for officers was held, and resulted in the election of Andrews Knight, President ; Rothmell Wilson, B. John Devereux, I. V. Williamson, James Long, James Whittaker, Joseph H. Trotter, D. J. Morrell, William F. Jenks, C. W. Wharton, Samuel Field, Thomas P. Patton, and Jacob Naylor, Directors.

OFFICIAL LETTERS.

Barcelona .- The annual meeting of this company was held on the 2d inst. The following gentlemen were elected trustees for the ensuing year : J. H. Flagler, A. A. Dame, A. J. Severance, W. F. Leon, Elisha Riggs, Milton S. Latham, and S. J. Burrell. A report was submitted by the treasurer, showing the disbursements for the year to have been about \$29,-000. The company has an indebtedness of about \$8000, and there are now 29,000 shares of stock in the treasury. A meeting of the trustees was held yesterday, at which the following officers were elected : J. H. Flagler, President ; A. J. Severance, Vice-President; A. A. Dame, Treasurer; and E. D. Barnes, Secretary.

Boston Consolidated.-It is stated that the vein in the upraise No. 2 on the 200 level of this mine is four feet wide. Assays average \$42 per ton. Car samples from the stopes on the 300 level, 31 feet north, assay \$35 per ton. Vein, 3 feet wide. The shaft is sinking for the 400 level.

Bonanza Chief .- A dispatch from this mine reports the discovery of an ore-body on the foot-wall 14 feet wide, and another on the hanging-wall 16 feet wide.

Bull-Domingo.-It is officially stated that stoping as begun in the north drift of the 250 level of the Bull-Domingo, and that the ore taken out is cleaner and of a higher grade than has been exposed in any other opening. The south stope around the winze is looking well. A drift is running south in ore next to the foot-wall. The president and secretary of the company report that improvements have been made amounting to \$300,000, which has been made from the production of the mine, except \$75,000. After the payment of this sum, no further funds will be required, and a distribution of earnings among stockholders will follow.

Bodie Consolidated.-The superintendent of this dated has been dealt in to the extent of in Philadelphia during this week was quite an event mine, in his report for the week ending January 22d, 2200 shares at 80@75c. Best & Belcher has been in mining and financial circles. The officers of this says : You will note, from the mill report for the

Feb. 5, 1881.]

THE ENGINEERING AND MINING JOURNAL.



GENERAL MINING STOCKS.

Dividend-Paying Mines.

			SHARE	s.	Ase	ESSMENT	rs.	1	DI	VIDEND	8.		Higi	HEST A	ND L	OWES	r PRIC	ES PE MAI	R SH	ARE AT	r whic	H SA	LES W	ERE	
NAME AND LOCATION OF COMPANY.	Feet on Vein.	Capital Stock.	No.	Par	Total levied to	Date	and nt per		Total	Last I)ivide	nd.	Jai	n. 29.	Ja	n. 31.	Fe	b. 1.	Fe	b. 2.	Feb	. 9.	Feb	. 4.	SALES.
Amin Con a T		5,000,000	500,000	Val	date.	share	of last.		date. 305,000			10	H. 49	- L. 47	H.	- L.	H. 50	L. 46	H. 50	L. 46	H. 51	L. 45	H. 48	L. 45	70,425
Amie Con. s. L Col. Argenta, s	1,500	10,000,000 1,000,000 10,000,000	100,000 100,000 100,000	100 10 100	110,000	Nov. 1		10	40,000 60,000 25,000	Feb. 1 Nov. 1	880 880 880	20 10 25	45 4.00	*****			. 40								400 100
Bassick, G. S Col. Belle Isle, S Nev. Belcher, G. S Nev.	1,040	10,000,000 10,400,000	100,000 104,000	100	30,000 2,198,000	Feb. 1 Nov. 1	880 880	30 75 1	300,000 5,397,200	Dec. 1 Apr. 1	879	25 75	65				•• •••		*****				60	50	150
Robtail, GCol. Bodie Cons., GCol. BreeceCol.	2,500	10,000,000 5,000,000	227,326 100,000 200,000	25	75,000	May. 1	879 1		$\substack{125,030\\1,200,000\\2,000}$	Mar. 1 Feb., 1	1879 1880 1880	15 25	6.00 1.35	5.8 1.3	0						1.30		$5.88 \\ 1.30$		2,805 700
California, G. S Nev. Calumet & Hecla, C Mch Caribou Con., G Col.	600	54,000,000 2,500,000 1,000,000	540,000 100,000 100,000	25	200,000	******		1	1,320,000 8,850,000 50,000	Feb. 1 Mar	1879 1880 1880	5 00 10	1.25		. 1.4		. 1.3	1.25	218%		24734	1.20		1.00	. 200
Chrysolite, s. L Col. Climax, s. L Col. Cons. Virginia, G. S Nev.		10,000,000 2,000,000 54,000,000	200,000 200,000 540,000	10	* 411,200	June 1	873 3		1,100,000 180,000 2,930,300 15,000	A118.1	1880 1880 1880	50 30 50	5.88 53 2.13	5.7 50 2.0	53	0 5. 51 5 2.	52	0 5.75	52	5.88 51 1.90	52	50	6.50 50 1.55	5.75 47 1.40	14,840 9,200 9,755
Copper Knob	600	500,000	500,000 100,000 200,000	100	* 2,523,370			50 1	15,000 1,588 000 +1:0,000	Jan.	1875	$ \begin{array}{r} 02 \\ 2 00 \\ 25 \end{array} $.08	.07	.01				.08	.07	.08	• • • • • • •	.08	.07	23,000
Dunkin		5,000,000 5,000,000	200,000 50,000 100,000	25 100	100,000				120,212 4,530,000 850,000	Jan.	1881	7%	$1.40 \\ 21.38$. 1.:	35 1. 12	30 1.3 213	0 §	22	1.20		1.20	1.30 22	1.20	7,000 215
Father de Smet, G Dak Findley, G Geo.			100,000 200,000 200,000	100				•••	249,000 3,000	July	1880 1879	30							25		25		25		5,400
Gould Stripe Col. Gould Stripe Cal. Gould &Curry, G. S Nev.	612	1,500,000	150,000	100 100	3,206,000	Aug.	880	50	45,000 3,826,800	Dec Oct.	1880 1870	15 10 00					2.5	0					2.60		550 600
Grand Prize, s Nev. Great Eastern, G Dak Green Mountain, G Cal.	4,350	300,000 1.250,000	100,000 300,000 125,000	10 10	*	Dec., 1			450,000 16,000 118,750 1,598,000	July. Jan.	1880	0 25 01 05 5 00	6.00	19	22	80 1. 21 00	22	20 0 5.50	24 6.0	22	22	21	22	21	29,100 1,850
Hale & Norcross, G. S . Nev. Hibernia		11,200,000 7,500,000 10,000,000	112,000 300,000 100,000	25	200,000	Apr.		75 00	60,000 870,000	Jan . Jan	1881 1881	10 30	1.40	1.9	25 1.	35 1.	25 1.3			1.20	1.35	** **	1.25	96	84,450
Horn-Silver, S. L Uth. Hukill, G. S Col. Independence, S Nev	3,288 1,500	10,000,000	400,000 200,000 100,000	0 5 100	*	 Apr	1880 0	25	210,000	Jan Dec Sept.	1878	25 10 25			. 13. . 1. . 4!		40 1.4	8 12.78 5 1.40	1.5	1.40	13.50 1.45 45		1.45 45	1.40 42	4,350 1,950
La Plata, s		250,000 2,000,000 2,000,000			* (150,000	Jan.	1880	7%	50						57	51	53	50			2,875
Leeds, S Uth	1.500	5,000,000	50,00 200.00	0 100		Nov. Apr	1880	15 10	162,500	Dec. Aug.	1876 1880	15 50 50	1.10			15 1			1.2	i 1.10			1.20	1.15	
Little Chief, S. L Col. Little Pittsburg, S. L Martin White, S Nev Moose, S Col.	30 acres 22,900 39,000	10,000,000	100,00	0 100	825,000	Dec		23	1,850,000 90,000 550,000) Mar) July.) Mar.	1879	50 50 25			70 4. 85 1.		25 4.8 50 1.5	8 3.70 5 1.30	1.5	1.4	1.65	1.50	40	4.90	100 25,300
Do. new stock Colo Napa Cons., Q Cal. N. Y. & Colorado, G Col.		10 000 000		ó 10						Nov. July.		·····10							1.9	5	. 1.90	1.85	1.80	1.70	1,200
Northern Belle, s Nev North Belle Isle Nev Ontario, s	1,50	5,000,000 10,000,000	50,00	0 10 0 10	0 25,00	Feb.		15	1,725,000 15,000 3,150,000	Sept.	1880	5(18 5(a			40				40		42		590
Ophir, G. s	67 1,600 acs	$ \begin{array}{c} 5 10.080,000 \\ 1,500,000 \\ 1.000,000 \end{array} $	100,80 150,00	$\begin{array}{c c} 0 & 10 \\ 0 & 1 \end{array}$	0 2,991,80 0 * 715.00	11			1,603,20 173,30 151.00) Sept. July	1880 1880 1879	1 00	5		*** **	50 5	.38 5.0			0 5.1 0			5.13	4.25	2,725
Raymond & Ely, G. S. Nev Rising Sun. Cal Robinson Cons. Col	5,00	0 12,000,000 750,000 10,000,000	$\begin{array}{c c}120,00\\150,00\end{array}$	0 10	0 955,00	Aug.			3,075,00	0 Sept. Nov. 0 Sept.	1873 1880	3 00 11 50	2.9	5 2	85 3	.00 2		15 3.0 88	0 3.1		5 3.0			3.65	6,800
Stormont, s			200,00 150,00				1901		60,00 135,00	0 Jan 0 Nov. 0 Jan.	1881 1880	10				.38			2.7	· ····	2.7	5	2.7	5.13	4,100 2,440
Silver King, s Ari Spring Valley Cal	z 1,50	0 10,000,00		0 10 10	1 *				525,00 50,00	0 Jan 0 Jan.	1881 1881	2227	5	31/4 2	3	.2 . .00 314	14.	50 10 3.0	5 3.7	5 3.2	5 3.2	3.0	j	234	. 1,110
Tombstone, s Cal Yellow Jacket, G. s Ner	Z	12,500,00 0 12,000,00	0 500,00	00 2		0 July 0 Oct		1 00	550,00	0 Feb.	1881	1	0					•••		* ****		6			
									dend-P																
Alta. Nev. Alta-Montana. Mon Alice. Mon			108,000 500,000		1,263,00										1.90	1.85	*****					2	00 1	.85	1,165 300
Am. Flag, GCoi Auburn & Rock Creek. Battle Creek.	5,300	5,000,000	125,000 500,000 200,000	10 25	:				• • • • • • • • • • • • • • • • • • • •			· · · · · · · · · · · · · · · · · · ·			240		24C				25c 2	4c	40		3,300
Bechtel Con., G Cal. Belvidere, G Cal. Best & Belcher, G. S Cal.	1,500	10,000,000 6,000,000 10,080,000	100,000 60,000 100,800	100 100	147,00 992,99	0 Dec.	1880	0 18 0 50					. 8.0	e 75e			80c		80c	70C					2,200
Bonanza Chief Mon Buil-Domingo		10,000,000 1,000,000 10,000,000	1.000.000	1									. 33 3.7	5 3.60	31c 3.50		3.50	30c 3.45		30c	31c .	3	le 3		27,700 2,550
Boston Con, G Colo Boston Con, G Cal. Buckeye.		10.000.000		100	*****								60 1 1 24	e 55e 0 1.00 e	1.00	94c	55e 1.00 23e		10 24c		98c 8 24c			32e 33e	1,700 44,050 21,300
Bulwer, G	9431	10,000,000 10,000,000 10,000,000	100,000	100	30,00	0 Dec.			3				23	5 2.00 e 65e	2.15	2.10	2.00	1.85	2.20	2.05	2.10 2	00 2	15 2.	10	3,120
Calaveras, d Cal.	. 2,600 acri	500,000	500,000	1	975.00		1880	0.50				••• ••	- 80	c 20c	21c	600			21e				noe i	22e	24,200 1,200
Caledonia. Cal., B. H., G. Dak Central Arizona, s Ariz Cherokee, G. Cal. Columbia Con., G. S. Nev Cosette		12,000,000	100.000 150,000 100,000	100					1		1.000	1.1	12.0	5.00 1.85	1.90		498 1.85	41/4	5¼ 1.80	4%	47/8		85 1.	134 .80	3,570 3,510
Cons. Imperial, 6. S Nev Con. Pacific, 6.	468	100,000 50,000,000 6,000,000	10.000	100	1,275,00	9 July	1880	0 10				••••	10	e 90e			95c				18e 1 95e .	7e 1	1.10.	8e	3,9°0 4,075
Crowell		500,000 250,000	500,000	1 1	:									e			10e				5c		5c		12,500 300 500
Girard Ariz		500,000	500,000	1	*		*****		*******		*****	*** **	. 154	140	15c	16e	15c		12e		14c	1	4e		6,450 1,400
Glynn Dale Con. G Cal. Granville, G.	1 021 000	10,000,000	100,000	0 100 100	130.00 50,00	0 Oct 0 July.	1880 1880	0 25 0 25					75		71c	70c	70e 6e		64e	32c (14c 5	5c e		0c	10,000 2 0 8,350
Iron Silver Colo		10,000,000 10,000,000 10,500,000	100,000	100 20	9 900 K		1990	0.50								•••••			.13			3,	20 3.		200 2(00
Kossuth	2.700	10,800,000 1,000,000 10,000,000	108,000 100,000 100,000	100	421,20	Aug.	1877	0 15							250		2c				28c	. 2	9e		4,200
Malac'ite	4,200	5,000,000	500,000	10	323,00		1000			••••			130	11e	12c						12e				7,400
May Belle, G Cal. Mayflower	peres. 1,500	10,000,000	100.000	1 100	1,425,00	0 Dec.	1880 1880	ö 10		***			2.60	2.10	2.75 24e	2.35 21c	2.75		.50	. 3	.00 2. 21c	50 3.			1,556 700
Miner Boy Cold		2,000,000	200,000	10	*					4 4.4.4.			400	38c	40c 76c	35e 75e		78c	79c 7	7e 8	0e 78	ie 9	Ce 8	8e 5e	15.9(0 20,700
McClinton, a	600	6.000,000 10,080,000 5,000,000 10,000,000	60,000 100,800 50,000	100	103,00 1,437,80 275,00	00 Sept. 00 Dec.	1880 1880	1 00 50	•••••							2.10			.75		.13				750
Navajo North Standard, g Cal. Overman, g. s Quicksilver preferred. Cal.		3,840,000	38,400	100	3,538,68	Dec.	1880	0 50				** ***	. 010	57e			000	40e		NC 4		C 4.	5e 4	2c	72,050
Rappahannock, g. Va.	345 acres		250,000	100											55 15e	 14e	14ci	14	15 14c	1	5e				1,000 1,450 2,600
Red Elephant Colo Silver Cliff, s Col. Silver Nugget Ariz South Bodie, G Cal.		5,000,000	500,000 200,000 200,000 100,000	50	*		••••						400	89c 4 10 11c	38e 4 45 13e	4.25 12c	4.55 13e	4.05 4 12c	13c 1	.75 4 2c 1	30e 75 4.0 13e 19	35 4. 2c 1	3c 1	70 2e	6,300 11,750 40,700 200
South Hite G. M. Co Cal.	1.00.1	2,500,000	100,000 100,000	100		0 Nov. 0 Dec.				*** ****				'95c	 				44e .	. 4	2c 4	ie 4	 ie		1,300
Sutro Tunnel Nev Tip-Top Ariz Tioga Cal. Tuscarora, s Nev	1,500	10,000,000	2,000,000	10 100 100											710	70c	1.50		.25 75c	1.	.25 1.	13 1.	13 1. 6c		5,030 1,300
Unadilla Colo Union Cons. G. S Nev.	80	10,000,000	100,000	100 1 100	80,00 * 960,00	0 Oct	1880 1880	0 15	********				440 150 9 38	40c	400		÷ 1		4 c 3 16c 1	9c 5c 1	15e	1 1 1 1 1 1 1 1 1 1 1 1 1 3 1 8.1	Be 1	5e	2,100 20,100 2,410
VandewaterNev Willshire		2,000,000	200,000	10	:								1.30	65c 1.25	78e 1.30	87c 1.25	700	65e	66e (.30 1	3c (.20 1	54c 5 .40 1.	Be 5 30 1:	7e 5 35 1.	3e 30	81,700 7,795
														····							• • •		.1.	**	

a Gold. Silver. s. 1, Lead. C. Copper. *Non-Assessable. † The Deadwood mine paid in dividends, previous to the consolidation, \$375,000. Total shares sold during the week, 882,706.

week, the marked improvement in the average quality of the ore milled. In the stope just started from about half-way up the winze between the fourth and fifth levels north, the vein is narrow, but very rich in gold. The stope gangway south from the bottom of the north winze, sixth level, is also in ore showing free gold, and we hope to make as good a shipment next week as for the week just ended.

Caledonia .- The superintendent writes, under date of January 22d, as follows :

During the week ended to-day, we have delivered at mill 834 tons of ore. Work in the mine has been confined to stoping ore and clearing off surface for an open cut. We have been able to run 30 stamps at the mill since the night of January 15th, and hope to start the remainder in a few days. We have employed during the week 66 men at the mine and 13 men at the mill.

Canada Consolidated .- Mr. Ernest Gaujot, the superintendent of the Canada Consolidated Gold Mining Co., was in the city this week, and reported that a hoisting-engine, boiler, and pump had been purchased and were being put in position at the deep shaft, and that a 20 horse-power engine was being put in position at the Tuttle shaft. The carpenters are at work framing the shaft-house for the deep shaft, and the shaft is being properly timbered. The company will get in before the snow is off the ground from 1500 to 2000 cords of wood. Contracts have been made for fourteen rock drills and two air-compressors, which will be shipped within three weeks. Estimates are being secured as fast as possible for the mill machinery. It is proposed to extend the line of the Montreal Telegraph Company from Marmora to the office of the company at the mines; and the setting of poles has already begun.

Chrysolite .-- Dispatches from C. M. Rolker, the general manager of this mine, under various dates state CHRYSOLITE, Jan. 27.—Shipped 10 tons. Remit \$15,000. ury in All Right case gave verdict for us. CHRYSOLITE, Feb. 2.—Shipped 10 tons. East drift B, 33, struck new ore

Caribou .- This mine has attained a depth of nearly 850 feet, and is producing 20 tons of ore per day in addition to the dead-work, opening up new ground, etc.

Dunkin .-- The manager of this mine telegraphs uuder date of January 31st : Shipments for January, over 560 tons. Mine looking well.

Father de Smet.-This mine crushed last year 90,754 tons of ore, returning an average of \$7.171/2 per ton, and bullion valued at \$600,011. The total expenses of mine and mill for the year were \$313,108, giving a profit of \$286,893. This, less office expenses, leaves about \$200,000 net profit. The report that the property has been bought by the Homestake Company is nied, although it is admitted that Mr. Haggin, of the Homestake Company, has purchased Mr. Archie Bor. land's interest in the De Smet.

Little Chief .- The general manager, under date of January 29th, writes :

January 29th, writes : No ore settlements during the week. Shipped 172 tons. Grade of January shipments not equal to December, but all good pay. While some of our producing streaks have entirely disappeared, I can safely say that I have never felt more encouraged over the general outlook than I do at present. Since writing you 18th instant, we have discov-ered a seam of pay sand and hard carbonates in northwest corner of block 3-29, varying from 8 inches to 4 fee in thickness. I ssituation, 6 feet above the level of the former workings, on iron under porphyry, gives legitimate ground for a hope of continuity. Morning Star. - A dispetch states that the

Morning Star .- A dispatch states that this company is making very encouraging developments to the southwest from the main shaft to the upraise, and shows 40 feet of solid ore, with ore still in the roof. A test of crystallized lead just struck returns 242 ounces silver and 71 per cent lead.

Plata Verde .- It is said that this company is work ing night and day shifts in its mine, and is running a tunnel from the side of the hill to intersect the main working-shaft 65 feet below the surface opening. The ore is being extracted from a vein 27 feet in width, and contains more horn-silver and chlorides than the ore taken from the old tunnel, on the test value of which the mine was purchased. The mill is working smoothly, and running through filty tons of ore per day.

Standard.-The superintendent reports, under date of January 24th, that the east cross-cut, 1000 level, is The total length of the east cross-cut from in 56 feet. the north drift, 700 level, is 177 feet, with the face in hard blasting ground. The south drift from east cross-cut is in 96 feet, with vein in face 4 feet wide. North drift No. 2, 385 level, is in 289 feet, showing the ledge 5 feet wide. The total length of the north drift from north upraise is 214 feet ; ledge, 9 feet wide. The total length of West Standard upraise, 450 level, 1s 102 feet, show-

ing the ledge 4 feet wide. The stopes are all looking well. On the 385 level, the ledge in the north stopes is from 10 to 18 feet wide, and in the south end it is about 8 feet wide. On the 500 level, the stopes show the ledge 15 feet wide. In the 550-foot (incline) stopes, the ledge is from 10 to 12 feet wide. Work or engine foundation is nearly finished.

South Hite .- The president of this company has issued the following circular to the stockholders :

issued the following circular to the stockholders: You are hereby notified that, in pursuance of the resolu-tion adopted at your meeting in Hartford, Conn., on De-cember 7th, 1880, all of the property of this company has been sold out to the South Hite Gold Mining Company, a corporation organized under the laws of the State of Cali-fornia, with a capital stock of \$500,000, divided into 100,-000 shares of \$5 each. This latter company has opened a transfer-office at No. 35 Broadway, New York, Rooms 44 and 45, under the supervision of Mr. J. G. Riley, who will receive the stock of "The South Hite Gold Mining Company," of Connecti-cut, in exchange for the stock of the "South Hite Gold Mining Company," of California, share for share. *Harshow.*-This mine. on January 1st. 1880. had

Harshaw .- This mine, on January 1st, 1880, had about 350 feet of work; during the year, the workings have been increased to a fraction over 8000 feet. The deepest shaft is down over 400 feet, 100 feet below the tunnel level. The shaft is an incline, running in the ore from the croppings down. Silver King .- The superintendent telegraphs, under date of 1st inst., as follows :

SILVER KING (COLO.), Jan. 30.—Silver King lower drift in 25 feet. Forty tons high-grade ore ready to sack. B level is gradually running into rich mineral. Full report to-morrow mail.

Tropic.-This company's shaft is 258 feet deep, or 98 feet below the third level, and is said to show 18 inches of ore in the bottom. Fifty men are employed. The ore from this mine is being sent to the Boston & Colorado smelting works, at Argo, two car-loads of ore every week, and there is no diminution in the output of the mine. The ore in the east levels, as they are driven, increases in width, demonstrating the fact that lower levels to be inaugurated will prove equally as productive.

Willshire .- The superintendent of the Willshire Hydraulic Gold Mining Company writes, January 18th : We will be working both grants by the first of the week (January 24th), by which time we will be working night and day. We have had the best run to-day with the No. 3 grant that has happened since I have been here. The superintendent, in a letter a few days earlier, states that the water supply is abundant, owing to heavy rains, and that the bank of gravel is looking excellent.

REVIEW OF THE SAN FRANCISCO MARKET.

If any thing, the San Francisco stock market is ower ; the quotations of the favorites all showing a decline from the prices ruling a week ago

Union Consolidated, for example, closed yesterday at \$81% from \$9, as quoted in our last. A dispatch, dated the 2d inst., says that the drill on the 2600 level of Union Consolidated has finished hole No. 7, and run No. 8 175 feet in good quartz. There is a great deal of water. A piece of quartz washed out of hole No. 7 assayed \$86.

The old bonanzas, California and Consolidated Virginia, closed yesterday at \$1 and \$1% respectively, as against \$1¼ and \$2% a week ago. A dispatch from Virginia City, Nev., dated the 1st inst., says that 80 miners have been discharged from the bonanza mines, which, of course, means a material reduc-tion in the ore output. It is also stated that there is little likelihood of replacing them, as, with small exceptions, the ore-bodies have been worked as long as ore-extraction would pay for mining and milling. Some men are still at work in the stopes.

The Evening Post says of this :

The Evening Post says of this : This may be regarded as additional evidence of the aban-domment of the Comstock mines at no remote period, as has been foreshadowed in these columns for some months past. The intense and uncontrollable heat in the lower levels, the great floods of water, and the cost of extraction and reduction of the ores coming from the best mines, must sooner or later cause the entire stoppage of the works. The only hope for the Comstock now is in the de-velopment of rich ore in unexplored ground on the upper levels. These facts were appreciated by some of the best-informed miners engaged on the lode two years ago, and no doubt induced Sutro to sell out his tunnel, Mackey to ointo politics.

Silver King is the marked exception to the general tendency of the list; it closed yesterday at \$17 per share, the highest price that has been recorded for this stock for a long time past, and an advance from \$13% as reported on the 26th ult. This improvement, it is stated, is based on new developments in the mine.

A telegram in Monday's Tribune says :

C. F. McDermott and George W. Grayson, mining capi-

BAN FRANCISCO MINING STOCK QUOTATIONS Daily Range of Prices for the Week.

Daily Range of Prices for the Week.													
NAME		C	LOSING	QUOTA	TIONS.		Open-						
OF COMPANY	Jan. 28,	Jan. 29.	Jan. 31.	Feb. 1.	Feb. 2.	Feb. 3.	ing. Feb. 4.						
Alpha	····	3 1	3 1	15-16	3 13-16	2% 27-32							
Argenta Bechtel Belcher Beile Isle	13-16 1	13-16 15-16	11-1ð 1	21-32 29-32	11-16 15-16	27-32	••••						
Belvidere Best & Bel. BlackHawk	77/8	9-16 7½	71/2	71/4	65%	61/4							
Bodie Boston Con.	6	1%		6 29-32	53/4	53/4							
Bullion Bulwer Caledonia	1%	2	17/8 17/8	134 214	15%	1%							
California Cal., B. H	13%	13%	11/4	11/4	11/4	1							
Chollar	13/4	13/4	134	13/4		15%							
Con. 1mp Con. Pacific. Con. Va Crown P'int	2 1¼	2 11/8	2 11/8	11/8 2 11/8	11/8 13/4 11/8	1 1% 1							
Dudley Eureka Con Exchequer.	$21\frac{1}{4}$ $1\frac{1}{4}$ 19-32		211/2 11/2	22 11/4	11/8	$22 \\ 11/4 \\ 19-3?$							
Goodshaw Gould &Cur Grand Prize	31/4	21-32 31/8 13/8	19-32 3 13%	9-16 27/8 11/2	21/2	19-32 25% 11/2							
Hale & Nor. Hillside Indep'd'nce Jackson	31/2	31/2	31/2	3	••••	2%							
Julia Con													
Justice Kentuck Lady Wash			· •• ••	••••			••••						
Leeds Leopard Leviathan.													
Manmoth . Manhattan.	5-16 1½	5-16	11-32 1½	5-16	5-16								
May Belle . Mar. White. McClinton.		1/2	1/2			1/2							
Mexican Mono Navajo	534	57/8 1½	57/8 13/4	5½ 1½	5 1½	534 13%							
North. Belle N. Bonanza	11			111/4	111/4	111/2							
N. Standard Noonday Ophir Orig. K'ys'e	51/4	13/4 51/4	13/4 53/8	1%	21/8 5	21/4 5							
Oro Overman Potosi	19-32 2	19-32 9-16 2	21-32	9-16 17/8	19-32	9-16 2							
Ray. & Ely. R. de Monte				15-16		29-32							
Savage Scorpion Seg.Belcher	1	1	11/8	1	13 16								
Silver Hill Silver King	63%		61%	51/2	51/8 16%	514							
So. Bulwer. Summit S. Noonday		11-32	11-32	11-32	13-32	11-32							
S. Noonday Syndicate . Tioga Tip Top		**** **		179									
Tip Top Trojan Tuscalera.		7-16	7-16	7-16	7-16	7-16							
Union Con. Utah	91/4		91/4										
Wales. Yel. Jacket	21/2	2	17/8	15/	15%	134							

talists, have just returned from the mining districts of Lower Arizona. They assert, after a thorough inspection, that there is sufficient ore in sight in the Contention, Tongh Nut, Grand Central, Bradshaw, Head Center, and other leading mines of Tombstone District to war-rant an annual production of \$20,000,000 for the next two years, provided sufficient milling facilities are afforded. New districts are being formed daily, especially in the Chiricahua Mountains, notable among which are the California and Emigrand districts. They found California had secured little foothold in that sec-tion, most of the best properties being wined by Eastern capitalists. The market here for the past week closed exceedingly dull. Many of the leading brokers have given up their expensive offices and are curtailing expenses in other directions.

The San Francisco Alta has the following :

The San Francisco Alla has the following : As Arizona is now leading in the mineral developments of the coast, our stock people are trying to get control of some of these properties. It is rather a late hour for our people to turn their attention to these mines now, when it is considered the advantages Eastern capital has already gained over them—priority of investment. And here we would say to those who look lightly upon these Eastern investors and their manner of mining, that no people's actions should be lightly overlooked by us, when it is con-sidered that their stock speculations bear the same rela-tions toward ours as the giant does to the pigmy.

Copper and Silver Stocks.

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

Stock Exchanges. Boston Jiming and Stock Exchanges. The market for copper stock the past week does not show a great degree of activity, but prices generally have been well sustained, and there is no pressure to sell stocks; on the contrary, we note good buyers who are taking the lots offering at fair prices and holding them for higher rates later on in the season. The market for ingot copper is firm at about 19½c, for large lots, and for small lots 19¾(@) 20c. are about the quotations. The continued cold weather will be likely to retard the opening of navigation until late in the season. Meantime, with no overland shipments, we are inclined to the opinion that much higher prices will be obtained, and the market for the producing mines must

FEB. 5, 1881.]

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PHI The subjoined t		LA MININ ws the o			lowest.		1	1		1		00		ST	-			toeke	are be	used on	the c	mivel	antot	1
nd final sales of ining Exchange	all the n	nining sta	ocks at t	he Phila	delphia			SHA	RES.				Quota \$1	ations 100. P	or Ne	elphia	rk st	Ces ar	are ba	ed so m	uch pe	r share	at or	
Stocks.	Open-	High-est.	Low- est.	Final.	Sales Shares.	NAME OF COMPANY.	Capital Stock.	No	Val	>	Last	e per	Jan.	29.	Jan.	31.	Feb	. 1.	Feb.	2. 1	'eb. 3.	Feb	. 4.	SAL
mie	ing.								Par	Lar	vidend.	Rate	H.	L	н.	L	н.	L.	H.	L. I	I. L.	H.	L.	
rgenta odie				\$0.55			8				0. Y. R'													-
uena echtel elle Isle	.20	.25	.20	.25	21,400	Am. Coal Co. Col. C. & I Ches. & C. RR	10,000,00	0 100,	000 2 000 1 000 10	10			4734	431/2	18%	4434 24	47¼ 24	45	47% 24%	46 4 237/8 2 41	8 45 334 23	6 51% 25%	401/8 231/4	
odie Chief				••••		Consol. Coal. Cumb. C. & I.	10,250.00	0 102,	500 10 000 10 000 10	(ii)] a)	n 77 2	12												
alifornia						Del. & H. U.	26 %00,00	0 200, 0 524, 0	000 10	oo Au 50 Jai	g 76 4 1. 81 1	12 B	107	12834 1	24 1	211/1	2234	121	12358	104% 10 120% 12	1% 120	4 107%	12214	44
hrysolite						Elk Lick C Co Lehigh C.& N Leh. V y R. R	10,448,55	0 540.	971 858	50 Sej	pt 76 1	16 51/	42%	4214 5912	1236 59% 27	41% 59%	42 59½	41%	4234 59%	42 4 59¼ 5	2 41	4		1
on. Pacific on. Imperial						Maryı'd Coal Montauk C'l.	4,400,00 2,500.00	0 44, 0 25,	000 10	00 Ja:	n. 76 1		28					*****	101	1213/ 12				:
on. Virginia						Morris & Es'x New Cen. C'l N. J. C. KR.	5,000,00	0 50.	000 8	00 De	ly 79 3 c. 80 2 or 76 2		2914	29 927/8	29%	1	281/8 923/4		93%	2	256 90	93	9236	
ahlonega auntless		.08	.06	.08		N.Y.& S.Coal Penn. Coal	1,500,60	0 150, 0 100,	,000 1	00 50 Oc	t. 79 3	10								***** **				
Denver City Durango	1.25	1.50	1.25	1.50	500	Penn. R. E.	68.870.20 34.278.10	0 1,337, 0 685.	563	50 NO	n 76 2	16	65% 62¼	6134	65	6234	651/s 63	6214		64%	434 64 5% 64	16 64%	64%	
vergreen						* Of the sa	les of thi	s*stock	, 11,7	739 sh	c. 79 3 ares we	ere sol	d at t	he Phi	adel					and 13			the Ne	
airview	.05		.05	.08	74,600	Stock Excha	nge. 22½				Total	Sales					402	,213.						
old Placer	.25		.25	.25						1	BOS	STO	NN	AINI	NG	ST	OC	KS.		1				-
loodshaw lreat Eastern							~	Char	res. I	Dan	Jan. 2	8.	Jan.	29.	Ja	n. 31		Feb.	1.	Feb	. 2.	Feb	. 3.	SA
Franville	.10		.09	.09	1,500	NAME OF	COMPANY.	Sha	res. I	car.	H.	L.	H.	L.	H.			H.	L.	Ħ.	L.	Н.	L.	Sh
reen Mountain . Iukill.						Allouez, c	Mic	h. 80,	000	\$25 25	43/4	45%	43/4			12								
Iomestake				.10		Atlantic, c. Atlas							.25 .30					.25						
owa Gulch	.371/2		.371/2	.70	123,400	Atrata Aztec Adrie Con.	Mic	h					13%			3/8								
ittle Maud	.10			10		Adrie Con. Arizona & M Acton Con.	lass. Ari	Les eres																
eadville Con						Barton& Eu Blue Hill, c	reka					55%	51/4	5		12	1	51/4		$1.52 \\ 55-16$				
It. Lincoln Con. It. Sheridan	.10	.10	.06	.10	1,925	Brunswick. Boston, G. 8	Me				4.11 4		221/4			4.1		211/2		4.16				
Monitor						Cal. & Hecl	a, c. Mie	h. 100	,000	10	250 .		250	24934				250	2494	250				-
fartin White					600	Catalpa	Col	lo., 300	000	25 50	23/4 2	29-16		25%	2	7/8	23/4	3	23/		23/4			
laryland lavajo				2.75		Copper Fal Chrysolite.	lls, c. Mie	eh. 20	,000].						15			151/4						
orth Belle Isle.	1.95				1,200	Copper Ha	rbor.	Z					.48	47						114				
Pizarro Pembina		.14	.09	.14	15,000		Me																	
lumas lara Avis lico Pioneer	50			.50		Dana, c Duncan, s.	Mie	eh. 20 t. 60	,000						3	7/8								
tandard	10	.10		.18	8,200	Deer Isle Dunkin	Me	lo		20	.87 1.50	45	1.50	1.45				1.40						-
Sutro Tunnel Fioga		() · · · · ·				Douglass Eastern	Me				4.00	3,121/2	314	31	6 613	1/2								-
Tip-Top Tombstone						Empire Eureka Cor	Ar	Z				.30	.31	.30	.29					33	.32			
Total sales			1	1.	390 395	Franklin, c Gold Hill.	Mi Co	ch. 20 lo.,	0,000	25	1634	161/1			. 16		61/2	16%		8 164	16%			·
						Grange, C., Gregory	Co	lo			*****	• • • • •			. 1.00			1.00	.90					: .
evitably rule hispeculative share	es will sy	mpathiz	e in the a	ee mon advance	ths. The , and m	Golden Cir Gold Strip	cie Co	10										 						
Calumet & Hee	la is ver	v steady	1 order. at \$250,	at whic	h nearly	Hanover Hukill		lo 20	0.000	0.4														:
all the sales have Copper Falls d	ull, only	120 shar	es sold	for the	week, at	Harshaw Humboldt,	c Mi	ch. 20	0,000	100	10%		10			1/2	8%				9.00			:
\$15@\$15¼, clos under \$16.	-					Huron	, C Mi	ch		20	51/2	· · · · · · ·				5%		534						
Franklin is a however, have b @\$16¼, closing :	een light	, and que	otations	range fr	om \$16%	Haverly G.	Grp. Co	lo	•••••			•••••												
Pewabic contin quotations, near	ues firn	1 at \$210	а\$22 пл	the ex	treme of	Internation	nal, s. Or	nt 60	0,000	20														
figures ; an effor down to \$20, wh	t seems	to be ma	king to	crowd t	the stock	Maine Mica	a Me	···· ···			.57							.55						
believe it one of very much highe	the chea	pest stoc	ks on th	e list, an	d predict	Mendocino	Ne				2.50	2.10	2.12	2.10	2.5	5 2.1	2	2.15	2.12	2.50	2.16			
Quincy opened	1 at \$36,	declined	to \$351/4	i, but o	rders for		Mo	ch. 20	0.000	25	1.75	1.35	1.65	2.50	2.00	1.6	30	1.65	1.60	1 621	1.60			
at \$361/4 bid, \$37 Atlantic sold a Osceola steady Allouez declina Huron is in lift	asked. t \$1716.	a decline	of \$1.		ou to unj	Minnesota.	. c Mi	ch. 20	0,000	25					• • • • •			3.00						
Osceola steady Allouez decline	at \$394	6, same a	Is last we	eek. 11 sales.		Minnesota Magnolia New Mex. National, c North Cast Ore Knob, Orord, Nu Osceola, c Pewabic, c Phoenix, c Pontiac, c.	D. D. N. Mi	M ch. 20	0.000	25	21/4		21							21				
to \$53/ with em	all offeri	nora	, CELLICE CECL	vancou I		ore Knob,	tine Me c N.	c										1.75						:
Blue Hill open sale at \$6; but	ed quite the stock	strong at	s5%@s out free	5%, wit	h a smal	Orford, Ni Osceola, C	CKEL. Ca	n 50 ch. 40	0,000	20	101/2		104	§										:
Douglass, in s	t nas ru	with Bl	ue Hill.	advanc		Pewabic. c	Mi Mi	ch. 20 ch. 20	0,000 0,000	$25 \\ 50$	211/2	21	203	4	. 22	3 2				. 2134	211/4			
and for the sam Among the mi	e reason nor stocl	declined ts, we no	to \$31/8.	of Madi	son at \$1	Pontiac, c. Promontor	y Con Co	ch. 20	0,000	25	7.00	6,25	7.00	6.75	7.0	0 .		6.75		7.00				
Aztec at \$1%. Minnesota at \$	3.					 Phoenix, C Pontiac, C. Promonton Quincy, C Ridge, C Rudisill Revere Rockland, San Podre 	Mi	ch. 20	0,000	25	36	35%	37	305	4 3	78		36%	313	18 31%	1 37			
National at \$2 Star at \$2%.	4@\$2%					Rudisill Revere	M	B																
Atlas at 25c. Mesnard at \$1																								
St. Clair at \$3 Brunswick An	4. timony d	leclined f	to \$211,6,	but clos	sed firme	r Sycamore Star Coal.					1071/2	1 061/			. i.i.	5 1.	02	1.00		1.02	1.00			
at \$22. In silver stock	s, Catal	pa has	been ac	tive wit	hout ma	- Star Coal,	8 p. c					** **												1
terial change in Harshaw adva clined to \$81/2,	quotatio	\$10% in	the ea	rly dea	lings, de	 F Sycamore Star Coal. Star C	······ Ci	10		20			33	4				31/4						
clined to \$8½, steady at \$9¼@ Silver Islet op	\$91/6.	advar	iced to	00%, a)	d to and	Silver Isle	t, s M	ich 4	0,000	25	36	354	35	34	34	16		34		. 35				-
at which it was	offered a	t the clo	se.			Star.	GOId						29	6		-72							*****	
Sullivan & Wa at \$7%@\$7%. Duncan sold a	t goz/	uvanced	rom \$	1 (C. 38, b	ut close	Superior,	с <u>М</u>	ich	*				1.00			••••								
Orford Nickel 3 p.m.—The n	steady a	at \$1016.	moon	ac dull -	and notes	Sierra Ne	vada N	ev			714		175	71			754							
a shade become	4 41		- 4 00-4 100	¥3		5. South Bul	wer				.45						• 78							
a snade lower. Pewabic at \$21 \$71/4, Huron at \$ Br. Antimony a \$371/4 asked; Rid \$150@\$16; Allou At the Boston provement over	55%, Silv	er Islet a	\$34. Di	uncan, \$	3%@\$3%	Tuolumne	C	al					1 00							. 1.09	1.07			
\$3716 asked: Rie	dge, \$6 b	id Doug	lass, \$3	bid; Cor	per Fall	s, Winthrop	M	ich.																
\$15@\$16. Allo				179.		1 AA GOTTING	- 88 + + + + + + 1UR																	11

mines. Sales this week at \$4.10@\$4.16. Milton Mining and Milling Company, which started last week, has been very active, advancing from \$1.25 to \$1.70 regular and \$2 buyer 60. Empire, which has been dull and inactive, seems to have waked up the past day or two, and was quite active to-day at an advance from 30c. to 40c.

Gas Stocks.

NEW YORK, Friday Evening, Feb. 4. The market for these stocks is strong and advancing. An auction sale of \$600 Metropolitan scrip, ex dividend, at \$101%, is reported.

scrip, ex dividend, at \$101%, is reported. Report of the Trustees of the Philadelphia Gas-Works.— The forty-sixth annual report of the trustees of the Phila-delphia gas-works, giving a statement of the financial condition of the works and the results of the business for 1880, was presented to the city council yesterday after-noon. It states that since the last report there was ex-pended for mains, \$45,824.23, and for services, \$15,012.89, making together \$60,837.12, from which deduct amount received on account of mains and services, \$12,301.29, leaving a balance of \$48,475.83. The quantity of gas manufactured in 1880 was 2,173,-010,000 feet, and the largest consumption in any twenty-four hours was on the night of December 20th, amounting to 9,511,000 cubic feet. The extent of street mains laid during the year was 14,953 feet, making the entire length 7673 miles, and the whole number of lamps on January 1st, 1881, was 12,415, of which 11,927 were supplied with thes. The average illuminating power of the gas made at the during the year was 14,953 feet, making the entire length 1st for the second street mains laid for the second street was 14,953 feet, making the entire length 1st for the second street mains laid for the second street mains laid 1st for the second street mains

Last rount mese works, and 488 from the Northern Liber-ties. The average illuminating power of the gas made at the different works under the charge of the trustees during the year, reported from tests made by Professor R. E. Rogers and Professor Lemuel Stephens, the lowest average in every case being given, was as follows: January, 16-28 candles: February, 16-29; March, 16-17: April, 16-44; May, 16-33; June, 16-25; July, 10-23; August, 16-22; September, 16-23. Average for the year, 16-36 candles. The gross profits for the year were \$787,785, and the gain on the business \$273,372.90. The receipts in 1880, includ-ing balance on hand, were \$3,557,403.92, and the payments the same, less \$47,505.45, cash in hand. The assets are set down at \$14,500,803.60, and the liabilities \$10,955,1906.55.

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

EW YORK AND	Capital						
VICINITY.	Stock.	Par.	Rate per ann.	Am. of last.	Date of last.	Bid.	As'd.
etrop. " 'msb'g "	$\begin{array}{c} 900,000\\ 4,000,000\\ 2,500,000\\ 1,800,000\\ 1,800,000\\ 2,000,000\\ 700,000\\ 700,000\\ 1,000,000\\$	1,000 100 50 50 25 1,000 100 50 1,000 1,000 20 1,000 20 1,000 20 1,000 20 1,000 20 1,000 1,000 20 1,000 1	6 8 10 7 7 6 5 6	33 32 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3	Nov., '80 Aug., '80 Feb., '80 Dec., '80 Nov., '80 Jan., '80 Nov., '80 Jan., '80 Jan., '81 Jan., '81	100 95 133 100 60 171 108 45 90 22 99 75 50 60 101	$\begin{array}{c} 62 \\ 105 \\ 97 \\ 138 \\ 105 \\ 63 \\ 175 \\ 110 \\ 50 \\ 95 \\ 25 \\ 108 \\ 85 \\ 55 \\ 62 \\ 104 \\ 104 \\ 105 \\ 10$

Coal Stocks. New YORK, Friday Evening, Feb. 4.

There is little to note in the present condition of the market for these stocks. The prices fell off slightly in the earlier part of the week, but recovered at the close and the closing quotations to-day are almost identical with those of a week ago. The same buoyant feeling, the result of the improved condition of the coal trade, is still manifest in all the quotations. Delaware & Hudson has had sales during the week of 44,628 shares at \$1031/@\$107%, the latter price being reached to-day. The advance in this stock is attributed to the favorable financial condition of the company, as shown in its annual report, the substance of which we give below.

Delaware, Lackawanna & Western has been dealt in to the extent of 159,350 shares, the price fluctuating between \$124% and \$120, and subsequently recovering to \$123%.

Of New Jersey Central, 70,532 shares have been sold at \$94@\$90¼@\$93.

In the lesser stocks, with the exception of Colorado Coal and Iron, but little has been doing. Of this stock, 31,637 shares have been sold at \$44% @\$51%. Mary land Coal records sales of 700 shares at \$28 227 ; Consolidation Coal, 350 shares at \$411/2@\$41; and 700 shares of New Central Coal at \$291/@\$28.

The forthcoming annual report to the stockholders of the Delaware & Hudson Canal Company will show a net profit, during the year 1880, amounting to 63/4 per cent on the capital stock. The receipts from coal were \$7,402,543 ; from railroads, \$4,673,436 ; and with miscellaneous receipts of \$448,570, make a total of \$12,524,549. The expenses were \$7,913,507, and firm as at the beginning of the week, although nomwith \$3,259,620 as interest, taxes, rentals, etc., leave a inally about the same, but with transactions during net profit of \$1,351,429. For the previous year, the the week at slightly higher rates than those obtainable

receipts were \$7,354,472, and expenditures, \$7,985,-118, showing a net deficiency of \$630,643.

A dispatch from Baltimore to the Philadelphia Times avs

says: The Baltimore & Ohio Railroad has been notified by the Philadelphia, Wilmington & Baltimore Railroad that if hereafter the former road wishes to run its through pas-senger trains from Washington to New York over the track of the Philadelphia, Wilmington & Baltimore Railroad it must pay the cost of running the locomotive. The order takes effect to-day, and the Baltimore & Ohio Railroad will, no doubt, pay the desired sum. Three engines of the Philadelphia, Wilmington & Baltimore Railroad are en-gaged in transporting the cars of the Baltimore & Ohio road over the track of the former, the annual expenses of the engines being \$100,000, for which the Philadelphia, Wilmington & Baltimore people claim they are not re-imbursed by the collection of toils from through Baltimore & Ohio passengers. The Pennsylvania Railroad Com-pary, in Maryland, has tendered to the Baltimore & Ohio Railroad Company the sum of \$29,398 award and costs of the viaduct crossing at Cumberland, which was declined by Vice-President Keyser.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in at New York, Philadelphia, and Ealtimore, for the week ending the 27th inst., are given in the following tables. The Phila-delphia quotations will have a * affixed. The Baltimore quotations are indicated thus † e Phila-

STOCES.	Par Value.	High'st	Lowest	Closir	ng Sales : Shares.
St.L., I.M.& S.R.Co "Cambria Iron Co	100 50	621/2	57%	· · · · ·	
"Penn.Salt Mf'g Co. "Schuyl Nay Co.nf	50 50	94 11		94 11	
*Penn.Salt Mf'g Co. *Schuyl. Nav. Co.pf *N. Central RW	50	481/2	47	48	316 5,268
*H.& B.T.Mt.RR.DI	50	137/8	0	13	3% 400 197
*NorthernPenn.RR	50	571/2		57	71/4 233
+B.&O.RR.Co.1st pf					
†B.&O.RR.Co.2d pf	100				
		است	1 1 1	1 22	
Bonds.	Princ'l. When Due.		Hig'st.	Lowest	Amount.
D., L. & W., 78, conv """ 2d 78 M. & E., 1st con., 78. """ 2d 78 """ 78, 1871 N. I. C. Istratica page	188:	J. & D. 7 M. & S 5 J. & D			
M. & E.,1st con., 7s.	191	5 J. & D	125	1241/4	\$11,000
" " " 2d 78	1891	ER ACA	11836	1171/2	6,000
" " " 7s, 1871 N.J.C., 1stmtge.new "" " 1st mtge., con " " " convt. 7's " " " Adjmt bds	1890	A. & O F. & A			
"" " 1st mtge.,con	1899	Q. Q.	110 1		19,000
" " " Adimt bds	190	9 Q. 2 M. & N 3 M. & N	11316	11234	26,000
" " Income	100	MAN			7,000 13,000
""" ist mtgecom """ convt. 7's "" Adimt bds "" Income L. & W. B., con "" Incomé Am Dock & Imn 70	1900	0 Q. 8 M. & N 6 J. & J	1101/6	1093/4	13,000
Am. Dock & Imp. 78	188		126	125	4,000 13,000 9,000
St.L.I.M.& S.,1st m	189		1181/2 961/2	115 951⁄8	
" " " " " 2d, m	189	7 F. & A		9378 11134 841/4	8,000
Am. Dock & Imcome St.L.I.M.& SIst mi """"""""""""""""""""""""""""""""""""			. 8634	841/4	78,800
St. L. & I., M. C. & F., 1st, 7g St. L. & I. M ('airo	189	1 M. & N	. 111		2,000
A. & T., 1st, 7's.	189	7 J. & J 8 J. & D 8 M. & D	. 109%	1091/2	14,000
A. & T., 1st, 7's. Ches. & O., 1st s'rs l ""6s, cr. int. d	190	8 J. & D	84 1 5114	811/2	14,000 54,000
D&HCCo.1stm.r	188	4 J. & J		50	101,000
D&HCCo.,1stm.rr	189	1	1, 110		5,000
""" "m.loan cj	189	4 A. & O 4 A. & O			
""" new mge					
div., 7s. coup div., 7s. coup div., 7s. rep div., 7s. rep div., 7s. rep L.V.Rlstm.6s.co	191	7 J. & D). 123		26,000
div., 78, rg	191	7 M. & N			
66 66 66 66	. 189	7 M. & N 8 M. & S	5		
14 14 14 0d m Pa ma	109	0 J. & 1). 135		7,000
con.m.os,r	3 182	3 M. & S	5		
*Pa RR 1stm 6s c	192	8 J. & I 0 J. & I 3 M. & S 3 J. & I 0 J. & I 0 J. & I		******	
" g, m., 68, cp	. 191	0 J. & .	J		
" " con.m.6s.rg	190				
" " con.m.6s,rg " " 6s, cp " " new loan 5s	190	5 Q.			
*P.& R. R., 1st m.6s			0. 1171/2		900
R. C. 43-44	188	1	J		
*F. & R. R., 1st m.6s R. C. 48-49	188	0 J. &	J	0-1	101.000
*P.&R.R.,gen6s,G """ scrip deb.ex-cp	190	8 J. & . 2 J. & .	J. 98 J. 70½	951/4 691/2	$101\ 000$ 11,580
" " deb.ex-cr	189	15		50	5,100
" " " c.m.7s,cp	. 191	1 J. & I	D D		
" " deb.ex-cr " " c.m.7s,cr " " " 7s, rg " " " cvt.7s,ex " " " cvt.7s,ex " " " m. 6s r. 0	c 18	TOT	J. 6414	60	9,400
*L.Nav.Co.,6s.rg.m	191 1. 188	1 J. & I	Q. 1061	106	19,200
*L.Nav.Co.,6s,rg.m " " RR., rg. m " cvt. Gold H " " m Gold R. (1. 189	7 F. & (2		
" "m Gold R.	18	7 J. & 1	S. 111 D. 1103		1,000 5,000
" con.m.78,r	3. 191	11 J. & 1	D. 116		1.000
Pa. & N. Y. 78, R. C	1189		D. 125 J.	1211	5,000
*Pa Canal, 6s	. 191	10 J. &	J. 801/	1	1,000
*Pa Canal, 6s *Schuyl. Nav., 6s. Sus. Can. 6s, ex-cp	. 188). 191	18			
Sus. Can. 6s, ex-cj *Sus.Coal, 6s, c	. 19	11 J. &	J		
Sus. Can. 6s, ex-cp *Sus.Coal, 6s, c Balt.&O. RR., 6s, """"""""""""""""""""""""""""""""""""	18	80 J. & 85 A. &	de		
		** . ****			
=======================================				(Pers) , Nor	

BULLION MARKET.

NEW YORK, Friday Evening, Feb. 4. The market closes in London and here scarcely so

[FEB. 5, 1881.

to-day. There are no indications at present of the probable early future of the market.

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

DATE.	London	N. Y.	DATE.	London	N. Y.
DATE.	Pence.	Cents.	DATE.	Pence.	Cents.
Jan.29		111	Feb. 2.	51%	11114
Jan 31 Feb. 1	51%	1111/8	Feb. 3. Feb. 4.	5136 5186	11114

BULLION SHIPMENTS.

BULLION SHIPMENTS. We give below a statement showing the latest bullion shipments. These are officially obtained from the com-panies where that is possible; and where official state-ments can not be procured, we take the latest shipments published in those papers nearest to the mines reported. The table gives the amount shipped for the week up to the date given, as well as the aggregate shipments to such date, from the first of January, 1881. The shipments of silver bullion are valued at \$1.29-29 per ounce, Troy; gold at the standard \$20.67 per ounce, Troy. The actual value of the silver in the following table is therefore subject to a discount, depending on the market price of silver. The price of silver being now about \$1.12 per onnee, the following figures, where they relate to silver bullion, should be diminished by about $13\frac{1}{2}$

		For the week.	Month of January.	Year from Jan. 1st, 1881.
Alice Mill	Mont	\$13,000	\$42,000	\$42,000
Barbee & Walker	Utah	4,329	17,146	17,146
Bodie	Cal	10,280	33,690	33,690
Crismon-Mammoth	Utah		3,350	3,350
Connor (Great Basin).		13,360	13,360	13,360
Christy	6.6	10,297	30,783	30,783
Con. Virginia	Nev		59,300	59,300
Contention	Ariz	35,570		163,130
Dexter Mill	Mont	6,000	11,000	11,000
Eureka Con	Nev	6,000 26,700	150,240	150,240
Eureka Con Elkhorn Mill Exchange Silver			5,000	5,000
Exchange Silver	Colo	15.000	4.300	4.300
Germani ²	Utah		48,575	48.575
Grand Prize			24.965	24,965
Horn-Silver				32,500
Ingian Queen.			16,185	16,185
Little Chief	Colo		19,900	19,900
Northern Belle	Cal	96 700	194 780	124,780
Northern Belle	Ariz	20,100	24,540	24,540
Noonday Ontario	Litah	97 968	90,168	90,168
				1,650
Dishmond	Nor	47 400	114 909	114,203
Richinonu	Titah	18 000	112,600	
Stormont	Mont.	10,000	22,220	44,449
Richmond. Stormont. Silver Bow. Standard.	Cal.	50 049	010 649	36,342
Standaru	Car	00,010	4,700	219,643
Syndicate Silver King	Ander	00 000	4,700	4,700
Silver Ming	Ariz	23,000	80,636	80,636
Star Sierra Nevada	Nev	4,100	11,560	11,560
Sierra Nevada	4-2-		16,775	16,775
Tip Top	Ariz	*******	28,700	28,700
Tintic M. and M. Co	Utan		2,224	2,224 37,091
Tombstone M. & M. Co	Ariz		37,091	37,091
Union Con Wood River	Nev	22,000	43,100	43,100
	Idaho	6,450	6,450	6,450

\$41,256 1,000

ARIZONA.

ARIZONA. Consolidated Arizona.—Recent reports state that this company's mill is turning out \$3000 bullion per day. Copper Mines.—The copper mines of Arizona will soon become an important feature of the mining industry of that flourishing territory. The Longfellow Company, of Apache County, turns out about 7 tons of copper bullion daily and employs 350 men, principally Mexicans and Chinamen. The smelting-furnaces get their coke from England; Jout after the junction of the Southern Pacific and Santa Fé railroads is effected in March, the article can probably be obtained more cheaply in Colorado or Penn-sylvania.

probably be obtained more cheaply in Colorado or Penn-Sylvania. Gun Sight.—It is stated that a smelter and hoisting-works are on the way to the camp, and within sixty days will be in position and at work. *Harshaw.*—This company's mill has been running steadily since the first of September, the monthly production amounting, it is said, to about \$100,000. Silver King.—Forty-one thousand two hundred and thirty-eight pounds of Silver King concentrations were shipped to San Francisco from Casa Grande January 19th. CALIFORNIA.

CALIFORNIA. Goodshaw.—A telegram states that this mine is shipping ore to the Miners' mill, and that the crushing of ore at the mill has begun, Standard,—The superintendent reports that during the past week 1298 tons of ore were shipped to the mill; average pulp-assay, \$49.76. Crude bullion received, 6485 ounces. Shipmeuts to San Francisco amount to about \$59,943.26.

COLORADO.

Big Evans Gulch.—The Rio Grande Railroad will prob-ably soon build a spur up Big Evans Gulch, to facilitate the shipping of the ore. Boston & Breckenridge.—This smelter started up in January, and has been in successful operation since then. Carbonate Hill.—From 20 to 30 tons of good ore are shipped weekly from this mine. Crooke.—This company's works, situated near Lake Give are to provide two more regions and as Jacoring

Crooke.—This company's works, situated near Lake City, are to receive two more roasters and a slagging

City, are to receive two more related and the relation of ore Evening Star.—The average daily shipment of ore amounts to about 30 tons. Hazelton.—The new concentrating mill at this mine works satisfactorily. Custer County.—The Silver Cliff Gazette hrs the follow-ing table, giving the product of the mines of Custer County for the year 1850. The following statement includes only the one extracted

and sold, or converted into bullion here, and approximates the actual product of Custer County for the year 1880 : \$904,800

A low estimate of the ore extracted but not sold, and which will be milled here, is 10,000 tons, valued at \$20 per ton, or..... 200.000

Total.

Total.....\$1,104,800 Hibernia...It is stated that the last settlement of 70 tons of ore returned §6778-a selling price of \$96.82; of far above the average of the district. There are over 300 tons of one at the Grant Smelting-Works yet unpaid for. Iron Silver....The manager reports that during the week ending January 24th, 1611 tons of ore were delivered; ore previously reported this month, 2050 tons. Receipts for the week amounted to about \$22,928; total receipts for the month, §63,905. Plata Verde...As soon as the pipes furnishing the water supply are thawed out, the mill will resume work. Republic...The Pewabic quartz.mill, belonging to the Republic Company, will be completed shortly. Silver Cliff Mining Company...This company, it is stated has paid for its new 40-stamp mill, with the excep-tion of \$60,000, which is to be paid after a satisfactory test. The house that furnishes the machinery warrants it capa-ble of handling 100 tons of ore every twenty-four hours. DAKOTA.

DAKOTA. The Deadwood Press gives the names of 16 mills erected in Dakota last year, representing 465 stamps. The list in-cludes the Highland, of 120 stamps at Lead City. There are two others of 60 stamps each. All the other mills carry from 10 to 30 stamps. This makes 1690 stamps in the Black Hills. It is said that during the present year there will be 400 stamps more erected under the control of the Homestake Company.

NONTANA. Alice.—Operations at this mill, it is reported, continue to be astisfactory. For the past two weeks, the bullion has steadily increased in fineness and the chlorinations run from 90 to 96 per cent of the assay value of the ore. With a view of still further increasing the fineuess of the bullion and the percentage of chlorination, a series of experiments is now making. and the percent is now making.

For the week ending January 29th, Comstock mines used ore as follows: Accor nolue

	Tons.	per ton. \$21.41 19.78	11
California	369	\$21.41	T
Consolidated Virginia	459	19.78	6
Sierra Nevada			l t
Exchange Silver During the week	ending	January 22d.	Ŀ

the bullion produced by the company's 8-stamp mill ag-gregated the sum of \$2800.

UTAH. Our correspondent reports the following statement of ullion and lead shipped north from Salt Lake City during he week ending Saturday, January 22d, 1881 :

Consignors.	Number of cars.	Bullion.	Tood
			Lead.
Mingo F. Co	10	215,736	
H. M. and M. Co	1	21.982	
Horn S. M. Co		298,830	
Germania S. and R. Co			43,860
	-		
	27	536,548	43,860

27 536,548 43,860 Barbee & Walker.—On January 31st, the mill shut down for repairs. A new cylinder will be put to the engine, the present one being out of order, and therefore causing an extravagant consumption of fuel. There will also be a general overhauling of other parts of the machinery. Builtonville.—It is reported that this furnace will be in readiness to start up about the beginning of February. Great Easin.—This mine is now shipping bullion under the name of Connor bullion. The average yield of the mine is now about 40 tons per day. Ontario.—The superintendent reports the following bul-

On	tar	i	0.	-	-	1	1	10	9	5	u	IJ.	16	21	1	r	ιŧ	Æ	1	10	h	e	n	t	1	e	I	H)1	rt	s	1	t	10	a	f	0	1	lo	win	g	b	ul
lion	shi	01	m	e	1	1İ	S	1	Ê¢)1		t	h	e	1	54	fe	36	3)	ĩ	e	a	10	di	ix	ų	ŝ	J	Ī٤	u	1	u	a	r	y	-	2	L	si	::	~		
Jan.	15.										.,									•																				\$5.	33	1.	47
Jan.	16.																																							ā,	41	0.	52
Jan.	17																																							5,	47	6.	64
Jan.	18																																							8	66	3.	31
Jan.	19.																																							5.	47	9.	07
Jan.	20																																							5	.01	5.	77
Lan	01																																							R	07	10	11

MISCELLANEOUS.

Bullion Receipts from the Mines to New York .- The bullion received from the mines at the various offices in this city during the week ending with yesterday, as com-piled from various sources, amounts to \$239,542.35, as against \$213,073.51, reported in our last.

Exports of Gold and Silver from New York.
Week ending Jan. 29th. \$206,150.00 Corresponding week last year. 109,142.00 Since Jan. 1st this year. 734,375.00 Corresponding period last year 765,480.00
Gold Interest Paid out by the Treasury.
Week ending Jan. 29th. \$392,283.39 Corresponding week last year. 424,327.67 Since Jan. 1st this year. 5.030,957.76 Corresponding period last year. 6,718,710.97

Week ending Jan. 29th	******	 	. \$392,283.
Corresponding week last	year	 	. 424.327.0
Since Jan. 1st this year		 	5,030,957.
Corresponding period last	year	 	6,718,710.9

The following is a statement of the net amounts in coin and bullion held by the Treasury at the dates named. Jan. 1, 1881. Feb. 1, 1881. Gold coin and bullion

\$150,213,715.77 \$148,052,809.15

12,062,807.00 24,769,057.32 6,183,224.05

 $\begin{array}{r} 13,420,465.00\\ 25,490,914.88\\ 6,704,197.36\end{array}$ \$193,228,804.14 \$193,678,386.39

\$193,228,804.14 \$103,078,386.30 From the foregoing it appears that, while the total amount of coin and bullion renains nearly unchanged, the gold has decreased over two millions, while the silver has in-creased by a nearly similar amount. The total amount of gold coin and bullion actually in the Treasury on the 1st inst. was \$154,544.209.15, and of silver coin and bullion \$82,430.214.24, making a total of \$236,974.423.30. The standard silver dollars in the Treasury on the 1st inst. numbered 50,235.102; but it is a great mistake to suppose, as is frequently stated in Congress and by the newspapers, that these are "lying idle;" only \$13,240.465 can be so designated, certificates for the difference being in circula-tion. In fact, strictly speaking, the amount of Treasury millions of dollars. WasHNGTON, Feb. 3.—The Treasury Dapartment to day

MILLIONS Of dollars. WASHINGTON, Feb. 3.—The Treasury Department to-day purchased 150,000 ounces of fine silver for delivery at the San Francisco and New Orleaus mints. U.S. Assay Office Monthly Statement.—The following is a statement of the business at the United States Assay Office at New York, for the month ending January 31st, 1881:

Deposits of gold : Foreign coin	736,000	
United States bullion	526.000	
United States bullion (re-deposits)	16.500	
Jewelers' bars	130,000	\$5,008,500
Deposits of silver :		*****
Miscellaneous	\$60,000	
United States bullion, Colo ado	70,000	
United State + bullion, Idaho	4,000	
United States bullion.Lake Superior	1,200	
United States bullion, Montana	60,000	
United States bullion, Nevada	7,000	
United States bullion, New Mexico.	14,300	
United States bullion, Utah	95,000	
United States bullion, Arizona	18,000	
Refined silver	88,000	417,500

\$5,426,000 1,369,666

Transmitted to Mint of the United States, at Philadelphia, for coinage, gold.

\$7,451,263 The coinage executed at the United States Mint in Phila-delphia, during January, amounted to 4,246,380 pieces, of the total value of \$5,885,500. Of this sum there were 254, 860 eagles, 561,520 half-eagles, 500,000 silver dollars, and 2,030,000 cents.

\$7,451,263

18 18

2,030,000 cents. The weekly statement of the Bank of France shows an ncrease of gold to the amount of 7,995,000 francs, and a lecrease of silver to the amount of 2,076,000 francs, mak-ng an increase of 5,918,000 francs. Since January 1st, 1877, the reserve of the Bank of France ina changed from 71 per cent gold and 20 per cent silver to 24 per cent gold and 76 per cent silver, showing that the effort to keep up a double standard has been even harder for the Bank of France than for the United States Freasury.

METALS.

NEW YORK, Friday Evening, Feb. 4.

In all departments of the metal trade for the week under review, the market has been quiet and confined strictly to a jobbing business, although prices have 860 been well maintained.

In our London advices will be found, under copper, some pertinent remarks as to the likely future effect on the production of Chili copper from the fall of Lima to the Chilians.

Copper.-A considerable consumptive business in a small way is the only feature in the metal, and prices remain firm and steady.

We quote for Lake, 19%c., for spot stuff ; Baltimore, 18% @18% c. ; futures, former, 19% @20c. ; latter, 19c.

Our English advices by mail include January 25th. Jan. 14th. Market steady ; Chili Bars, £621% cash.

Jan. 17th. Sales Chili Bars on moderate scale, partly cash metal. at £62 1-16 for g. o. bs., £62 5-16 for favorite marks, less customary discount and brokerage, but for immediate payment without interest.

Jan 18th. Fairly good market, with sales compris ing g. o. bs., with short fixed prompts at £61%, partly net money, a fair quantity at £61% and £62, customary conditions and usual 14 days.

Jan. 19th. In consequence of the severity of the weather, putting almost a complete stop to business, no reports were issued this day.

Jan. 21st. Cash metal sold from £61% up to £625-16, usual terms, with a firmer market, closing with buyers at £62¼ cash; £63 forward delivery, full terms, sellers asking 2s. 6d. to 5s. more.

Jan. 24th. News is in of the surrender of Callao to the Chilians, and Peru is now practically in the hands of the victors. The opinion is gaining ground that

level, and, by reducing the present high dollar value of bars, render mining in that country less profitable than it has lately been; in which case we might see shipments of metal from that side still further reduced.

Market opened with sales of g. o. bs. at £62 to £621/2 cash, closing a little quieter with sellers at £62 cash, buyers offering 5s. less. Jan. 25th. With a nomiual business, a little

metal went at £61% cash. Very little pressure either way would at once make itself felt on the current values.

Wallaroo remains firm £72; Burra rules £68¼@ £681%. Smelters are compelled to pay such high prices for furnace material that they ask full rates for English. We call Tough £65@£66; Select Ingot, £67@£681/2; India Sheets, £71@£72; Yellow Metal Sheets, 5 15-16d.@6 1-16d. per lb.

News is in, by telegram, of the surrender of Lima to the Chilians, and this intelligence seems to have imparted more animation to the trade.

Tin.-Since the large trade mentioned in our last issue, this metal has been quiet but firm, with prices well maintained.

Mr. Edward P. White, of Fulton street, under date of February 2d, publishes the following : STATISTICS OF TIN.

Tons. 3.480

	Imported during January, Straits and Malacca, to Boston	915
	Refined, to New York	915
	· · · · · · · · · · · · · · · · · · ·	4,395
)	Consumption during January 1,000 Exported to London 185	1,185
3	Total spot stock Afloat to date, ex November and De- cember steam shipments	3,210
-	Ex October to December sail ship-	

1.375

Total in all hands, spot and afloat 4.585

1879. 1880.	December shipments of Straits to U. S January Billiton, floating and shipping L. & F. and Refined	1,450 910
1880	December shipments of Straits to U.S	4,070

580.	December snipments of Straits to U. S	030
881.	January " "	250
	Billiton, floating and shipping	nil.
	L. & F., and Refined	nil.

785 A glance at these figures is sufficient to convince every holder of tin that he will be able at no distant date to com-mand the legitimate commercial value for his commodity. Moreover, considering that the Chinese traders (as usual before their New Year's holidays, just commenced) have cleared out their old stocks of tin at the mines, we can not be far wrong in estimating that very small supplies will be brought forward to the shipping ports during the next two or three months, unless prices here and in Europe should advance materially. Inland dealers and consumers here have, during the past month, acted upon the most conservative basis, being totally different from the course pursued by them a year ago: hence, we may expect a continuance of this steady absorption for the next three months. Our closing quota-tions to-day are 20½@20% for Straits and Malacca tin, songapore prices this date, \$28.50; Penang, \$28; Ex-change, 38. d.; London, £89 10s., spot; £90 10s., futures. There is no change to report up to going to press There is no change to report up to going to press

Chiljan exchange will tend to rise toward its normal from above quotations, excepting in Straits, which we

quote at 20¼@20½c. nominal for spot, 20c. being bid.

Our English advices include January 25th.

Jan. 14th. Operators for a fall are inclined to push prices still downward. On first 'Change, cash metal sold at 901/2@901/s., with sales on second 'Change from 9014s. down to 8984s. immediate payment, closing rather sellers at latter rate.

Jan. 17th. On the 15th inst. and to-day a sharp struggle between operators for a "rise" or "fall" has been going on, producing sudden and violent fluctuations in price.

On the 15th, sales were effected at 893/@891/s. sharp cash, selling this day from 891/s. down to 87s. cash, closing with a reaction from lowest point, with business at S8s. cash.

Jan. 18th. Small trade with firm market at 88@ 881/s. cash

Jan. 19th. No reports in consequence of severity of weather.

Jan. 20th. Prices paid range from 88@88%s. sharp cash, 881/2@89s. usual prompt, 89@90s. for three months, closing with buyers 883/4s. cash, 898/4s. forward, sellers at 3d. per cwt. more.

Jan. 21st. Market trifle easier, with more trade, cash metal selling from 881/2s. down to 88s., 14 days ; final quotations being 88@8814s. cash, 8834@89s. forward, buyers at the lowest, sellers at the highest prices

Jan. 24th. Tolerably active, 88@881/s. being paid for cash stuff values, closing at best.

Jan. 25th. At the Dutch Trading Company's sale this day, the Banca fetched an average of 53fls., the Billiton, 52%fls., equal respectively to 88%s. and 88%s., warehouse Holland. Market very active in London, with cash sales 88@89%s., closing strong at top prices. Messrs. Robert Crooks & Co., in their annual report

on metals, bearing date Liverpool, January 20th, say : on metals, bearing date Laverpool, January 2001, say : Tin shared the fate of all other metals when the American demand died away, but it quickly recovered the greater portion of its decline. While, from the absence of official figures, it is difficult to come to a definite conclusion, it ap-pears likely supply has reached its maximum, while most probably consumption will this year be increased, so we look for at least the maintenance of present prices.

AVERAGE PRICE OF L. AND F. INGOTS.

	January.		February		March.			April.			May.				
and the Association of the Island	Per	to	n.	Per	r to	n.	Per	to	D.	Pe	r to	n.	Pe	r to	n.
	£	S.	d.	£	S.	d.	£	s.	d.	£	s.	d.	£	s.	d
880	101	4		101	5	0	94		0	89	8		83	ā	1
879	64	0	0	63	10	0	68	2:5	6	69	5	0	67	12	1
878	68	12	Ō	67	5	0	68	5	0	67	2	6	65	2	1
1877	78	10	0	75	7	6	74	15	0	74	5	0	74	5	1
1876	82			81	15	0	78	15	0	78	5	0	79	5	

	June.		June.			July.			August.			September.		
	Pe	r to	n.	Pe	r to	n.	Pe	r to	n.	Pe	r ton	4		
	£	S.	d.	£	s.			s.	d.	£	8.	d.		
1880	79	10	0	91	0			15	0	87	0	0		
879	65	10	0	63	17			12	6	74	10	6		
878	65	5	0	65	0	0	63	18	0	62	0	0		
	73	0	0	71	10	0	69	7	6	68	12	6		
	78	5	0	79	5	0	77	10	0	76	0	0		

	Oct	ober.	.	Nov	emb	er.	Dece	mber	. For	the	Year.
1880 1879 1878 1877 1876	£ 90 90 60 73 77	0 0 14 0 10	d. 00000000	£ 94 95 67 74 81	15 10	d. 000000	£ 94 95 66 71	s. d 15 0 10 25 5	. £ 0 91 0 73 0 65 0 73 0 79	s 1: 1:	9 9 3 4
	- ugo	price			1	-	1872.		1	1	1875.
Imports Britain	of tir	inta	0 G	reat	Tor	18.	Tons.	Tons	. Ton	s.	Tons.
DITANCELLE		*****	1.5		0,0	0.2	0,04%	1,09	9 9,2	17	16,774
Exports from G Exports from G	of reat H of	Britis Britai foreig	sh n gn	tir tir	5,7	10	5,694	5,75	7 7,7	31	5,21
Exports from G Exports from G	of reat H of f reat H	Britis Britai foreig Britai	sh n gn in.	tir tir	5,7 2,0	10	5,694	5,75 1,44	7 7,7	31 81	5,213 4,22
Exports from G Exports from G	of reat H of f reat H	Britis Britai foreig Britai	sh n gn in.	tir tir	5,7 2,0	10	5,694 2,432	5,75 1,44	7 7,7 3 2,3 0 10,1	31 81 12	5,213 4,22
Exports from G Exports from G	of reat H of f reat H expo	Britis Britai foreig Britai ort	sh n gn n.	tin tin	1 5,7 2,0 . 7,7 1876	10 60 70	5,694 2,432 8,126 1877.	5,75 1,44 7,20 1878 Tons	7 7,7 3 2,3 0 10,1	31 81 12 '9.	5,213 4,22 9,43 1880 Tons

Total export.... 10,211 9,994 12,814 15,062 13,280 Tin Plates .- There is a good strong market, but

business is generally quiet and dull, without sales to report.

By cable to-day we learn that in consequence of makers attempting to reduce wages 10 per cent, a good many of the men have gone out on strike. The weather has also been so severe that many of the mills have had to temporarily stop work for want of water.

Combined, the matters have had the effect of advancing prices 6d. per box in England, but the market is unaffected here. We quote per the market is unaffected here. box as follows: Charcoal tins, Melyn grade, \$61/8@\$61/4; Allaway grade, \$5%@ k cross, \$6. Charcoal roofing, Dean grade, \$5% for 14×20 , and \$10% for 20×28 ; Allaway grade, \$5%\$5¼ for 14 × 20, and \$10¼@\$10½ for 20 × 28. Coke roofing, B. V. grade, \$4%@\$4.95 for 14 × 20-Coke tins, A. B. grade, IC, \$5%; B. V. grade, IC, \$4.95@\$5 : ICW. \$41% for 14 × 20.

Messrs. Robert Crooks & Co., of Liverpool, under date of January 20th, in their annual review say of tin and terne plates :

In our terme plates : In this department, more than in any other, the evils of overproduction are to be seen. How tremendous the de-velopment of manufacture has been will appear when it is noticed that while exports in 1880 were almost double those in 1872, in the latter case the makers were overcowded with work, and in the former, only partially employed. The increase in capacity during the past 18 months is not less thom 30,000 boxes per week. This excessive make has been in the main brought about by two circumstances—the as-sociation of masters and the advance of last January ; the latter obviously by offering very remunerative employment for capital. But the former, in the opinion of many, has had an effect quite as mischlevous ; for when prices got unre-munerative it temporarily restricted make, and so, at least for the time, prevented further decline. But for this action, many of the weaker works must have stopped, as they are stopping now this help is withdrawn. With the downfall of iron, plates naturally sympathized, and their fall was even greater, while, unlike other metals, there has not so far been any sustained reaction. This, in face of in-creasing cost of all materials, means increasing loss, the effect of which must before long be shown by compulsory curialiment of make, and, after that, the movements of the finished article will follow those of the raw materials. The only detail feature to note is the increasing use of steel plates, both tin and terne. They are cheaper than charcoal, and on the whole more to be depended on. **Pig-Lead**—In this metal, only a very moderate

Pig-Lead .- In this metal, only a very moderate business has been done during the week. The market closes quiet and dull at 4.95 to 5 cents. The Age of

Steel under date of St. Louis, January 29th, says :

There is a better feeling prevailing in the lead market, and holders are firm in their demands for 45 cents. Sales have been light, but about 25 car-loads having changed hands during the week. Stocks are very light, owing to the inclement weather, the miners finding it both unprofi-table and too unpleasant to work.

Spelter and Zinc .- The former is quiet but firm at 5%c. ; the latter we quote at 7c. The Age of Steel says:

Very little is done in spelter, and the market is quiet but firm at 5 cents. Antimony.-We quote Cookson's, 15c.; Hallett &

Johnson's, 14%c.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Feb. 4.

There is great quietness in the iron market, without, however, having any depressing effect upon prices. It is almost impossible to move iron, and it is accu mulating on docks and elsewhere. The consumption is still very large, and the indications rather favor an advance in prices, as makers will soon be compelled to come into the market to a considerable extent.

American Pig.-Brokers and dealers pronounce the market exceedingly quiet. We learn of no business worthy of note. Two hundred tons of No. 1 Thomas iron from second hands for immediate delivery are reported to have sold at \$26. There have been very fair inquiries in the market at prices a little below makers' views. We quote No. 1 at \$25@\$26 No. 2, \$22@\$23 ; and Forge at \$20@\$21.

Scotch Pig.-The market abroad is a little lower Here there is but little business doing, largely owing to the fact that the iron can not be moved. Prices. however, remain unchanged. We note sales of between 7000 and 8000 tons of Bessemer iron for shipment at \$27.50, laid down here. We quote Eglinton at \$22 ; Glengarnock at \$23.50 ; Gartsherrie at \$24 ; and Coltness at \$24.50@\$25.

Messrs. John E. Swan & Brothers, of Glasgow, under date of January 21st, report 122 furnaces in blast, as against 108 at the same time last year. The quantity of iron in Connal & Co.'s stores was 510,092 tons, an increase of 3592 tons for the week. The shipments show a decrease since Christmas of 5611 tons, as compared with shipments to the same date in 1880. The imports of Middlesbrough pig-iron for the same period show a decrease of 17,236 tons. The following were

the quotations of the leading brands of No. 1 pig-iron: are light and very firm.

Gartsherrie, 62s.; Coltness, 63s.; Langloan, 62s. 6d.; Summerlee, 62s. 6d.; Carnbroe, 58s. 6d.; Glengarnock. 58s. 6d.; Eglinton, 53s. 6d. Middlesbrough pig-iron was quoted as follows : No. 1 Foundry, 45s. 6d. : No. 2, 43s. 6d.; No. 3, 41s. 6d.; No. 4, 41s.; No. 4 Forge, 40s. 6d.

Rails .- There has been a business of about 13,000 tons of steel at from \$59@\$62.50 for delivery from now until December. English rails can not be bought below \$63@\$64 here, and, in fact, there are now no American rails obtainable for reasonable delivery. We learn of no business in iron rails, which we still quote at \$47@\$52 at-the mills.

Old Rails have been quiet. We note a sale of 1000 tons of Ts. at \$28.50, and quote D. Hs. at \$29.50@\$30.

Wrought Scrap has been quiet. We quote a sale of a few hundred tons selected from yard at \$30, and there is a rumor of a sale at \$31.

We publish the following letters received from our regular correspondents :

Baltimore. Feb. 1.

[Specially reported by Messrs. R. C. HOFFMAN & Co.] The iron market shows no material change since lass report. The demand continues good, and prices very firm especially for best brands iron. We quote :

especially for best brands from. We quote : Balt, Char...\$38.00@\$40.00 [Mot. and Wh.\$18.00@\$19.00 Va. "....38.00@\$40.00 [Cl.C.B.Bl'om 55.00@ 60.00 Anth. No. 1., 25.00@ 26.00 [""Billets@..... "...2., 22.00@ 24.00 [Refined Bl'm, 45.00@ 50.00 ""...3., 20.00@ 21.00]

Buffalo.

[Specially reported by Messrs. Palen & BURNS.] Market quiet but prices firm, and a better feeling grow ing, which may lead to a slight advance in prices. Old car-wheels and No. 1 Scrap (wrought) are scarce and in demand. We quote as follows :

1		Gross to	n,
	No. 1 Foundry Pig	\$25.00@\$	
1	No. 2 " "	25.00@	
1			
	A 1 American Scotch B 1	27.10@	
J	B 1 " " No. 2 " "	24.00@	
	No 9 th th	22 000	
	Red Car English	22.00@	
.1	Eginton Scoten	20.0000	
1	Gartsherrie	. 27.00@	
J	Glengarnock	. 27.00@	
l	Old Car-wheels	. 33.50@	
	Old Iron Rails	. 31.00@	
		Net ton	
	No. 1 Wrought Scrap	. 28.00@	
	No. 1 Cast Scran	18 000	

Terms cash, delivered on board cars at Buffalo.

Columbus, O. Feb. 1.

[Specially reported by Messrs. KING, GILBERT & WARNER.] We have no important change to note in the position of he market since our report of last week. The demand still ce our repo continues active; several sales of round lots have been made the past week at full quotations. We quote as follows :

FOUNDRY IRONS.

0.	1	Hanging Rock charcoa	ls			 	 \$27.00@\$	27.50
66						 	 26.00@	26,50
66	1	Hocking Valley				 	 23.00@	24.00
66	2	46 46				 	 22.00@	23.00
66	1	American Scotch				 	 23.00@	24.00
66	1	Glasgow				 	 23.00@	24.00
44	1	Jackson County				 	 22.000	23.00
66	2	• • • • • • • • •				 	 . 21.00@	22.00
66	1	Silver Gray				 	 21.00@	22.00
64	2					 	 20.00@	21.00
		MILL	IR	ON	s.			
ira	y	neutral				 	 21.00@	22.00

 Gray neutral.
 21.0002 22.00

 Motiled and white neutral
 19.006 20.00

 Gray cold short
 20.006 21.00

 Motiled and white cold short
 18.506 19.00

Louisville. Feb. 1.

[Specially reported by Messrs. GEORGE H. HULL & Co.] There is an improved demand for foundry irons, and some furnaces have declined to sell except at an advance of 50c, on figures current one week since. Mill irons remain the same. We quote for cash as below:

FOUNDRY IRONS

	No. 1.	No. 2.
unging Rock Charcoal uthern Charcoal n'g Rock, Stc'l & Coke uthern Stonecoal & Coke	25.00@ 26.00 23.50@ 24.00	23.00@ 24.00

"Amer, Scotch ".\$28.00@\$25 | Silver Gray.\$20.00@\$22.50 Scotch Iron..... 27.00@ 29 |

Ha

H

millio inons,		
 Charcoal, Cold-short & Neutral	21.50@ 22 20.50@ 21 26.00@ 27	.50 .50 .00
CAR-WHEEL AND MALLEABLE IRON	is.	
Ianging Rock, Cold Blast	35.00@ 40	.00
Richmond.	Feb. 1	ι.

Richmond.

[Specially reported by ASA SNYDER, Esq.] Consumers are using larger quantities of iron than p bly ever before in the history of this city and State. Sto abl

THE ENGINEERING AND MINING JOURNAL.

The Production of Bituminous Coal for the veck ending Jan. 29th was as follows : Tons of 2000 lbs., unless otherwise designated. Week.

NEW YORE CENTRAL & HUDSON RIVER, AND ROME, WATER-TOWN & OGDENSBURG RAILROADS.

On a consignment of not less than 25 tons, from La ranna Junction, subject to regulations printed below, be as follows :

To	Auburn	(local)	2.60
6.6	46	for shipment N. Y. C. & H. R. RR.	
66	6.6	points east of and including Syracuse	2 04
66	Weedsn	ort (local)	2 60
66	66	for shipment	2 26
66	44	" Rochester	2 07
66	4.6	points between Rochester and Buffalo;	
4.5	66	for Charlotte and Genesee Docks	
46	6.6	" Buffalo, International Bridge, and	
		Suspension Bridge	1.78
66	Sterling	(local)	3.15
6.6	66	for shipment R. W. & O. RR	2.47
66		" Oswego	2.47
	Fair Ha	ven for shipment	2 40

Rate, L. & B. Junction, to Buffalo, Biack Rock, Suspension Bridge (via Weedsport), \$3.11 per gross ton.
Rate, L. & B. Junction, to Rochester (via Weedsport),
\$2.78 per gross ton.
Rate, L. & B. Junction, to Buffalo, in return line cars (via Weedsport), \$2.81.

Regulations.

Regulations. A charge of 15 cents per ton will be collected of each consignee, on all coal not unloaded within 24 hours after its arrival, and an additional charge of 10 cents per ton for every 24 hours thereafter, Sunday and legal holidays excepted. No allowance will be made for coal lost from cars on ac-count of broken doors or other defects existing when the coal is loaded.

Count of broken doors or other defects existing when the coal is loaded. Claims for lost coal will be settled with shippers only. Charges for freight or tolls will follow the coal from State; line to destination, when consigned to points on and beyond the New York Central Railroad. Ten cents per ton will be charged, at Weedsport docks, for shipping coal direct from cars to boats, and 12 cents per ton additional from stock, making a total charge on what is shipped from stock of 22 cents per ton. Freight charges to destination, via Weedsport and canal, will, at all times, be made as low as the rates via Ithaca and canal, to same destination. Rates for coal in line rars running over this road will be as low to Western points from Lackawanna Junction as via competing roads. CHARLES A. WARDEN, AUBURN, N. Y., Jan. 1.

COAL TRADE REVIEW. Anthracite.

NEW YORK, Friday Evening, Feb. 4. There is a greater demand for coal than the trade has ever known, except during some long miners' strike. Coal famines are the order of the day, and if the obstructions by ice in the "harbor increase, even this city will experience trouble. Already coal is so scarce with the retail dealers here that prices have been advanced about 50c. per ton. There is but little coal being mined, owing to the inability to move it. The storm of this week was very severe in Pennsylvania; and, as fast as the tracks were opened, the drifting snow closed them again. In addition to this, the temperature was so low that but little work could be done outside. Water-powers are of but little use this winter, and all manufacturing concerns are using steam. The result is, that they are getting very scarce of coal. The indications point to an extraordinary demand for coal for two or three months at least. Prices are very firm at circular rates, but of the producers to take advantage of the there is a great disinclination on the present situation to advance rates. Of course, the combination will hardly be heard of again for some time to come. The policy of the early future will be to put into the market every ton of coal possible.

Owing to the non-receipt of the weekly statement of the coal tonnage of the Central Railroad of New Jer sey, our statistics of coal production are incomplete. Without this amount the shipments last week amounted to 263,795 tons, making a total from Janu ary 1st to January 29th of 1,462,052 tons ; which, as against 1,682,636 tons for the like period of last year, shows a decrease thus far this year of 220,584 tons.

Our Philadelphia correspondent, under date of February 3d. says :

ruary 3d, says: There is no restriction agreed upon for this week, and miners are supposed to work full time. The weather, however, has put a veto on full work. Many collieries are stopped by cold weather, and the moving of the coal which is prepared is much delayed, so that even half-work will hardly be reached. In the mean time, the consumption goes on, and at the opening of navigation the demand will be active from all parts. How long it will remain so, will depend on the wisdom and moderation of the parties who regulate the prices. No quotation of freight from this port can be given, as it is impracticable to move vessels. The Delaware has never been in a worse condition.

Bituminous.

This description of coal is in the same position as anthracite. Baltimore, Georgetown, and Philadelphia SOUTHERN CENTRAL RR., IN CONNECTION WITH THE LEHIGH are closed with ice, and South Amboy, the only re-valler, PENNSYLVANIA & NEW YORK. UTICA & ELMIRA, maining shipping port, is but little better, there hav-

Pig-iron is very firm, with advancing tendency. Manu-factured iron does not show the same improvement, but it is generally believed that it will be forced upward by the higher prices of raw material. St. Louis. Jan. 29. [Specially reported by Messrs. HOFFER, PLUMB & Co.] The demand for iron continues good, while the general features of the market remain unchanged. Prices are firm. HOT BLAST CHARCOAL.
 Missouri
 \$27.00@28.00

 Southern
 25.00@26.00

 Hanging Rock
 28.00@29.00
 COKE AND COAL.
 Missouri.
 \$27,00@28.00

 Southern.
 25.00@26.00

 Ohio.
 26.00@27.00
 MILL TRONS.

. Pittsburg.

[Specially reported by A. H. CHILDS.]

Feb. 1.

	CAR-WHEEL	AND MALLEA	BLE IRONS.
Red short		•••••	25.00 326.00
Cold short.			\$22.00@23.00

Southern..... Ohio.....

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

LONDON, E. C., Jan. 20. STEEL RAILS.-£6 7s. 6d. @£6 15s. per ton ; market quiet

but firm. IRON RAILS.-£5 75. 6d.@£5 12s. 6d. per ton; quiet but firm market. BAR IRON.-£5 2s. 6d.@£5 7s. 6d. per ton; steady marke

market. OLD RAILS.—A good inquiry for U. S. ports; but there being a very scant supply, and vessels difficult to obtain, it is impossible to give a reliable quotation. HRAYY WROUGHT SCRAP-HRON.—In good request, 75s. per ton asked for selected parcels, f. o. b.; c. i. f. quotations, 95-200c

ton asked for selected parcels, f. o. b.; c. i. f. quotations, 85@90s. OLD RAILWAY LEAF SPRING STEEL. -£5 58.@£5 78. 6d. per

Construction Constructin Construction Construction Construction Construction Const

BESSEAREA IN. 65@708. per ton. SCOTCH PIG-IRON.-53@538. 1d. cash. MIDDLESBROUGH PIG-IRON, No. 3.-408. 9d.@41s. cash.

STATISTICS OF COAL PRODUCTION.

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

	18	81.	1880.	
TONS OF 2240 LBS.	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co	48,151	198,572	75,570	303,811
D. L. & W. RR. Co.	61,114	247,716	63,160	278,904
Penn. Coal Co	17,599	67,945	7,061	43,280
L. V. RR. Co	12,023	75,575	17,113	92,228
P. & N. Y. RR. Co	440	2,675	221	1,215
C. RR. of N. J	*	100,828	38,145	142,905
	139,327	693,811	201,270	862,341
Lehigh Region. L. V. RR. Co	47,698	254.054	64.073	219,379
C. RR. of N. J	*	83,474	38,264	150,407
S. H. & W. B. RR				1,146
	47,698	337,528	102,337	370,923
Schuylkill Region. P. & R. RR. Co	66,920	360,306	105,997	405,046
Shamokin & Ly- kens Val	8,626	66,893	11,905	41,303
	75,546	427,199	117,882	446,349
Sullivan Region. 8t Line&Sul.RR.Co.	1,224	4,514	825	3,023
Total	263,795	1,462,052	422,314	1,682,636
Increase		220,584		
Total same time in """"""""	1877 1878		1,19 1,21 1,44	5,232 tons 3,933 " 1,022 " 0,200 " 2,636 "

rumed and sold at the mines, which is about six per cent of the whole production.

* These reports were not received this week.

Belvidere Delaware Railroad Report for the week end-g Jan. 29th : ing

	Week.	Year. 1881.	Year. 1880.
Coal for shipment at Coal Port (Trenton). Coal for shipment at South Amboy Coal for distribution Coal for company's use		56,098	35,214

Tons of 2000 lbs., unless otherwise de	signated	
	Week.	Year.
Cumberland Region, Md.	Tons.	Tons.
Tons of 2240 lbs		79,172
Barclay Region, Pa.		
Barclay RR., tons of 2240 lbs	. 9,631	35,207
Broad Top Region, Pa.		0.070
Huntingdon & Broad Top RR	TOOPA	8,953
*East Broad Top	. 2,004	68,797
Clearfield Region, Pa.	-	
"Snow Shoe	. 1,717	57,844
*Tyrone and Clearfield		1,721,261
*Pennsylvania RR.	.10.099	306,516
Pittsburg Region Pa		
West Penn RR	10.255	291,749
Southwest Penn. RR.		33,081
Penn & Westmoreland gas-coal, Pa.		
RR	22 335	937,197
RR	15 891	562,558
The Production of Coke f and year ending Dec. 31st, 1880 :	or the	eight days
*For the eight days and year ending	Dec. 31	st. 1080.
† This report was not received this w	eek.	
Tons of 2000 lbs.	Week.	Year.
Penn. RR. (Alleghany Region)	. 1.262	60.475
West Penn. RR	3,179	78,606
Southwest Penn. RR	42,491	1,149,785
Penn. & Westmoreland Region, Pa. RR	4 000	138,820
Pittsburg, Penn. RR	10.207	468,856
CINDORFO CONTRACTOR CONTRACTOR		100,000

Total...... 61,139

timore.

Coastwise Freights. Per ton of 2240 los. Representing the latest actual charters to Feb. 4th, 1881. Elizabethport, phnston, South o y, Hoboken, eehawken.

ladelphia

PORTS.

	Did'	Bal	From E Port Joh Am bo and Wee
	From Ph	g	ater
	IOI	IOI	AiA
	54	F4	H
Alexandria			
Alexandra Annapolis Apponang Baltimore Bastin Me. Baverly Boston, Mass Braintree Bridgenoert. Conn.		*******	
Baltimore			
Bangor	******	2,25	
Bath, Me		2.25	
Boston, Mass		2.35	
Braintree			
Bridgeport, Conn. Brooklyn			
Cambridge, Mass.			
Bridgeport, Conn. Brooklyn Cambridge, Mass. Cambridgeport Charleston			
Chelsea City Point Com. Pt., Mass E. Boston East Cambridge.			
Com Pt Mass		***********	
E. Boston			
East Cambridge.	****** **** *	**********	
E.Gr'nwich, R. I. Fall River		2.00	
Fall River Fredericksb'g, Va		*** ********	
Galveston Georgetown, D.C.			
GIOUCESVEL			
Hartford			
Hackensack			
Lynn			
Marblehead Medford			
Millville			
Millville Milton. N. Brunsw'k, N.J New Bedford			
New Bedford		2.10	
New Haven		2.00 2.00	*****
New Haven New London New Orleans			
		2.00	
New York Norfolk, Va		1.00	
Norfolk, Va Norwich Norwalk, Conn .			
Norwalk, Conn .		.70	
Philadelphia.			
Portland			
Petersburg. Philadelphia Portland Portsmouth, Va. Portsmouth, N.H		2.35	
Providence		2.35 2.00	
Quincy Point Richmond, Va			
Rockland			
Rocknort			
Roxbury			
Saco Sag Harbor Salem, Mass Saugus Sayannah			
Salem, Mass		. 2.35	
Savannah			
Somerset			
Staten Island Trenton			
Trov		2.10	
Wareham		. 2.10	
Washington Weymouth			
Williamsbg, N.Y			
Weymouth Williamsbg, N.Y. Wilmington, De Wilmington, N.G.	1		
And discharge		inch a malma d	tandna 10-
Per bridge ext	a. Alonga	ide. And t	towing. 13c. owing up and
per bridge exti down. % And t	owing. ** Bel	ow bridge.	
Bates of The	mamontation		Wonthesn

Rates of Transportation on Coal tor Northern

and Western Shipment.

1,896,542 FREIGHTS.

OFFICE OF

HELLER & BRIGHTLY,

Surveying and Engineering Instruments.

TO CIVIL ENGINEERS AND SURVEYORS:

HELLER & BRIGHTLY.

BLASTING POWDER! SPORTING FOWLER

Oriental Powder Mills,

No. 13 Broad Street, Boston, Mass, Agencies in the principal cities throughout the U.S.

MINING AND MILLING COMPANY.

Dividends paid to date, \$235,000. President-fion. G. WASHINGTON WARREN. Treasurer-MICAH DYER, JR., Esq. Secretary-CHARLES C. LANE. Superintendent-WW. ADAMS, JR. Bankers-PACIFIC NATIONAL BANK.

-

QUEEN

\$250,000.

Philadelphia, Jan. 29, 1881.

INDIAN

Capital Stock

ing been great difficulty in moving coal from there during this week. The cold weather and snows have very much reduced the effect of the motive power, and the mining companies complain of a great scarcity of cars. Prices are quite firm, under a strong de

We publish the following letters from our regular correspondents :

Baltimore.

[Specially reported.]

Feb. 1.

Feb. 1.

Feb. 2.

Che Bri

[Specially reported.] Trade at this point has been quite active during the month, and the situation is unchanged, except that per-haps there has been more appredension about the supply than at this time a month ago. Stocks on the water are melting down apidly; and as for the hard white ash, there is no means of replenishing stocks. Free-burning white ash and Lyken's Valley (red ash) are brought to tide-water, but the companies have cased shipping hard white ash to their customers who have no direct railroad con-nection.

and to then classifiers who have no international con-rection. Receipts by rail are very light, and stocks in the hands of this class of dealers exhausted. In the face of the cold weather and strong demand, much uneasiness is exhibited by dealers who are short of this staple commodity. The roads promise better things for the future : that is, more rolling stock, more motive power, longer days, and more favorable weather for mining and shipping. If their aspirations are not realized, we fear we may have a coal famine here before the first of April, which we deroutly hope may be averted. Wholesale prices per 2240 lbs.

Wholesale prices per 2240 lbs.

ANTHRACITE COAL. Hard White Ash, Free Burning, and Shamokin

**************************************	11010,	1.100	They were 34	and Distance	Jucie.
					rs at
				N. C. R. B	. depot
Lump and Stean	nboat	*****			S1.60
Broken					4.8)
Egg					
Stove					5.15
Chestnut		******		**********	5.00
	Lyke	ns Va	lley Red	Ash.	
Broken					\$5.30
Egg					5.50
Stove					5.65
Chestnut	****				5.50

float, per cargo, 15c. less than car rates; to trade in d or wharf, 75c. additional.

Buffalo.

[Specially reported by Mr. C. M. UNDERHILL.]

There is no change in prices for the West for the present What with short supply of box-cars, lack of locomotive power, and severo weather, the difficulties of transporting coal to the West are getting worse and worse. There is no probability of an improvement in this direction this win-ter.

Grate	Per gross ton. 2240 lbs.	Per net to: 2000 lbs. \$4.68
Egg	5.25	4.68
Stove	5.55	4.96
No. 4		5.40
Nut		5.18
Pea		4.27
Blossburg		3.25

[Specially reported by Messrs. LEE & LOOMIS.]

[Specially reported by Messrs. LEE & LOOMS.] The demand for all kinds of anthracite keeps up with the cold weather -especially is this the case with nut, which is sold at full circular, and in many cases parties are willing to pay the cartage from stock piles to the care, in addition to circular rates, for Western shipment, rather than await the tardy movement of the care. Complaints come each day of the scarcity of cars for transportation, and in some cases parties in the West are removing their coal-stores and substituting therefor wood-stores. Prices for February remain unchanged. Bituminous ceals are much stronger, and the strike at Reynoldsville, lasting some two weeks, has made a greater demand on the Catfish mines, and prices have advanced accordingly. We append new quotations taking effect to-day.

to-day.		
	Lackawanna and Shamokin.	Lehigh.
Size.	Cars and afloat.	Cars and afloat
Lump		\$6.50
Grate (or broken)	\$4.68	
Egg		
Stove	4.95	
Chestnut		

Per ton of 2000 lbs., delivered at Buffalo :

Lump. Rua of Nut. Slack.

		AIIIIIO.		
Connellsville coke	\$5.50			
Brookfield Coal				
Brier Hill	4.00			
Youghiogheny	3.50			
Monterey	3.15	3.00		
Catfish	3.15	3.00	2,60	2.25
Stoneboro'	3.15	3.00	2.60	
Sterling Cannel	5.25			

Chicago.

[Specially reported by Messrs. RENO & LITTLE.] January has been a very cold month, and the consump-tion of fuel from a third to a half greater than same time last year. The stock of anthracite coal is very much less than last year. Receipts by rail are very slow, on account of scorcity of cars and heavy snows all over the country east of us.

At retail to	consumers.
Grate \$8.50 Egg	Stove
Bituminous	coal, per ton.
Brier Hill, boguz, \$7.00@7.50 Brier "genuine 8.50@9.00	Wilmington\$5.00 Piedmcnt, per ton

\$5.00

Hamilton, Ont.

Hamilton, Ont. Feb. 1. [Specially reported by Mr. H. BARNARD.] The conditions of this is also have been most favorable to the coal business here. The light importations of coal during navigation, and steady cold weather, with the ther-mometer playing about zero, have been effectual in causing a large and increased consumption of coal, while the ad-vances in the shippers' lists, that have taken place from time to time, have induced advances in retail prices. The result is thal, although coal can not be said to be at an exorbitant price here, the dealer is getting a profitable return, and every thing is in a fairly satisfactory condition. In the natural order of things, a few years of adversity ought to be followed by a similar term of prospetity. We have had the adversity; now bring on your prospetity. Retail prices delivered per ton of 2000 lbc.

Retail prices delivered per ton of 2000 lbs.

ate	.75 Reynoldsville Steam 55.50
g 6	.75 Lehigh Lump 8.00
ve	.00 Blossburg 5.50
estnut	.00 Pea
ier Hill 7	.00

Feb. 1.

Feb. 1.

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

Scotch	2	team			\$6	.25@\$6	.50
ape Br	reton	66			5	500 5	.20
					5	.000 5	.15
Am, An	thraci						
**	*4						
4.6	65	Grate				8	.00
**	44	Chest	nut			8	.00
			Toled	0.		Feb. 5	2.
[Spe	ecially	reported	by Messi	S. GOGLIN	E & BA	RBOUR.	1
of anthus through	racite ugh ur		By sprin think the ions.				
We qu	uote fo		prices in t Soft coal		et :	Per tor	
Shawne	e and	Hocking	Valley, h	ump			3 00
shawne	e and	Hocking	Valley, n	ut			2.2.
Massillo Retail d	leliver	y, lump.					1.50

Grate and Egg..... Retail delivery, per ton of 2000 lbs., all sizes.....

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

[Specially reported by Mr. S. H. Hawes.] The demand both wholesale and retail, continues active for hard and soft coal. Stocks are almost entirely ex-hansted, and we are obliged to depend upon rail shipments from mines, which come along very slow on account of continuous snow blockades and short supply of care. Dealers throughout the country are still very short of coal, with poor prospects of their getting much relief until care become more plenty. Please continue quotations.

DIVIDEND.

NEW YORK, FEBRUARY 2, 1881.-THE

STANDARD CONSOLIDATED MINING COMPANY to

day declared its regular monthly dividend of

SEVENTY-FIVE CENTS PER SHARE,

payable February 12th, 1881, at the Agency of the Bank of Nevada, No. 62 Wall street, New York. Transfer-books close on February 5th, and open on the 14th instant. M. R. COOK, Vice-President.

OFFICE OF THE TOMBSTONE MILL AND MINING COMPANY, 432 Walnut Street. ELEVENTH DIVIDEND.

PHILADELPHIA, Jan. 28, 1881. The Executive Committee of the Board of Directors of this Company have this day declared the regular monthly dividend of \$50,000 ; being ten cents on each share of the capical stock of the company ; payable on and after February 15th, at this office. Transfer-books closed from 10th to 15th inclusive. GEORGE BURNHAM, President. W. J. CHEYNEY Secretary.

W. J. CHEYNEY, Secretary. New York, Feb. 3, 1881.

SPECIAL NOTICE.

T A MEETING OF THE STOCKHOLDERS A of the SPRING VALLEY HYDRAULIC GOLD CO. held February 1st, 1881, the following were elected trustees fort

he ensuing year :	
Edward Bates Dorsey, A. Foster Higgins,	Charles M. Fry, J. W. Simonton,
T. T. OSACI TURBIUS'	J. W. SHHORION,

A. Foster DEB. E. A. Flint. W. L. Jenkins, Jr., J. J. A. T. Sulliva A. T. Sulliva J. W. Simonto C. T. Jenkins, J. P. Robinson,

eeting of the trustees of the SPRING VALLEY HYDRAULIC GOLD CO., held February 2d, 1881, the fol lowing were elected officers for the ensuing year :

EDWARD BATES DORSEY, President. W. L. JENKINS, JR., Vice-President. CHARLES M. FRY, Treasurer. N. S. WALKER, JR., Secretary,

The Indian Queen mine has been, is now, and will for the future pay a dividend of 2 per cent a month. For prospectus or further information inquire at the office of the company, No. 7 EXCHANGE PLACE, Boston, Mass. \$5.58 5.86 6.06 7.50 WATER-GAS. Feb. 1. Strong Gas-Fuel and Light Co. No. 120 Broadway, (EQUITABLE BUILDING), NEW YORK This Company is the Sole Proprietor for the State of New York of the Strong and Lowe Processes for the Manufacture of Water-Gas. Works are now being constructed according to the Strong patents, at Yonkers to supply that city with gas for

LIGHT, HEAT, AND POWER.

One pair of generators, the cost of which will not exceed \$18,000, will make about 400.000 cubic feet per day. The Lowe system is already in successful operation for lighting in more than thirty places in the United States, and in many of our large eities. The rapid progress that water-gas is making in the public favor, and the great economy and efficiency of the Strong and Lowe processes over all others, for its manufacture, should secure for these processes a careful examination on the part of all gas companies now existing or about being formed. N. R.-For licenses or further information, apply to the Office of this company, as above-Dated March 8, 1880.

COLORADO: ITS GOLD AND SILVER Mines, Farms, and Stock Ranges, and Health and Pleasure Resorts in and near the Rocky Mountains By Frank Fossett. Second Edition, 1890, \$2. First Edi-tion, 1879, \$1.50. Address THE SCLENTIFIC PUBLISH-ING COMPANY, 27 Park Place, F.O, Box 4404, New York

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Montreal.

TO CIVIL ENGINEERS AND SURVEYORS: Having accepted an order for a very large number of Surveying Instruments, for a spe-cial work, this, in addition to our usual business, has put such a press upon us that we can not for the present accept any more orders for immediate delivery. Correspondents wishing us to book their orders for FUTURE delivery (in no case carlier than ten weeks), will please advice us as to the longest time they can wait, and we will immediately inform them per mail whether we can accept their orders. This Circular is issued to our correspond-ents with a desire to save them from delays and annoyance, and to enable us to accommo-date them at the earliest practicable moment. HELLER & BRIGHTLY. [Specially reported by Messrs. ROBERT C. ADAMS & Co.] Our rather severe winter has made a heavy draught on oursupply of coal. The stock is now running low, and con-sequently prices are high. More coal will be required ere spring, which we must bring in by rail. The Grand Trunk Railroad Company has just closed a contract for about 100,000 tons at this port and Portland, Me., at prices con-siderably above those of last year, for Picton and Cape Breton coal, the advance in Picton coal being about fifty cents per ton. Prices current in this city are : Scotch Steam