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CONTENTS.

	Page.
Co-operative Mining in the Cœur d'Alene	457
Launch of the St. Louis	457
Condition of the Zinc Market	457
Gas Engine Economy	457
American Iron for Japan	458
The Gold Movement	458
New Publications	458
Books Received	459
Definition of a Contact Fissure Vein	459
Napier's Process of Copper Smelting	459
The Zinc Mining Industry of Southwest Missouri and Southeast Kansas.....J. R. Holtbaugh	460
Recent Decisions Affecting the Mining Industry	460
Abstracts of Official Reports	461
Coal Mining in the Transvaal	461
New Application of Iron and Steel	462
Launch of the Steamship "St. Louis"	462
*The Harney Peak Tin Mines.....Arthur J. Morse	463
Historical Sketch of Lead and Zinc.....Arthur Winslow	464
*The Largest Gas Engine	465
The Mining Exposition at Santiago, Chile	465
Patents Relating to Mining and Metallurgy.	466
Personal, Obituary, Societies, Technical Schools, Industrial	466

Notes: Wood vs. Iron Sleepers, 460—A Singular Property of Ruthenium, 461—Production of Alumina from Clay, 461—A New Submarine Boat, 462—Proposed Australian Coal Mines Laws, 462—Carbonic Acid for Chilling Testpieces, 462—The Maryland-Delaware Ship Canal, 462—Concentration of Sulphuric Acid by Electricity, 463—The Franco-Spanish International Railway, 463—Coal in Bulgaria, 465—Wages Paid to German Ironworkers, 465—Coal Mining in Southalia, India, 466—Coal in Siberia, 466—Coal Production in Westphalia, 466—Mexican Coinage, 466—Petroleum in the Caucasus, 466.

* Illustrated.

MINING NEWS.

Alabama	468
Alaska	468
Arizona	469
California	469
Colorado	469
Florida	470
Georgia	470
Idaho	470
Illinois	470
Kansas	470
Kentucky	470
Maine	470
Michigan	470
Minnesota	470
Missouri	470
Montana	470
Nevada	470
New Mexico	471
Oregon	471
Pennsylvania	471
South Dakota	471
Utah	471
Washington	471
West Virginia	471
Wyoming	471
LATEST MINING NEWS	471

MARKETS:

COAL:	
New York	472
Buffalo	473
Chicago	473
Pittsburg	473
IRON:	
New York	473
Birmingham	474
Buffalo	474
Chicago	474
Philadelphia	474
Pittsburg	474
METALS:	
Gold & Silver	474
Other Metals	476
CHEMICALS AND MINERALS.	
New York	476
Liverpool	477
MINING STOCKS:	
New York	477
Boston	477
San Francisco	477
London	477
Paris	477
Dividends	477
Assessments	480
STOCK QUOTATION:	
New York	478
Boston	478
San Francisco	478
Denver	478
Philadelphia	478
Baltimore	478
London	478
Coal Stocks	478
Ind. and Trust	478
Colo Springs	480
Aspen	480
Salt Lake City	480
Helena	480
Pittsburg	480
Shanghai	480
Paris	480
MINING CO'S	479
CURRENT PRICES:	
Chemicals	480
Minerals	480
Rarer Metals	480
ADVT. INDEX	15
ADVT. RATES	16

The co-operative experiment undertaken by Mr. D. B. Huntley at the Morning mine in the Coeur d'Alenes, Idaho, has, we are informed, passed through its first month of trial with a greater degree of success than was expected. The force at the mine in the first week in November was 85 men, and applications were being received daily from others. Moreover, a local authority says the men at work are of the best and most reliable class in the district, a result which might have been anticipated. Of course, one month's trial will not decide the success of the experiment, nor would the first month be likely to show as good a result for the co-operators as may be expected later. It is satisfactory to know that the trial has begun well, however, and that the fear of the Miners' Union has not prevented men from joining in it. Its future success is certainly to be desired.

The launch of the "St. Louis," which is described in another column, may be looked at in two different lights. On the one hand it is gratifying to our national pride to know that the Philadelphia shipyards can turn out a steamer fit to compete with the best foreign ships for the trans-Atlantic travel. On the other hand one cannot help reflecting that the cost of the ship would be much better invested in several serviceable freight steamers. The "tramp" steamer, as it is somewhat contemptuously called, is nowadays a very important factor in the world's transportation, and the ownership of fleets of such vessels has aided materially in building up and supporting the commercial supremacy of Great Britain. The fast passenger steamer is more talked about and makes a greater show, but it is the freight boat which is the more profitable and in the long run much the best investment for the country.

Although the price of zinc continues low, there is a considerable degree of activity among the producers, and the demand for and quotations of ores are well maintained. Our latest report from the Joplin market, the center of the chief producing district in this country, says that during the past week prices ranged from $19 to $20 per ton and the market was cleared of all the ore offered. The smelters, apparently, are busy and their purchases do not indicate a dull market for the metal. The prices of ore are not maintained because of any scarcity, since there has been increased activity among the miners. Besides new openings in the Missouri and Kansas districts, ores are beginning to come from northwestern Arkansas, a very promising region which has hardly been touched as yet. In Europe the producers have been trying to arrange an agreement to limit the output, but a similar movement here does not seem to find much sympathy in spite of the "dull times,' about which we have heard so much.

The State of Montana has been agitated recently by a contest over the question whether the capital should remain at Helena, or should be removed to the mining town of Anaconda. The question was settled at the recent election, the proposed change to Anaconda having been defeated, but by a majority so small that the result was for several days in doubt. The prosperity of the Copper City will therefore continue to depend upon the Anaconda company's great smelting works, which are, after all, a much surer reliance than any political prominence. The campaign was a very sharp one, and the vote was determined more by considerations of locality and money than of party. The argument that seems to have been most effective, after the liberal use of money, was that the selection of Anaconda, which is the creation of a single company, would be a surrender to the one-man power which has been such a powerful factor in Montana politics; this, apparently, was sufficient to turn the scale in a close contest.

GAS ENGINE ECONOMY.

The degree of efficiency which has been attained with gas engines in Europe is shown by the description given on another page of a French engine which has worked up to 320 H. P., and is run continuously night and day, furnishing an average of 280 I. H. P. This work is done with producer gas made from a poor quality of coal, and a recent test showed that the average consumption of fuel was only 0·811 lb. per horse-power per hour. The test, moreover, was not a special one, but was made by carefully measuring the fuel consumption for a week, during which the engine was doing its regular work. The economy in fuel is apparent. Moreover, there is a very considerable saving in water, which would be of value in many locations, especially in mining operations. The gas engine requires only a small amount of water for cooling the cylinders, and for this purpose impure mine water can be employed, which could not be used in a boiler. Moreover, the water can be used over and over again, so that a very limited supply will answer.

The use of gas engines is not extending so rapidly as it should in this country, being so far confined chiefly to the smaller sizes, and we have heard of none over 75 or 80 H. P. That the number of the engines is increasing, however, shows that users of power are beginning to realize their advantages. We have frequently directed the attention of manufacturers and mineowners to the great economy to be gained by the use of gas engines: this example should greatly interest them.

AMERICAN IRON FOR JAPAN.

The growing supremacy of the United States in the production of iron and steel is becoming more and more apparent each year. Not only have we far outstripped other countries in quantities, but, in face of the higher wages which we pay, our cost of production has, through labor-saving appliances and the larger output per hour of work of our workmen, been brought to a point below that of most of our foreign competitors.

Comparing the price of pig iron here and abroad, in Great Britain Scotch pig is now quoted at $10.20 to $10.30; Middlesboro foundry, $8.50 to $8.60; forge, $8.30, and Bessemer, $10.30. In Belgium the quotations are: Charleroi foundry, $10; Luxemburg foundry, $9.20; and forge iron, $8.45 to $9.40. In Birmingham, Ala., the current quotations are: No. 1 foundry, $8; No. 2 foundry, $7.50; and No. 3 foundry, $7; gray forge, $6.50. In this raw material, therefore, we have an advantage of $1 per ton over Great Britain and nearly $2 over Belgian producers. In Bessemer iron our quotations are slightly higher, being $10.65 to $10.80 at Pittsburg.

In most of the various products of iron manufactures our quotations are also lower than those of the European countries. In bar iron, for instance, Pittsburg quotes $19 to $20 per ton as against $23.40 to $25.80 in the North of England. In plates we quote $24 to $28 for steel as against $24.96 to $38.40 for iron in Belgium, and $23.40 for iron in England.

But this is not all. A very important part of the iron industry in Great Britain and Belgium is the export trade. In pig iron alone these two countries export about 900,000 tons per annum, and in its manufactures many times this amount. This trade has in the past been filled almost exclusively by European countries, but in recent years American machinery has been forcing its way into these export markets and now is an active competitor in them.

One of the most noteworthy efforts in the direction of increasing our export iron trade is that made by Whitney & Co., of New York, the export agents of the Harrison-Howard Iron Company, at Bessemer, Ala., further referred to in our market report. The firm recently sent an agent to Tokyo, Japan, and bid on an order for 10,000 tons of cast-iron pipe for the Tokyo water-works, the sizes varying from 9 to 33 in. Heretofore such contracts have fallen easily to English or Belgian bidders. This time, however, the price made for the American material was so much less than that asked by the others that it was accepted at once, and the transaction is now pending an agreement as to terms. The price is stated as $370,000 delivered, or an average of $37 per ton. The pipe will be shipped via Pensacola.

The securing of such a contract in the face of the determined opposition of both British and Belgian bidders is an unquestioned proof of the ability of American manufacturers to enlarge the market for their product. It is in this direction more than any other that we must look for the further expansion of our manufacturing industries, for it will afford a safety-valve through which to relieve our home market when congested.

THE GOLD MOVEMENT.

In our issue for November 3d we published the official statement showing the total gold holdings of the Bank of Russia for some three years past; and this week we are enabled, through the kindness of our St. Petersburg correspondent, to give a statement showing in detail how these holdings are made up. This statement, which will be found in our financial column, shows that, after changing but slightly for two years, the Bank's stock of the yellow metal was increased in the months from January to August of the present year by $27,885,000, or nearly 14 per cent. The total amount in August was, in round figures, $484,718,250, of which $194,407,500, or somewhat over 40 per cent., was the direct property of the Imperial Treasury; while the remaining 60 per cent., nominally held by the Bank as a reserve against its circulating notes and other liabilities, is really subject to the direct order and control of the government. It should be understood that the Bank's notes are legal tender, and that while a gold reserve is held against them, they are not redeemable in coin on demand.

This increase during the present year of the Russian gold may serve as a text for a few words on a political situation which may have a considerable effect upon the gold movement during the current year. We have at different times referred to the accumulation of war reserves by the different European governments; it is true that this is no new thing, but the tendency to hoard gold, which has not been marked for some two years past, has received a new impulse from recent events, which seems worthy of especial note.

All the great European banks have shown during the past year a steady gain in their gold reserves, and this gain has increased, especially in the later months, in all of them outside of Great Britain. The gold reserve of the Bank of England, which is this week reported at $177,790,000—we use again round figures and our own currency—shows an increase of $50,000,000 over the corresponding week last year. This large reserve is due to commercial causes entirely, as we have had occasion to show at different times, and the same thing may be said of the specie reserve of $54,000,000 reported by the Netherlands Bank. It is not for purely commercial reasons, however, that the Bank of France has been adding gold at the rate of $5,000,000 a week to its stock, which this week reaches the enormous amount of $389,288,000, or $48,718,000 more than it was a year ago. It may be noted, by the way, that the Bank has been at the same time gradually reducing its stock of silver, though this reduction is not by any means so large in proportion as the increase in gold. A great stock of gold was last year accumulated in Austria in preparation for the reform of the currency, but that reform is still held in abeyance, and the gold is held under government orders. The Bank of Germany has shown gains in gold also, holding now $53,530,000 more than last year, and in addition to its reserves of nearly $250,000,000 there is also always held idle the so-called war treasure of 120,000,000 marks ($30,000,000), which has been for years stored up at Spandau.

The apparent cause of all this hoarding of the yellow metal is a renewal of the war alarms, which constantly affect more or less the business of our European neighbors. The death of the Czar and the uncertainty as to his successor's policy, the apparent reversion of the German Emperor to a reactionary policy, and the fear of complications arising from the Eastern war have revived the feeling of uneasiness and set every one again at the work of preparing for trouble. This movement, apparently, will continue for some time, as the causes which produce it are not likely to cease their operation soon.

The point of interest to us in all this is as to the sources from which the demand for gold is to be supplied. While the Russian accumulations have always been a little of a mystery, it is certain that they are kept up largely from home sources. Russia is the fourth gold producer in the world, and her output of the yellow metal, about $25,000,000 annually, has been kept at home under the settled policy of the government. The other European stocks, however, must be drawn chiefly from the London market, and the outgo from that market has been large enough in the past few weeks to cause much remark and some uneasiness, in spite of large receipts from South Africa and Australia. The London financial papers, which may be supposed to represent current opinion, are already discussing the possibility of drafts upon this country to aid in keeping up the English stock. Such drafts are not probable in the present condition of the exchanges, unless there should be a renewed selling movement of American securities, of which there are no present indications. It is well, however, that we should be prepared, and our best course, to maintain confidence both at home and abroad, and to prevent any injurious withdrawal of capital, is to press forward the work of reforming our currency on a stable basis. This is our most pressing need at present. At the same time we should not lose sight of the fact that a permanent remedy for this world-wide trouble can only come from an international settlement and adoption of a Universal Bimetallism, which would relieve the strain upon the gold supply and promote the prosperity of the whole world.

NEW PUBLICATIONS.

A HANDBOOK OF GOLD MILLING. By Henry Louis, Associate of the Royal School of Mines, etc., etc. Macmillan & Co., London and New York. 500 pages. Price $2.50.

An attractive-looking little volume, with binding, print and illustrations in thorough keeping with the reputation of the great publishing-house which emits it. The author has from time to time written much upon the stamp mill. He is known to have designed some of the large plants erected in South Africa. His name on the title-page, therefore, gives promise of good things.

In the preface an explanation is offered for the absence of references throughout the book, "the essentially practical purposes" of which render such an incumbrance undesirable. There may be something in this; nevertheless correct references add immensely to the value of any technical publication. The first four chapters dealing with the occurrence and properties of gold, the properties of mercury and its alloys, will be of interest to the student and offer in a condensed form the many chemical facts the ignorance of which has sadly handicapped many an otherwise intelligent millmen. In chapter V. the reader obtains an idea of the gradual evolution of the modern stamp mill from the primitive devices still to be seen in Africa, South America and China. Coming to the practice of to-day the author describes the preparation of the ore previous to its introduction into the battery. In the next chapter we get to business and are brought to the consideration of the most complete stamp mill of to-day—that of California. Very properly a protest is made against the unthinking imitativeness which copies the wooden framework of the American mill in localities where iron is better adapted for the purpose. This charge holds as against English engineers, but cannot justly be made against the Australians, who, in this one respect, have long broken away from time-worn precedent.

In discussing the form of mortar boxes, the manner in which they should be put in place, the various kinds of screens, their arrangement, the use of inside copper plates and the adjustment of the depth of discharge, Mr. Louis evidences a painstaking accuracy and a careful inquiry into the subject which render the next 40 pages of particular interest and value. In the matter of punched screens versus wire cloth, the author points out the greater discharging area of the latter, but fails, as most of us have done, to distinguish between the very different service which iron or steel wire cloth gives as compared to brass. The reasons for the discarding of double-discharge mortars are variously given; they are

indeed true, but the chief cause for their disappearance from practice—namely, their great consumption of water—is omitted. The depth of discharge is a factor whose importance is second to none. Most writers on stamp milling fail to appreciate it. The scientific insight of the author of the book under review renders it impossible for him to make such an error. In impressing upon millmen the necessity of the maintenance of a uniform issue the author does a good service.

The next chapter, which deals with the material, weight, form and proper arrangement of the tappet, stem, head, shoe, cam and die, forming the different parts of the mechanism of the stamp, is written with the knowledge of a machinist and goes into the mechanical principles of the subject in a manner which must render it most serviceable to those who are engaged in milling. The same may be said of Chap. VIII., which is devoted to mill framing and the general arrangement of a plant. Ore feeders, included here, might better have been taken in their proper sequence in Chap. V.

In classifying and discussing other quartz crushing machinery Mr. Louis has a few truthful remarks to offer regarding the shoals of "new inventions" which annually appear and whose mortality is so exceeding great. The power stamp, the arrastra and the Huntingdon mill are the only machines to which he gives respectful attention. I cannot but agree with him in his rejection of the multitude of patent pulverizers whose ruins dot our mountain-sides. In regard to the Huntingdon mill he points out that it is not adapted to the crushing of hard quartz. The neglect to appreciate this fact has done much to throw discredit upon a machine which within certain narrow limits does good work. The author omits to state—perhaps he is unaware of it—that the Huntingdon in its newest form is winning favor as a machine for the crushing of middlings and tailings from jigs, previous to their further concentration.

The elucidation and analysis of the principles of amalgamation, and the discussion of the use of copper plates and wells, are done with a confident insight into the chemistry of the process which renders the next chapter extremely interesting. In one respect the author differs from most American millmen, namely, in advising the use of sodium amalgam. The employment of any nostrum in ordinary stamp milling is daily decreasing. The most serious objection to the practice lies in the ignorance on the part of most millmen of the chemical reactions which they set to work. The intelligent use of sodium amalgam, various acids, potassium cyanide, etc., will not be objected to when millmen understand the chemical reasons for their use. Mr. Louis' book will afford the information which so many lack.

Concentration is the next subject. The limitations of space prevent the reviewer from dealing in detail with the author's handling of this subject. Mr. Louis necessarily confines himself to the discussion of that portion of it which bears upon concentration as supplementary to battery and plate amalgamation. In his conclusion he will carry most of us with him—that at the present time the system of sizing previous to concentration on jigs, vanners and buddles is the chief improvement now available in gold milling.

The "treatment of concentrates" includes pan amalgamation, chlorination and cyanidation. Twelve out of 34 pages are devoted to a description of the treatment of tailings by cyanidation. In weighing the adaptability of a little understood process, and in analysing the chemical knowledge on which it is based, the author is careful and fair. He, however, falls into an error which is very common, when he quotes the successful treatment of Witwatersrand quartz tailings, free of slime, as directly bearing upon the extraction of gold in concentrates and in crude ore. Chap. XIII. deals with the clean-up of a mill, the treatment of the amalgam and the melting of the gold.

The next chapter goes into the question of the cost of milling, a very treacherous subject. The Black Hills and the Alaska-Treadwell are quoted as typical of the handling of low grade ores. The author instances the Witwatersrand method as typical of the treatment of high grade mill stuff. Here, as elsewhere in the book, South African ore, the banket of Johannesberg, is quoted as typical, while on the contrary it is practically confined to one known mining district, and may be regarded as exceptional. In his description of the "Grass Valley" method, Mr. Louis is out of date. That method survived at the Idaho mill until 1888. Similarly the Colorado milling practice is not accurately described.

The data regarding the cost of milling in the United States are very incomplete. Like many Englishmen, the author gets stranded on the Alaska-Treadwell, a mill working under exceptional conditions. The costs of milling as quoted obtaining at several districts in Victoria are not above suspicion, the extreme variation is not explained, and in one instance at least does not exist.

The last chapter gives many useful hints and some sensible advice regarding sampling and assaying.

To sum up, "The Handbook of Gold Milling" is a book which the mining profession will be glad to get. It deals with the mechanical principles of the stamp mill and the chemical facts of amalgamation in a manner both clear and instructive. The author is a machinist and a chemist. If the book be lacking in ought it is in its want of familiarity with American practice, a practice which has been the pioneer in the progress and improvement of modern stamp milling. Nevertheless the underlying principles are the same in South Africa and in California. Of these principles the author has a bed-rock knowledge which make this volume—of convenient size and a veritable handbook—a most welcome addition to the library of every one interested in the extraction of gold from its ores.

T. A. R.

LOCOMOTIVE MECHANISM AND ENGINEERING. By H. C. Reagan, Jr. New York; John Wiley & Sons. Pages 296; illustrated. Price $2.

The author of a new book on the locomotive must expect to be severely judged, for his work will certainly be compared according to its general scope and purpose with one of the best mechanical books in the English language. The completeness and the admirably clear and attractive style of Forney's "Catechism of the Locomotive," and the thoroughly practical directness of Sinclair's "Locomotive Running and Management," have set a very high standard for books on this subject, and one to which very few writers can attain. Mr. Reagan has sought to make a practical book and to treat especially of the management of the locomotive under difficulties; that is, to apply a knowledge of its construction and working to the methods to be adopted in case of accidents and breakdowns on the road. This is a very necessary part of a locomotive engineer's education, especially now when the tendency is to make engineers from the tender rather than the bench; that is, to give the charge of an engine to a promoted fireman rather than to a machinist from the shop. Very few locomotive runners now are skilled machinists; their knowledge of the engine has been acquired by handling it and not by helping to build it, and to these men books are of especial service. The present book is designed for such students, and is arranged so that it can be used by firemen studying for promotion and by master mechanics in examining candidates.

A large part of the book contains little that is new. The most valuable part is in the chapters on Compound Locomotives, which are a new development in railroad machinery. The different types of compound engines are well described, and in this respect the book may be considered and used as an excellent supplement to Mr. Sinclair's work, which was written before the compound locomotive was known in practice. In some future edition it will have to be enlarged by a chapter on the Da Bousquet four-cylinder compound, a type not in use in this country as yet, but regarded by many good judges as the best yet designed, and which has met with remarkable success in France. For this part of the work, chiefly, but also because it contains some very good practical hints, the book will be a useful one for all who are interested in the locomotive.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

Massachusetts State Board of Health; Twenty-fifth Annual Report: 1894 Boston, Mass.; State Printing Office. Pages 812; with diagrams.

Anales de Ingenieria, No. 79. July, 1894: Organ of the Colombian Society of Engineers. Bogota, Colombia; Published for the Society. Pages 32.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials only will be published when so requested.
Letters should be addressed to the MANAGING EDITOR.
We do not hold ourselves responsible for the opinions expressed by correspondents.

Definition of a Contact Fissure Vein.

EDITOR ENGINEERING AND MINING JOURNAL:

Sir: The term "contact fissure vein" referred to in correspondence recently published in the "Journal" is not an uncommon one in the West, but I have generally heard it used by men who also used such terms as "eruptive limestone" and "quartzite dikes," speaking without any clear idea of what they meant.

I have seen veins bearing the earmarks of true fissures and occurring on the nearly vertical contact of an eruptive rock with nearly horizontal sedimentary strata. These could well be called contact fissure veins, but the example given by Mr. Warren should be classed as no "contact," in the original use of the term, which required an eruptive and a stratified rock, no "fissure," because the ore deposition did not occur in a fracture of the rock; and no "vein," in the sense of the word as used in the United States Statutes on the subject.

COLORADO SPRINGS, Colo., Nov. 5, 1894. W. E. NEWBERRY.

Napier's Process of Copper Smelting.

EDITOR ENGINEERING AND MINING JOURNAL:

Sir: It seems strange that in this country, where copper smelting is much more advanced than in any other copper producing country, you do not see or hear of Napier's method having been worked. It is a very interesting and economical process if carried out properly, much in advance of the older methods. The writer has had a good deal of experience in working it, and found it always gave satisfactory results. It was for some time carried out at the Spitty Works, near Swansea, but for some reason abandoned.

The Mexican & South American Company, which formerly existed in Herradura Bay, Chile, carried out the same process and brought from England a staff of smelters and chemists to work it. One of their head smelters, Mr. Thomas Francis, was engaged by Mr. Urmensta, owner of the celebrated Pique mine in the Tamaya region, to erect and superintend a copper smelting plant in Guayacan on the Napier method modified by him. Mr. John Jones, also a former employe of the Mexican & South American Company and Guayacan Works, introduced and managed the process for many years for Madame Consino & Company's Works in Lota. Guayacan and Lota establishments are the largest producers of copper in Chile, and have always worked this process, giving large profits to their owners. I believe the process could be worked cheaper in this country than in Chile, fuel being cheaper here than there, labor is about the same.

The advantage the Napier process has over any other is you are able to convert matte of any grade, and smelting a large amount of ores which is necessary as a flux to form a thin clean slag with the iron in the matte, and get from the ores their copper contents in one smelting. By other methods such as bessemerizing matte, you have to get high grade matte, giving a foul slag, which has to be resmelted. COPPER.

SAN FRANCISCO, Cal., Sept. 16, 1894.

[Napier's process has been superseded by better and more economical methods of smelting copper ores. Briefly, it consists of calcining the ore and smelting it with or without oxidized ores in reverberatories, for a rather richer matte than usual in that process, in England, say 40 to 45% copper. After skimming the slag, 40% of lime (not limestone), 60% coal and 120% saltcake for each ton of copper in the matte, is added to the molten matte, and well stirred in. Then tapped into sand molds, and while hot, though solid, it is thrown into tanks of water, where the solution of the sulphide of sodium, which is all through the matte, effects its quick disintegration into a powder. One main object of this treatment is the removal of the arsenic and antimony, as they combine to a considerale extent with the lime and soda. This powder is thoroughly calcined and smelted with silicious ores, free from arsenic and antimony, direct for metal fit for refining. It was in use at one time in Swansea and Chile, but is entirely out of date and can't pretend to compete with modern methods.—EDITOR ENGINEERING AND MINING JOURNAL.]

THE ZINC MINING INDUSTRY OF SOUTHWEST MISSOURI AND SOUTHEAST KANSAS.

Specially Prepared for the Engineering and Mining Journal by J. R. Holibaugh.

(*Continued from page* 437.)

THE TROUP MINING COMPANY.—This company is located at the extreme southeast corner of Carterville, operating a 40 acre tract of land which is developed by seven shafts sunk to an average depth of 200 ft. The ore deposits are large and as far as developed are continuous. The surface improvements consist of steam hoisting and pump plants and good concentrating plants. The property is under the management of Mr. S. H. Cobb.

The following is a statement of the productions of zinc and lead ore:

Year.	Pounds of Zinc Ore.	Pounds of Lead Ore.	Amount Sold for.
1891	87,469,000	46,500	$97,283.47
1892	134,140,000	498,000	153,526.85
1893	1,225,970	456,400	18,482.91
Total	222,825,970	1,000,900	$259,293.23

Note.—The total output for 1892 is only up to November 18th.

THE ELEVENTH HOUR MINING COMPANY.—This company controls under lease 120 acres of land in the southeast part of Carterville. Active operations were commenced about 1889 and the production of ore was commenced in January, 1890. Up to the present time the mines have proved rich. The land is almost surrounded by developed and producing mines, so that there is every reason to believe that the Eleventh Hour property is underlaid with large deposits of zinc ore. The mines now are being operated by subleasers on the royalty plan. The surface improvements in the way of building and machinery are all good and substantial.

The following statement will give the total amount of ore produced and the amount sold from January 10th, 1890, to December 31st, 1893, inclusive:

81,705,686 pounds of zinc ore	$884,242.23
3,911,735 " " lead ore	89,759 81
Total to December 31st	$974,002.04

Production from January 1st to April 28th, 1894:

1,372,750 pounds of zinc ore	$11,050.63
183,909 " " lead ore	3,351.45
Total	$14,402.08
Grand total	$988,404.12

THE E. N. PERRY MINES.—There are located north of and adjoining the Eleventh Hour company. Mr. Perry commenced operations in 1892 by the purchase of 10 acres in fee simple for $10,000; he then leased the adjoining 40 acres on the east for a term of years; thus making a total of 50 acres under his control. The property is now well developed by shafts to an average depth of 160 ft. which has opened up large deposits of high-grade zinc ore. The mines are mostly operated by subleasers who pay a royalty on the ore. Mr. E. J. Tutty is the superintendent of the entire property. The property is fully equipped with good plants of machinery for hoisting and dressing the ore. The following is the production of the mines from July, 1892, to November 18th, 1893, inclusive:

7,252,810 lbs. of zinc ore	$74,685.58
77,840 lbs. of lead ore	1,510.91
Total	$76,196.49

THE RICHLAND MINING COMPANY.—This company controls by lease 30 acres adjoining the Perry mines on the west. The company is composed of Mansfield, O., people, and is under the management of Mr. J. M. Waugh. Portions of the land are operated by subleasers, who are working on large zones of zinc ores. The average depths of the shafts are 160 ft. The following is the statement of production from 1891 to November 18th, 1893, inclusive:

Year.	Pounds of Zinc Ore.	Pounds of Lead Ore.	Amount Sold for.
1891	1,258,870	307,190	$8 742.93
1892	4,469,080	940,130	70,435 80
1893	1,468,720	752,600	29,966.24
Totals	7,196,870	1,999,920	$109,144.97

THE EALER LAND AND CORNFIELD MINES.—This includes two 80-acre tracts located just south and west of the business portion of Carterville. Most of the development has been done by prospectors and miners, using primitive methods, but large zones of ore have been opened from which a large production can be made. The following is the statement of production from their first up to December 1st, 1893:

5,297,110 lbs. of zinc ore	$53,906.48
3,194,630 " lead "	75,033.26
Total	$128,939.74

THE MOUND CITY MINING COMPANY.—This company is incorporated with a capital stock of $100,000. The officers are: Louis Grund, president; Henry Hennessy, Jr., vice-president; Phil H. Lersy, treasurer; A. H. Brueggeman, secretary; and Louis Helm, manager, all of St. Louis, Mo. The company controls by lease 80 acres of the Thos. Connor land. Development was first commenced in the fall of 1891, and now the main shaft is sunk to a depth of 185 ft., and from this a number of drifts have been driven in the ore zone or deposits, the longest of which is 355 ft., all in ore. The deposit of ore has been well explored by crosscuts from the main drift, and is proved to have a thickness of 42 ft. The plant contains an ore dressing, concentrating plant with a capacity of 200 tons of rough ore per day of 24 hours. As this is a new mine the production of ore has been confined to less than one year. The following is the total production up to June 30th, 1894: 3,772,000 lbs. of zinc ore, 216,520 lbs. of load ore, $28,080.49.

The following statement will show the entire production from the mines of this Webb City, Carterville district for the calendar years of 1892 and 1893:

Year.	Pounds of Zinc Ore.	Pounds of Lead Ore.	Amount Sold for.
1892	124,626,230	8,927,860	$1,609,568.00
1893	101,731,876	8,800,132	1,142,306.00
Totals	226,358,106	17,727,992	$2,751,874.00

SPRING CITY MINING DISTRICT.—This is one of the new mining districts in Newton County, five miles south of Joplin, which has been opened up during 1893 through the efforts of J. W. Allen, formerly of Philadelphia, Pa. Mr. Allen and his friends owned several hundred acres of undeveloped land in Newton County. They selected the S. W. ¼ of the N. E. ¼, Section 10, Town 26, Range 33, and prospected by sinking drill holes, the cuttings from which proved good deposits of both lead and zinc ore. Mr. Allen then organized the Spring City Lead and Zinc Company with a capital stock of $5,000, with Chas. Shifferdecker president, J. H. Spencer treasurer, and J. W. Allen general manager. Development was commenced at once and the record of the drill holes verified. The land was then surveyed into mining claims 200 × 200 ft. and leased out to operators, several of whom opened up rich and productive deposits. This inspired confidence in the new camp, and a town site was platted, called Spring City. Others owning land in the vicinity commenced preliminary prospecting, some of which has proved the ore deposits to cover quite a large area. To-day Spring City is one of the most prosperous of the new camps. The following statement of production is furnished by Mr. J. W. Allen, January 1st to December 31st, 1893:

362,510 lbs. of lead ore, sold for	$6,978.26
2,582,310 " " zinc " " "	22,882,38
Total	$29,860.64

ROARING SPRINGS MINES.—This mining district was first opened in 1879 through the efforts of Mr. E. B. Leonard, of Joplin, and Col. W. B. Stone, of Galena, Kan. Prior to this some prospectors had discovered and mined ore west of this place in what is known as Tanyard and Gordon Hollows, but no considerable work was done until the opening of the Roaring Spring mines. The district is located in Sections 19 and 20, Township 27, Range 33, Newton County, Mo., just south of the Jasper County line and four miles southwest from Joplin. The first few years' mining was confined to prospecting for shallow deposits and the ore produced by primitive methods. In the fall of 1888 the land passed into the hands of capitalists from Pennsylvania, who organized the Roaring Springs Land and Mining Company, with a capital stock of $100,000; W. M. Luke, of South Fork, president, and Alvin Evans, of Ebensburgh, treasurer. Active development was commenced at once. Pump shafts were sunk and a large concentrating plant built, which was used as a custom mill for the miners operating leases on the land. The property has been under the management of different parties as superintendents until 1893, when Mr. E. Hedburg was selected as superintendent, and under his management the mines have proved very productive.

The following statement of production is given by Mr. D. C. Hoover secretary:

Year.	Pounds of zinc ore.	Amount sold for.	Pounds of lead ore.	Amount sold for.
1889	687,800	$5,536.50	.....	.....
1890	635,400	6,094.00	.....	.....
1891	1,954,000	15,632.00	14,330	$392 64
1892	2,234,000	17,888.00	172,300	3 416.61
1893	1,054,000	8,445.00	71,880	1,293.96
Total	6,565,200	$54,595.50	258,510	$5,133.21
Grand total from sale of lead and zinc ore				$59,728.71

(*To be Continued.*)

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

SUPREME COURT OF CALIFORNIA.

Meaning of Resumption of Work on Mining Claim.

The Revised Statutes, United States, provides that, in case of non-performance of a certain amount of labor yearly on a mining claim, it shall be open to relocation, provided that the original locators, their heirs, assigns or legal representatives, have not resumed work on the claim. The "resume work," within the provisions of the statute, means to begin work anew with a bona-fide intention of prosecuting it.—McCormick vs. Baldwin, 37 Pac. Rep., 903.

SUPREME COURT OF MONTANA.

Mechanics' Liens on Building on Leased Land.

A provision in a lease of mining land that improvements placed thereon by the lessee shall become the property of the lessor, and remain as part of the land, is subject to the statutes which provide that where a person has a lien on a building for material furnished, and the interest of the owner of the building in the land is a leasehold, the building may be sold to satisfy the lien and may be removed by the purchaser. Under the provisions of this statute a company furnishing material is entitled to maintain its lien on improvements, such as buildings and machinery, placed on the leased premises by the lessee, to secure payment for the material or machinery furnished in the construction or equipment, and is entitled to have its lien foreclosed, and such improvements sold to satisfy such demand, with provision in favor of the purchaser to remove the things sold within the time provided by law. This lien attaches to matter added to the leased premises by the lessee, and goes no further; provision being made by law for removal, so that the premises leased by the landlord may be returned to him unaffected by such lien. The statute so providing is paramount to the conditions of the lease, and the lien which the statute creates is not destroyed by a provision of the lease to the effect that the improvements by way of buildings, or a mill for the reduction of ore, shall inure to the lessor as soon as the same is placed on the premises. Such provisions of a lease, as well as provisions of other contracts, are subject to the provisions of the statute and are presumed to have been made in contemplation thereof.—Montana Lumber and Manufacturing Company v. Obelisk Mining and Concentrating Company, 37 Pac., 897.

Wood v. Iron Sleepers.—It was stated in a recent paper before the Verein fur Eisenbahnkunde, of Berlin, that at the end of last year there were 56,003 kiloms. of railway track in Germany laid on wood sleepers and 13,900 kiloms. on iron sleepers. The use of iron sleepers is, however, increasing at a more rapid rate than wood, there having been only 1,310 kiloms. of track laid on iron sleepers at the end of 1881.

ABSTRACTS OF OFFICIAL REPORTS.

Darien Gold Mining Company, mited; Colombia.

The report for the 11 months ended July 31st, 1894, was presented at the meeting of shareholders held at Manchester, Eng., on November 1st. It will be remembered that this company was formed in 1887 to purchase and work several gold mines at Cana, near Panama, which were reputed to be the old workings of the Spaniards. After the purchase was completed it was found that there practically was no gold bearing rock, and that all the shareholders had obtained for their money was the historical records relating to the richness of the property in the days of the Spaniards. After having dismissed an incapable mining manager, the directors decided in 1891 to reconstruct and to start exploratory work, and they accordingly engaged Mr. Ernest R. Woakes, an English engineer, to ascertain whether it was possible to find any of the old veins worked by the Spaniards. After working on the matter for two seasons, Mr. Woakes has been fortunate enough to be able to report that success has attended his efforts. The directors' report consists mainly of Mr. Woakes' account of his work.

As the old exploratory workings undertaken by Mr. Woakes' predecessor had been flooded, the first thing to do was to drive an adit tunnel for drainage. While this was being done from the mouth, new pumps were brought to the old prospecting shaft and the water pumped out. The pumps which had been lost in this shaft two years ago were recovered and restored to their work. The shaft was retimbered, and then sinking was recommenced. After having reached the 90-ft. level (the level of the adit) working was commenced on the adit from this end. On July 3d of this year the two ends of the adit met. A complete drainage was therefore obtained for the mine. The length of the adit is 1,080 ft., and it was constructed at a cost of $18.20 per foot, Colombian currency, inclusive of everything except superintendence and office expenses. Owing to the presence of bad gases, a ventilating fan has been put in the shaft

After having completed the adit it was possible to start prospecting in earnest. The adit was then continued towards a point directly below the hole which had first unintentionally tapped the old workings. The north wall of the lode was then found to be well defined, and immediately inside it and for a width of 3 ft. the ore assayed over 1 oz. per ton. A crosscut (No. 2) was started at this point and driven 40 ft. through a conglomerate lode without meeting the south wall. After the first 3 ft. above mentioned the lode assayed from 3 to 11 dwts. per ton all through. At 40 ft. from the north wall an old shaft was cut into, extending below the floor of the adit and full of country rock and old timbers. The adit drivage was also continued along the north wall of the lode, and carried the floor of the old Spanish workings about 3 ft. high in the breast. This continued for about 30 ft., when solid ground was again met and crosscut No. 3 started across the lode. Five feet beyond this crosscut the drivage again struck old workings and is at present being carried through these into the solid to explore the lode to the west along its length. This driving has carried throughout a fine branch of pay ore varying from 10 to 20 dwts. per ton. At one place between crosscuts, an old winze was met passing below the present adit level and following a rich branch of ore, thus proving that the vein had been left by the Spaniards for something better.

At the point where No. 3 crosscut was started the vein stuff is most favorable and much free gold was met with. After crosscutting 20 ft. through a lode averaging nearly 10 dwts. per ton, further extensive Spanish workings were met with. These appear to be a wide-arched gallery, with roof and sides in solid lode stuff. The gallery is 8 to 9 ft. wide and nearly filled up with deads. It appears to dip to the east in the direction of the old shaft met in No. 2 crosscut, and to rise to the west. Samples from blasts from the roof and sides gave 4 to 12 oz. per ton. This No. 3 crosscut has therefore proved a lode more than 30 ft. wide, with rich portions on both north and south walls and some 20 ft. of good pay stuff between. The actual south wall has not been met in any crosscut, so that the width of this extraordinary deposit is unknown.

These developments have so satisfied Mr. Woakes that he has hit on the old Spanish Esperitu Santo mine that he has stopped prospecting works and commencod to sink an engine shaft and to cut the way for the tram road to the stamp mill. He expects to have 20 stamps going next summer, and estimates a profit of £1,500 per month on 10 dwt. ore, and £3,000 on 15 dwt. ore.

COAL MINING IN THE TRANSVAAL.

Some time ago the Prussian Minister of Commerce commissioned Bergrath Schmeisser, of Magdeburg, to investigate the mineral resources of the Transvaal. After a protracted stay in South Africa, a report has been prepared, which deals very fully with that country. Regarding coal, Bergrath Schmeisser says that found was formerly ascribed to the most recent division of the Karroo formation, the Stormberg beds, but, seeing that at the Olifant River at the Holfontein Colliery fossil plant remains, identified as those of Glossopteris, have been found with the coal, there can be no doubt that some at least of the Transvaal coal belongs to the Ecca and Beaufort periods.

The section of the strata at the Brakpan Colliery, the most important coal mine in South Africa, is as follows:

		Ft.	In.
Karroo formation.	Soil	16	4
	Schist	22	11
	Sandstone	39	4
	Shale	4	11
	Coal	2	3
	Shale	8	10
	Coal	21	0
	Shale	3	3
Cape formation.	Sandstone	2	0
	Conglomerate bed	3	3
	Quartzose sandstone	3	3

The coal at the Bocksburg, Brakpan and Springs collieries is poorer in hydrogen, more anthracite, softer and richer in ash, or, in other words, of poorer quality than the Middelburg coal. It is adapted only for steam boilers, and requires a strong draught. It is interesting to note that in the ash of this coal, Professor Stelzner, of Freiberg, has discovered an appreciable proportion of gold. Remembering that in the Karroo beds of the Orange Free State and of Natal, coal is widely distributed, there seems to be good grounds for believing that in the Transvaal the coal deposits will be found to be of very great extent. It is true, however, that the coal is mostly confined to two seams, the lower of which is frequently too thin to be profitably worked.

The working of the coal in the Transvaal presents many points of interest. In the Olifant River and Wilge River districts, coal is worked on a small scale at numerous places for local consumption. The Douglas Colliery is worked, by a level from the surface, on a simple pillar-and-stall method, the pillars and the stalls being each 16 ft. in width. At the surface there is a coke oven plant of the simplest character. The coke produced by these eight beehive ovens, though impure, is firm and of good appearance. At Holfontein Colliery and at several other smaller collieries in the Middelburg district the coal is mined in the same primitive manner. At the Olifant River, coal mining is frequently impeded by floods. This difficulty could, of course, be easily obviated as the industry develops, by driving inclines to the dip, with the entrance above the level of high water. The construction of the Lorenzo-Marques and Pretoria Railway will undoubtedly give a great impetus to the collieries of this district.

The Karroo beds, which overlie the Cape formation to the east of Bocksburg, are not cut up by deep valleys like the Middelburg district. It has consequently been found necessary to replace the levels by shafts. Besides seven small collieries, there are situated near Bocksburg the Brakpan Colliery (6 miles east of Bocksburg), and the Springs Colliery (10 miles east of Bocksburg), both of which are worked on a large scale. Only the lower of the two seams, however, is worked, and for this purpose two winding shafts 115 ft. deep have been sunk. The system of working is influenced by the excessive cost of timber. The seam is opened up by main levels, 13 ft. wide and 10 to 13 ft. high. Connecting roads are driven 180 ft. apart. Formerly the distance was 100 ft. Bords are then driven 6 yds. wide, and pillars 5 yds. wide. Large pillars are left under the shaft buildings, and the new mining law compels this to be done also under the railway. The tools used are long jumpers, picks and shovels; the explosive employed is dynamite exclusively. This produces a large quantity of small coal, and a less powerful explosive would be better; but the Government dynamite monopoly renders this difficult. Half-a-pound of dynamite is used per ton of coal. Haulage is effected by men in the workings and by horses and mules in the main roads. It is, however, intended to introduce endless rope haulage. The amount of water encountered is not excessive, and is easily dealt with by steam pumps. The ventilation is natural, the air passing in by the inclines or boreholes, and passing up the winding shafts, which are usually slightly warmed by steam pipes. The production of the Brakpan Colliery was 148,995 tons in 1892, and 202,744 tons in 1893; that of Springs Colliery was 54,034 tons. The cost of working is not divulged by Bergrath Schmeisser, who states that at Brakpan it was not more than at a Westphalian colliery, and at Springs Colliery it was a little higher. This would appear to agree with the statement made by Mr. Bennett Brough ("Journal of the Society of Arts," 1893, p. 175) in a paper describing a visit to these collieries, that the cost of working was 6s. per ton, and that of transport to Johannesburg 8s. The output amounts to one ton per man per shift.

At Brakpan Colliery there is a screening plant giving lump coal and two sizes of nut coal; 5% of dirt is removed and 15 to 18% of unsalable smalls passes to the waste heap. At Springs Colliery the nuts are washed. The screening plant at this colliery comprises a mechanical tippler, a Briart screen, picking belt, elevator, revolving screen and two coal-washers. Great inconveniences are presented by the custom in vogue of transporting the coal on the railway in sacks. The cost of packing and that of the sack increase most unnecessarily the total cost. There are 10 sacks to the ton. The selling price of the coal in 1891 was 13s. 6d. per ton for lump coal and 8s. 9d. per ton for nuts. In 1893 the price was 11s. 2d. per ton for lump coal and 7s. for nut coal.

A Singular Property of Ruthenium.—Professor Joly, of the Paris Ecole Normale, has investigated the compounds of ruthenium, principally those resulting from an association of this element with binoxide of nitrogen, a combination which, behaving as a single body, unites with chlorine, bromine, iodine and oxygen. Pursuing the study of this metal, Professor Joly, who claims it to be, of all known elements, that which presents the most original properties, recently submitted to the Académie des Sciences several samples of a red coloring matter, resulting from an association not yet definitely determined (oxychloride of ammoniacal ruthenium), giving a tinctorial power equivalent to that of the richest dye materials obtained from coal tar, to that of fuchsine, for instance. A five-millionth part of the substance suffices to color water. It dyes silk directly, and the color thus procured is stable. The chemical reactions of this new coloring matter are equally interesting. Acids transform it into yellow, and alkalines bring it back to red.

Production of Alumina from Clay.—Joseph Heibling, in the "Chemical News," says: Suppose a clay of a known strength in alumina. For each mol. of alumina we incorporate with the clay three mols. ammonium sulphate and an almost equal weight of neutral potassium sulphate; one molecule of potassium sulphate is theoretically sufficient. The whole is well worked up and made into hollow bricks. These bricks are baked at 270°-280°. The ammonium sulphate is then decomposed into acid ammonium sulphate and ammoniacal gas, which may be collected in a condenser. The acid of the acid ammonium sulphate is first thrown upon the neutral potassium sulphate, which becomes acid sulphate. The latter, at this temperature, in presence of alumina and clay, is neutralized by the alumina, forming double aluminum and potassium sulphate, i. e., alum. The bricks are then extracted by methodic lixiviation. The silica may be used for cement. The alum is freed from iron by recrystallization, and the solution may be treated for the precipitation of the alumina by means of the ammonia which has been distilled off. To obtain the alumina in a granulated state it is spread out upon stages in a tower traversed from bottom to top by the hot moist ammonia obtained in baking the bricks. The alum is thus transformed into a mixture of ammonium and potassium sulphates and of granular alumina.

NEW APPLICATIONS OF IRON AND STEEL.

At the conference of the members of the British Iron Association recently held in Glasgow, Mr. Jeremiah Head read an interesting paper on the new applications of iron and steel, in which he said it was doubtful whether Great Britain had done as much as it might to stimulate the demand for iron and steel in directions other than railways, shipbuilding and tin-plates, which are three of our chief channels of consumption. It is, at any rate, certain that on the continent of Europe and in the United States of America a great deal more has been attempted and achieved than has been done here in the way of applying iron and steel to other and more general purposes, in substitution more especially for timber, bricks and stone. The most remarkable development in this direction has taken place in the application of steel to structural purposes, and especially in public and private buildings. The United States have led the way by carrying structures in central thoroughfares to great heights, and recognizing that additional safety, convenience and economy would be involved by substituting steel for timber and brickwork in such cases. The custom in Chicago is to use rails weighing 60 to 75 lbs. to the yard along with concrete in the foundations of buildings; these are laid to a considerable depth in crossed tiers, which are extended under the street or alley beyond the building line, the distance varying according to the height and weight of the building. Under the World's Fair buildings the foundation rails reached 12 ft. under the street and 9 ft. under the alley. Another use to which steel is now being largely applied in the United States is that of fireproof flooring. This application is not by any means unknown in our own country, but it appears to have been carried much further in the United States than anywhere else. It has long been predicted that timber would eventually be superseded by steel in the underframes of railway cars, if not in the entire framework of all rolling stock. Should this expectation ever be realized there would unquestionably be a greatly increased demand for iron and steel in a somewhat new direction. The effect of this demand on the iron and steel industries may be estimated by the fact that in the United States alone the rolling stock, excluding locomotives, employed on all the railways increased from 557,000 to 1,091,000 vehicles between 1880 and 1890. It is estimated that at the present time there are at least 2,500,000 vehicles of all kinds on the railways of the world, without reckoning locomotives. The maintenance and increase of this stock represent a certain demand upon which our steel industries may fairly reckon. The use of iron or steel pit props instead of wood is becoming very general in French coal mines. The initiators of this movement were the Societe de Lievin, in the north, and the Societe de Rochebelle, in the center, of France. Since 1879, the first-named company has used props of H iron, weighing 15½ kilograms per meter. Tests have been made between iron and wood pit props, which show that the latter have to be renewed twice as often as the former. Here, again, is an application, from the adoption of which in this country and some of its dependencies a new demand may be expected. The extent to which timber is used in mining operations is enormous, and if only it could be shown to be of advantage to substitute steel, its use would rapidly extend. The cost of steel is lower in England than in France, so that if it pays to adopt it in the latter country it would be still more likely to pay in the former. These are but a few of many cases in which the use of steel may be introduced or extended with advantage. Many others might be added. For ornamental purposes, for balconies, doors, windows, conservatories, fencing, and a multitude of other uses, steel might often be substituted for brick, stone or timber. It is open to doubt whether as much has been done in promoting its use as might have been done. The German Iron Trade Association has taken great pains and incurred considerable expense in publishing a work designed to bring under the eye of all who are concerned in building operations the advantages to be gained by the substitution of steel, and it thinks this has already had the effect of directing more attention to the subject and of enlarging the area of steel consumption. Perhaps something of like nature might be done in England with advantage.

A New Submarine Boat.—A press dispatch from Melbourne says that an inventor residing at Sydney has constructed a submarine torpedo-boat capable of sinking to any depth and of traveling under water as quickly as on the surface, without revealing its presence. A working model of the boat was tried and proved a complete success, the model rising or sinking, turning, reversing, or remaining stationary in obedience to the electric current by which it is worked. The inventor claims that a full-sized boat would be capable of remaining under water for three days, and would carry torpedoes on the bow and stern decks.

Proposed Australian Coal Mines Laws.—A coal mines regulations bill was brought before the Australian Parliament by the Minister for Mines. As indicated by the title, it touches coal and shale mines only, and among other provisions it lays down rules for the inspection of machinery and the use of explosives and lights in mines. The machinery, ropes and appliances above and below ground must be examined once at least in every 24 hours, and the state of the shafts once at least in every week, by a competent person, and reports of every such examination must be entered in a book kept for that purpose. Where the presence of inflammable gas is likely to make a naked light dangerous, only a locked safety lamp must be used, and every such lamp must be examined immediately before being taken into the workings. Not more than 5 lbs. of any explosive substance is to be taken into the mine, and then only in a secure case, and precautionary stipulations are laid down against its premature explosion from unwise tamping, and against endangering the mine by firing it in the presence of inflammable gas or in other dangerous circumstances. To prevent over-winding, the apparatus must either be provided with some automatic contrivance or the cage only wound at a speed of three miles an hour after reaching a certain point in the shaft. Appliances sufficient to prevent the rope from slipping must find a place on the drum of every machine used for lowering or raising persons, and a brake or brakes and indicator must also be attached. Each steam boiler must be provided with proper safety-valve, steam-gauge and water-gauge, and if in use must be thoroughly examined and tested by a competent person at least once every six months, the result to be entered in the book aforementioned, and a copy of the entry sent to the Inspector of Mines.

LAUNCH OF THE STEAMSHIP ST. LOUIS."

On Monday, November 12th, the new American Line steamship "St. Louis" was launched at Cramps' shipyard, in Philadelphia. This vessel is the fourth largest vessel ever launched, and but two now afloat, the "Lucania" and "Campania," exceed her in size. The other was the "Great Eastern," which has been broken up. The principal dimensions of the ship are as follows: Length over all, 554 ft.; breadth, 63 ft.; depth, 42 ft.; draught, 26 ft.; and register, 11,000 tons. She will have two funnels and two masts. The stern is straight, and the hull carried out aft around the stern tubes forms webs on either side.

The power consists of four quadruple expansion engines of the latest pattern, two working on each shaft. This is the first attempt that has been made to use this type in engines of over 4,000 H. P. The steam will be supplied by 10 boilers, calculated to develop 20,000 collective I. H. P. Besides the main propelling machinery there will be 49 auxiliary engines for pumping water, air, and for driving the blowers for forced draught. The steering is done by power furnished from small engines. Twelve of them operate the 1,200 electric lights and the ventilating system.

Accommodations will be provided for 1,320 passengers in all. Of these 320 will be first-class, 200 second-class and 800 steerage. In all there are five main decks, with a bridge or hurricane deck, which is on top of the promenade, forming practically a sixth deck.

The interior fittings will be very rich throughout, and the dining-room, which is 110 ft. long by 50 ft. wide, will seat all the first cabin passengers at one time. Provision for safety has been made in having 17 watertight compartments constructed without any communication from one to another, thus avoiding chance of any doors being open when a collision takes place. The steamer is owned by the International Navigation Company which was incorporated in 1871, and operated the steamers "Ohio," "Pennsylvania," "Indiana" and "Illinois," owned by the American Steamship Company. Later the company organized under the laws of Belgium the Societe Anonyme de Navigation Belge Americaine, trading under the name of the Red Star Line. In 1886 it purchased the Inman Line and organized the Inman & International Steamship Company, operating the steamships "New York" and "Paris." In May, 1891, Congress passed a bill authorizing the naturalization of these two steamers providing the company would build two in this country of equal tonnage and speed. The "St. Louis" is the first of these, and the "St. Paul," which is soon to be built, is the second.

The vessel is required by contract to attain a speed of over 20 knots an hour, and it is expected by the builders that this will be considerably exceeded.

Carbonic Acid for Chilling Testpieces.—Writing on the use of liquid carbonic-acid gas for chilling test pieces, especially stone, iron, and steel, at low temperature, M. Ph. v. Haller, in the "Industrie Zeitung" of Riga, says that a cheap and simple form of apparatus in which the test specimens could be cooled would consist of a wooden box with double walls, top and bottom, the spaces between being filled with some non-conducting substance. The liquid gas could be led into such a box from the iron or steel flasks in which it is furnished, and would be deposited in great part in the form of frost at a temperature of about 78° C. The test specimens could be readily put into and taken from such a box, and would quickly get a low temperature. One of the Russian railroad companies is on the point of having such an apparatus constructed for testing rails and wheel tires at low temperatures. The possibility of accomplishing the desired object with such an outfit, viz., the rapid freezing of specimens, was demonstrated by putting a number of iron testpieces into a bag of several thicknesses of coarse cloth and then introducing the liquid gas. This at once became solid, and filled all the spaces between the specimens which thus lay packed in snow. Each specimen was provided with a depression into which mercury could be poured, and, on doing this, after a short exposure in the freezing-bag, it was found that the mercury immediately solidified, showing, in the absence of a suitable thermometer, that the temperature of the specimens was certainly below 39° C., if not lower. At the St. Petersburg Laboratory of Experimental Medicine, a cold-room of quite large proportions has been fitted up, in which also liquid carbonic acid is the cooling agent.

The Maryland-Delaware Ship Canal.—The board recently appointed by the President, consisting of Gen. T. L. Casey, Chief of Engineers; Col. W. P. Craighill, Engineer Corps; Captain George Dewey, of the Navy, and Mendes Cohen and J. A. Porter, civil engineers, to select a route for a ship canal to connect the waters of Delaware and Chesapeake Bays, met at the War Department and organized. General Casey was elected president of the board, after which the various routes proposed for the great waterway were briefly discussed. The object of the board is to select a route which will give the greatest facilities to commerce and be best adapted for national defense, from surveys already made. The question of defense is of great importance, as the proposed canal will allow torpedo boats and war vessels of small size to run from New York to Norfolk by an inland route, which would be a great advantage in time of trouble. Besides being of great use in case of war the proposed canal would bring New York, Philadelphia, Baltimore and Norfolk much nearer by avoiding the route along the peninsula, and it would shorten the route between Baltimore and the ports of Europe. The board has seven or eight surveys to consider, and whatever recommendation it agrees upon will be made to Congress as a basis for legislation. This canal and the various routes were fully described in the "Engineering and Mining Journal" of June 2, 1894. Last week a delegation of Baltimore business men appeared before the Delaware & Chesapeake Canal Commission to make argument in favor of the project. There were present besides the board, Gen. Felix Agnus, chairman; T. Edward Hambleton, William T. Malster, Col. Edward Raine, George C. Wilkens, Capt. J. Frank Supplee, Major N. H. Hutton and Douglass H. Gordon. General Agnus, who spoke for the committee, said the committee had no special route to advocate, but it objected vigorously to either the Sassafras or the Choptank routes because either would be of little benefit to commerce. It preferred any of the three central routes embracing the advantages of a straight line to the sea. Maryland and Baltimore, with the possible help of the government, were in a position to build the canal, and that to make it a private enterprise or a toll canal would be to defeat its usefulness.

THE HARNEY PEAK TIN MINES.

Specially Written for the Engineering and Mining Journal by Arthur J. Morse.

The attempt to produce tin in the Black Hills of South Dakota, an enterprise of great national interest, began in about 1883 with the opening of the Etta mine near Hill City. A mill was built on this property, several companies were formed at various times and finally consolidated into the Harney Peak Tin Mining, Milling and Manufacturing Company with English and American stockholders. This company and its operations have been fully described in the Engineering and Mining Journal from time to time, with illustrations of its mill and property.

This company began operations on a very extensive scale—too extensive, as the results have shown. At least $3,000,000 has been invested by the English stockholders, besides what the Americans have furnished—an unknown amount it seems. In attempting to obtain control of the entire tin-bearing district something over 1,000 claims have been taken up or purchased, embracing a tract of country estimated to measure 9 × 15 miles. The two most distant points on the company's property are 24 miles apart.

Besides the Etta mill the company has erected at a cost of $235,000 a modern mill of 200 tons capacity, equipped with all the necessary machinery of the most modern type. It is lighted by electricity.

The company owns in all about thirty buildings of importance, including a hotel, office building, superintendent's house, machine shop, storehouses, hoisting works, etc. Besides these there are a number of smaller buildings. Among the seven shafthouses or hoisting works the one at the Addie mine is the finest, containing $30,000 worth of hoisting machinery, ore compressors, etc. There are five railroad spurs, comprising about 8 miles of road built at a cost of $200,000.

Vein Formation at Mouth of Gertie Shaft.

Some of the mining claims have been opened up to a depth of 700 and 800 ft., others are "prospect holes," on which the assessment work has not been completed. Besides the mining property the company also owns much of the best farming land in the district.

Surface prospects everywhere in the Harney Peak district are excellent, but do not seem to improve with depth; rather the opposite. The theory of the formations as advanced by eminent geologists, is that the strata, originally flat, have been folded, until they now appear nearly vertical. The tops of the multiple folds having been eroded, the greisen, being harder than the surrounding rock, has been left standing out like dikes. This greisen, a white micaceous rock, is the tin-bearing material. Where the tin comes from is the chief question. If from below, it is possible a true fissure vein rich in mineral might be encountered at considerable depth. If gathered from surface waters no improvement over the present prospects can be looked for.

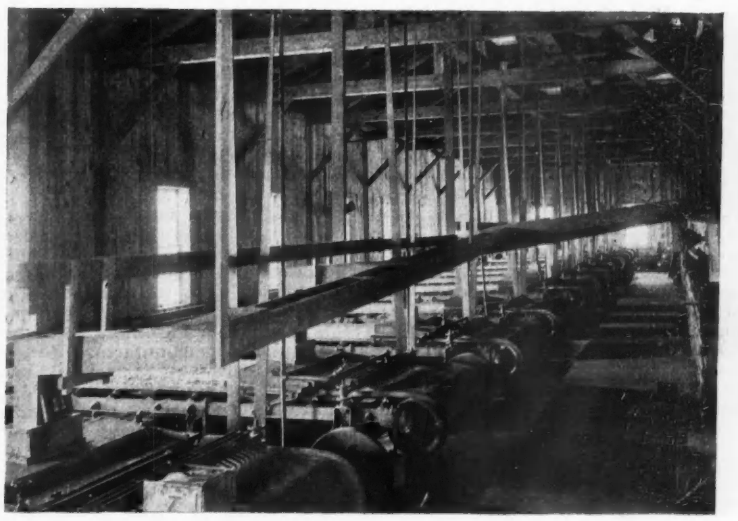
The peculiar formations of this district are illustrated as follows: Suppose the slates, etc., to be the layers in a jelly cake, and the greisen, in a pasty condition, to be the jelly. When the strata were folded and distorted, the greisen was pinched down in places by the "bucking" of the tougher slates, and again swelled out where the pressure was less severe. In this way it forms lens-shaped bodies more or less elongated and regular. One of these formations is beautifully shown in the mouth of the Gertie shaft, and similar occurrences are often noticed throughout the district. In the illustration shown the white, tin bearing "vein," or stratum, of greisen is pinched out entirely, the slates folding around it, but again widening out it continues in a straight line, dipping about 45°. A great number of these strata outcrop in this district.

What is considered one of the most promising tin claims at present is the Mohawk. The tin bearing vein on this property is not greisen but quartz, and not only prospects well at surface, but seems to rather improve with depth. It is thought that this ledge may be a true fissure, though it shows the same lenticular character so common throughout the Black Hills. The Cowboy and Coats ledges are also quartz, and show a similar character. It is doubtful if there are any true fissure veins in the Black Hills, though there are mineralized ledges of enormous extent. Dr. Ledoux may recommend sinking on the Mohawk.

About 5,000 tons of ore was run through the new mill, operating for about two months and giving employment to 300 men. It is difficult to tell what the results really were. Ore was taken from a good many mines and all run through together. What any one mine might show in a mill run is unknown. At the end of the above period the English stockholders became dissatisfied and refused to furnish further funds. The mill was closed down, and pending an investigation and settlement of difficulties, the property has been placed in the hands of Dr. Albert R. Ledoux as temporary receiver.

Dr. Ledoux has not yet made a thorough examination of the property, but says he will recommend doing what assessment work is necessary for holding the claims, and if, on examination, any of the developed properties seems to justify it, will recommend starting the mill.

General View of the Harney Peak Company's Tin Mill.



Frue Vanner Room in the Tin Mill.

Concentration of Sulphuric Acid by Electricity.—The concentration of sulphuric acid has recently been effected electrically. Heaters consisting of coils of platinum wire are suspended in the acid, and a current is passed through. The method, under suitable conditions, is said to be very convenient; it is due to Messrs. Johnson and Matthey, of London.

The French-Spanish International Railway.—The bases of a preliminary convention between the French and Spanish governments have been agreed upon for the construction of two international railways crossing the frontier near the ports of Salou and Somport. The first is to start from Saint-Girons, in Arriège, ascend the Satat Valley and penetrate into Spain by Esterri de Anen, to terminate at Lerida; while the second will leave Oloron, in the Basses-Pyrénées, and form a junction at Zuera with the Barcelona and Saragossa line. An international station is to be built on each of the two slopes, and the two tunnels to be driven for each line will be from 7 to 8 kiloms.—mean four and a-half miles—long. The works of the Oloron line, begun in Spain, must be completed in five years, and the duration of all the works is limited to ten years from the ratification of the convention.

HISTORICAL SKETCH OF LEAD AND ZINC.*

By Arthur Winslow.

Lead and its properties have been known for a very long period, reaching back to before the beginning of history. Zinc was first recognized only a few hundred years ago, and is, hence, comparatively speaking, a modern metal.

In prehistoric times lead does not appear to have been extracted from its ores, either in Europe or in America. Thus, that metal is not found among the remains of the Swiss lake-dwellers, excepting in very small amounts in bronzes, where it may readily have been derived from the copper ores used. In America specimens of galena have frequently been found in the mounds of the Mississippi Valley; but no metallic lead. Whitney concluded, after his examinations made before 1862, that the metal was, at least, not of common use among the Indians, and its reduction was probably taught by the white man. Within historic times, however, the use of lead dates back to the earliest records in Asia, Africa, Europe and America.

ASIA AND AFRICA.

Asia and Africa are so intimately connected in Biblical and other early history that they are best considered together.

Lead.—Pliny attributes the discovery of lead to Midas, King of Phrygia, in Asia Minor, a somewhat legendary personage who reigned over a thousand years B. C. Lenormant,[1] however, declares that the Chinese were acquainted with all metals as early as 2000 B. C. Lead and iron mines were exploited in the desert near the Red Sea in the time of the ancient Egyptians, and the metal, as well as litharge, was known to these people. Solder containing the former is found in ruins ascribed to the time of the Pharaohs. The Israelites were commanded by Moses (about 1500 B. C.) to purify lead (called *opheret*) by fire; but they made no exact distinction between this metal and tin.

In Assyria, Phœnicia, Arabia, Armenia, Chaldea, Persia, India and China are deposits of silver-lead ores which were worked by the ancients; and in Tunis and Algeria also. The Phœnicians (1550–55 B. C.) also worked lead mines in Cyprus and Thasos. The separation of silver from lead, by simple melting and oxidation, was prosecuted before 600 B. C. in the East. In Japan lead mining was prosecuted as early as the eighth century.

The uses to which lead and its compounds were put by the ancients were numerous and often peculiar. The Chinese are credited with having used flattened lead as money probably as early as 2000 B. C., and it was also used there for debasing more valuable coinage. In India it was used as weaver's weights and also as a charm; red lead was used as a cosmetic and the medicinal applications of this and other compounds were various. The Egyptians glazed pottery and made solder for wares from lead; they also made amulets and other objects. Wooden anchors of the Phœnicians were filled with lead. They also used leaden coffins. Lead was used in glass as early as 800 B. C. The masonry of ancient Babylon was strengthened by iron clamps held in sockets by lead, and the hanging gardens were floored with sheet lead. Lead was generally added to ancient bronzes. Lead pipes were also used in Asia and Arabia. White lead was used as an ointment by the Egyptians, but not as a pigment.

Zinc.—The only clue which we have to the uses of zinc in these countries in ancient times are in the references to brass and bronzes, the two being probably often confounded. The properties or even the existence of the metal itself were not known. Bronzes are known to have been made by the Egyptians. Moses refers to brass in Numbers XXXI., 22, and mention is made of it elsewhere in the sacred writings. The manufacture of bronzes and brasses, says Robert Hunt[2], appears to have been engaged in from a very early period, by some branches of the Phœnician people and the Assyrians. Coming down to comparatively recent times, there is ground for the belief that the discovery and production of the metal zinc is to be accredited to the East; for, before its ores were known in Europe, Libavius (1597), who first investigated the properties of the metal, speaks of it as a peculiar kind of tin found in the East Indies, whence some brought to Holland came into his hands.

LEAD IN EUROPE.

Lead mining in Europe probably began along the shores of the Mediterranean, where the knowledge of the metal was most readily acquired from the East.

The Laurium mines of Greece are thought to have been worked as early as the Trojan wars (about 1200 B. C.), and articles of lead were found by Schliemann among the ruins of ancient Troy. The Phœnicians established themselves at Cadiz as early as the twelfth century B. C., and engaged in or stimulated the mining of lead and other ores of southern Spain, and probably those of France also. The Sardinian mines were also worked by them, and probably those of northern Spain and Sicily. The Carthagenians, succeeding the Phœnicians, continued with and encouraged mining in these countries.

Greece.—In Greece lead mining was conducted on a large scale at Laurium during the sixth and fifth centuries B. C., and to a more limited extent down to the Christian era. After that it was practically abandoned until 1864. The metal was put to many uses here during the early centuries. Bronze coins between the years 500 B. C. to 50 B. C. contain from 3 to 30% of lead. Bullets for slings were made of it. It was also made into pipes. Other objects were images and ornaments, weights and scales. White lead (composed probably of a mixture of the acetate and carbonate) was used as an ointment or cosmetic. At the beginning of our era this was manufactured in large quantities in Rhodes, and also at Corinth and in Lacedemonia.

Brass was also manufactured. It is referred to by Aristotle (400 B. C.) as Mossinœcian copper, made by melting copper with a peculiar earth from the shores of the Black Sea. A Greek coin of Trajan, struck in Caria, 110 A. D., contained 20·7% of zinc.

Romans and Italy.—The Romans, succeeding the Carthagenians, conducted lead mining on a large scale in Spain, Sardinia and near Tunis in Africa, and they extended operations into France and England and perhaps into Austria. They utilized the metal for the same purposes as the Greeks and also in masonry, in hoops for casks, lids, armor, buckets, and even for kettles, despite the fact that its poisonous properties were known. Water pipes of this metal were employed extensively, some as much as 30 in. in diameter. Coffins and vases were also made of it.

After the Roman period, mining languished for centuries both in Italy and other countries. In the eleventh century the Sardinian mines were reopened; they were worked again about 1720, and during the past 40 years they have been continuously operated. The mines of Sicily were reopened in 1747, but were abandoned later. Mines of the Italian Alps and Piedmont were worked in the Middle Ages.

France.—In France the Phœnicians and Gauls are supposed to have worked silver-lead ores before the Romans. After the operations of the latter, mining was largely abandoned from the fourth century to the time of Charlemagne (800), when a stimulus was given to the industry. It sank again after that, however, and Spain was principally depended upon as a source of supply. The Moors operated mines in the Pyrenees. A revival prevailed during the eleventh and twelfth centuries, to decline again in the thirteenth. Lodes of the Vosges were discovered in 1313. Operations were resuscitated in the sixteenth century and continued through the seventeenth and eighteenth, though on a more limited scale.

At Pontgibaud records date back only to the sixteenth century, but remains of old workings indicate very early mining here. Since the sixteenth century operations have been conducted at intervals. At Huelgoat work was done before 1578. At Poullaouen operations commenced in 1729, and over 1,000 men were employed in 1760. The mines of the Vosges were worked in 1581 and in the last half of the eighteenth century. During the latter period mining was in progress in a number of other districts, and also in the Alps.

The metal was used in France for the ordinary purposes already enumerated, and during the Middle Ages it was employed in coins, in vessels and utensils, and for small sacred images.

Spain.—The remarkable lead deposits of Spain were well known to the ancients, having been worked by the Phœnicians, Carthagenians and Romans. Spain then ranked foremost among mining countries. Under the Moors mining also flourished, but declined after their expulsion and the discovery of America in 1492. Active work on the Linares deposits began, however, during the last half of the sixteenth century and has continued ever since. From the beginning of the sixteenth century to 1825, comparatively small quantities of ore were produced. In that year, however, the mining lands were practically thrown open to exploitation of all, by royal decree. The production of lead ore then grew immediately to great volume. The mines of the Sierra Gador and Sierra Lujar were particularly productive, these yielding in 1827 nearly 47,000 tons of lead. In 1839 the deposits of Sierra Almagrera were discovered. Deposits in Portugal were also worked from very early dates.

Germany.—Of lead mining by the early German tribes, the Saxons, the Goths and others, we have found no mention. Iron ores were mined and reduced by them, and it is probable that the comparatively simple processes of lead smelting were known also. About the earliest recorded mining in Germany was in the Harz Mountains near the middle of the tenth century. Work was prosecuted here only in a desultory manner, however, until the fifteenth. Mining at Freiburg, in Saxony, was begun during the twelfth century. In Silesia the industry was flourishing in the thirteenth century, and at that time Germany was one of the principal centers. Mining appears to have declined after this, but in the fifteenth and sixteenth centuries the works were reopened and have been exploited vigorously ever since.

Belgium.—Mining in Belgium is of remote antiquity. Ancient documents indicate that operations were conducted at Vielle Montagne over 1,000 years ago for securing calamine, and doubtless the associated lead ores also. Work is also reported to have been done here by the Spaniards 450 years ago. Records do not date back beyond 1640, however.

Bleiberg, the principal lead deposit, was mainly operated during the last 50 years. The lead ores of Belgium are now practically exhausted.

Austria.—In southern Austria the Carinthian deposits were probably worked during the Roman period, and they were certainly actively developed during the Middle Ages.

Near Przibram, in Hungary, mining was begun about the middle of the ninth century, and at Mies before the year 1100. At Schemnitz developments date from the twelfth century. During these early years, however, operations were not extensive and were prosecuted in a desultory way. Early in the sixteenth century the Przibram mines were reopened and have been worked extensively since.

The Schneeberg mine in the Tyrol was worked on a large scale for lead in the latter part of the fifteenth century.

Russia.—Among the earliest traces of mining in Russia are those found in Siberia, where sledges made of stone and of the teeth of animals are assigned to the second century B. C. The lead mines in the province of Irkoursk were discovered in 1691. In the Caucasus silver-lead mining also dates from remote antiquity. In Poland large amounts of lead were produced during the sixteenth and seventeenth centuries.

In Sweden the great lead deposits of Sala are reported to have been worked as early as the sixth century, and were certainly worked by 1280.

Great Britain.—There is no positive evidence of lead mining in Great Britain by the ancient Britons, but there are reasons for believing that deposits of Cardiganshire and of some other counties were worked by them.

From the beginning of the Roman occupation (55 B. C.), however, there is indubitable evidence of great activity, in the shape of old waste and slag heaps, old furnace remains, coins, tools, pigs of lead with Roman brands, etc. Such are found in north Wales, in Northumberland, Durham, Cumberland, Yorkshire, Derbyshire, Nottinghamshire, Cheshire, Shropshire, Flintshire and Somersetshire. In the Isle of Man are also traces of very early work.

After the Roman period, mining languished, but was continued, though on a reduced scale, by the Saxons and Danes. Before the Norman conquest several Derbyshire mines were worked, and these were about the only ones that continued in operation up to 1289.

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* Extract from Chapter I. of the forthcoming report of the Missouri Geological Survey on Lead and Zinc Deposits.

[1] L'Orfeverie d'Etain. Revue Archéologique. Quoted by Pulsifer in his "Notes for a History of Lead." To this painstaking and exhaustive work of Mr. Pulsifer's the writer wishes to make acknowldgments for many of the facts of the following sketch.

[2] "British Mining," p. 5.

In Shropshire the old Roman gravel mine was worked during the twelfth and thirteenth centuries. In Devonshire large silver mines of BeerAlston were in operation in the thirteenth and in the fifteenth centuries.

The first records of operations in Cardiganshire are in 1485; the mines here were also extensively operated during the reign of Queen Elizabeth.

The North of England lead mines were not worked after the departure of the Romans until 1468, since which time they have been in operation at frequent intervals.

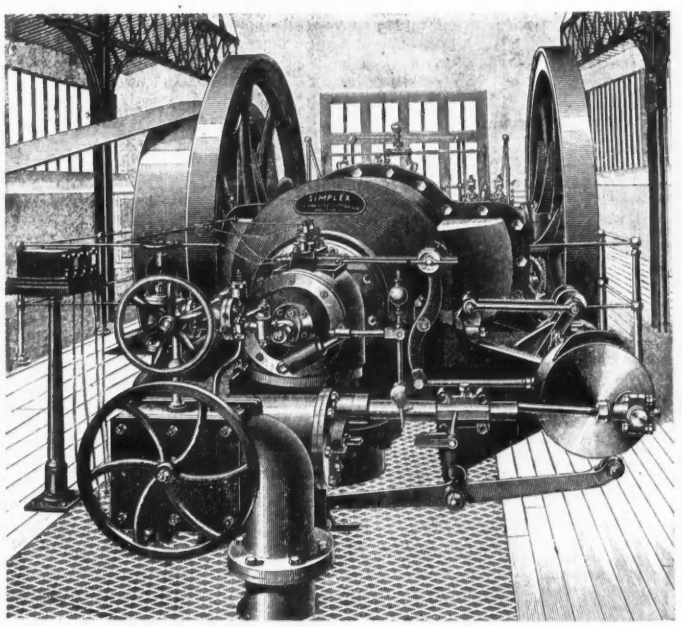
Generally speaking, the sixteenth, seventeenth and eighteenth centuries constituted a period of great activity in lead mining in England; large amounts were produced and large quantities were exported.

(To be continued.)

THE LARGEST GAS ENGINE.

The new Pantin Mills, owned by M. Abel Leblanc and situated on the Canal Ourcq, near Paris, have for motive power a "Simplex" gas engine, working ordinarily at from 250 to 280 H. P., and capable of running up to 325 H. P. on occasion. This type of engine was adopted by M. Leblanc on the advice of his consulting engineers, MM. Delamare-Debouteville and Malindin, who have had much experience in the construction and working of similar motors of smaller size, and who did not hesitate to recommend the adoption of this larger development of the type.

The engine, a rear view of which is shown in the accompanying illustration, in addition to operating the various machinery, runs the dynamos for the electric lighting of the mills and several pumps. It is claimed to be the largest gas engine in the world. It is said that Dick, Kerr & Co., in England, have built a gas engine working up to 600 H. P., but we have seen no accounts of its construction or operation. The engine now referred to was built by Matter & Cie., of Rouen, France, and is of the single-cylinder type, but the design is entirely different from those previously constructed of this type up to 100 H. P. Using ordinary town or illuminating gas it will indicate 450 H. P. Producer gas is, however, used, and with this 320 H. P. has been developed. At present the engine is actually at work indicating fully 280 H. P., equal to 220 brake horse-power. The engine, as noted, is of the single-cylinder type, and herein lay the difficulty of producing a gas-motor of such a high power. The engine runs at 100 revolutions per minute, the diameter of the cylinder being 0·870 meter (34·25 in.) and the stroke one meter (39·37 ft.). As the engine has to run continuously day and night, every possible improvement has been embodied in its construction, while it is fitted with the automatic starting device introduced by Messrs. Delamare-Debouteville and Malandin in 1888. The question of the heating and expansion of the various parts has required a good deal of thinking out, as have also the thickness of metal in the cylinder, the water jackets, the exhaust and admission valve, etc., while to enable the engine to be run continuously, a special ignition arrangement has been fitted. Another improvement in this installation is a substitution of a new apparatus for the old and familiar gas-bags.



GAS ENGINE OF 320 H. P., PANTIN MILLS, PARIS.

The engine is operated by means of gas generated in two producers of the Buire-Lencauchez type, also constructed by Messrs. Matter & Cie. As a brake-test would have been almost impossible with such a large motor in the space at disposal, and as also this would have entailed the stoppage of the mill, a careful and long test under actual working conditions was made. The first test was made in February last, and was carried out as follows: Two loaded coal wagons, each containing 10 metrical tons, were put on one side for the test. From this the generators were filled and the time noted. During the trial the load on the engine was constant. When the two wagons were emptied the time when the generators were filled for the last time was also noted, and it was found that the 20 metrical tons had sufficed to charge the generators for a period of 194 hours. The planimetrical curves taken showed that the engine had indicated over 280 H. P., equal to a brake horse-power of 220. The gross consumption of coal, without deducting the ashes, as is generally done, was 0·368 kilogram, or 0·811 lb., per indicated horse-power-hour, and 0·468 kilogram, or 1·03 lb., per brake-horse-power-hour.

The consumption of water during the trials was at the rate of 1,342 gallons per hour for the cooling of the engine, and slightly less than 660 gallons for the washer and two generators. This gives a total of about 7½ gallons per brake horse-power, as against from 44 to 55 gallons in the case of condensing engines working under the most favorable conditions. Three months later, in May last, another test was carried out under exactly the same conditions, and the results obtained were practically the same; in fact, if anything, slightly better.

The gas used in this engine, as noted above, is supplied by two producers of the Buire-Lencauchez system. Two were necessary, as the engine runs day and night, and one producer can continue in operation while the other is being cleaned out and the ashes removed. The connection with the gas receivers is regulated by valves. The fuel used is the poor or short-flame coal from the Anzin mines. Air is furnished to the producers by blowers, the supply being regulated by a special automatic device. On leaving the producers the gas is led by an outlet pipe to the washer; passing through this pipe it is met by a jet or spray which partially cools it. The washer is a column filled with coke, upon which a stream of water falls from above. The gas filters through this column, and is there cooled and deposits the tar and residuum. On leaving the washer the gas passes through a purifier or filter of dry coke and then goes direct to the gasholder, from which it is supplied to the engines. The producers are in a separate iron building, and the gasholder stands between that building and the engine-house, the whole group being placed at the rear of main mill building. This forms a very complete and convenient arrangement.

THE MINING EXPOSITION AT SANTIAGO CHILE.

From our Special Correspondent at Santiago.

The Exposicion de Mineria i Metallurgia de Santiago de Chili is opened at last, and great interest is being taken in it by Chileans, Bolivians and Peruvians. The Germans, French and English all have extensive exhibits, and while America is well represented, it is not so good a showing as might have been made. Browell, Bleche & Co. represent some thirty odd manufacturers, among which are Fraser & Chalmers; Gates Iron Works; Manning, Maxwell & Moore; Eimer & Amend; Baldwin Locomotive Works, and others. About half a million dollars has been appropriated by the Chilean government for this exposition, and it has been fortunate enough to secure as its director Don Jose de Respaldigo, president of the ociadad de Mineria i Metallurgia.

Certain Chilean capitalists have formed a company for the purpose of building a plant at Tilsil for the purpose of milling and smelting ores from mines controlled by themselves and custom ores as well. A French appliance will be used in milling concentration, pan amalgamation, and two matting-blast furnaces. The latter are being made by Balfour & Lyne, of Valparaiso.

According to late statistics as collected by the Sociadad de Mineria i Metallurgia it is found that fully 90% of the wealthy Chileans have made their money in mining.

Exchange here, Oct. 7, is still much depreciated though for the past few days there has been a slight upward tendency, this past week a small lot of bills selling for 12⅛d., where 11⅞d. has been the ruling rate for some time past, and a few weeks since going as low as 11⅛d. The cause of this is not in the credit of Chile as a nation, but it is feared by many that the "Conversion Act" will be tampered with, and that the conversion will not take place as is provided in that act.

Mr. Chas. Watson, mining engineer, who has been superintendent of the mines of Backus & Johnson at Casapalca, Peru, after a visit to Chile of a month, left last week for South Africa, where he will join an exploring expedition seeking mineral wealth.

Coal in Bulgaria.—For the six months ending June 30th the Ternik mine in Bulgaria produced 22,000 metric tons of coal. This was a large increase over 1893, when the output for the entire year was only 29,000 tons. In July the mine closed down and no coal was produced, though a number of men was employed in making improvements in the hoisting and other machinery.

Wages Paid to German Ironworkers.—An interesting letter has been received by the Department of State from its commercial agent, George H. Murphy, in the grand duchy of Luxemburg, giving the rate of wages paid to iron and steel workers there. He says the average earnings of the ordinary workmen amount to less than $200 per annum, and women earn about half this amount. The following is the list of wages paid:

Steel Works—Foreman, $60 to $70 a month; assistant foreman, $1.15 a day; first converter hands, $1.07 a day; second converter hands, 81c. a day; third converter hands, 73c. a day; first founders, $1.18 a day; second founders, 84c. a day; third founders, 76c. a day; first basin hands, $1.02 a day; second basin hands, 83c. a day; third basin hands, 75c. a day; fourth basin hands, 70c. a day; first converter machinist, $1.03 a day; second converter machinist, 82c. a day; three boys, 45c. a day; laborers, 84c. a day; weighers, $18 a month; smiths, 70c. a day; masons, 90c. to 95c. a day; ingot cleaners, 52c. a day; boys, 20c. to 50c. a day; machinist, 65c. to 80c. a day; lubricators, 60c. a day; overseers, 75c. to $1 a day; cupola hands, 60c. a day; filters, 52c. a day; all other employees, 60c. to 80c. a day.

Rolling Mills—Foreman, $50 a month; master rollers, $1.88 a day; first roller, $1.46 a day; second roller, $1.06 a day; assistant roller, 82c. a day; machinists, 35c. to $1 a day; lubricators, 40c. a day; laborers, 45c. to 53c. a day; overseers $24 a month; all other employees, 35c. to $1.88.

Blast Furnaces—Overseers, $20 to $25 a month; chief founders, $1 to $1.40 a day; first founders, $1; second founders, 76c. a day; third founders, 69c. a day; polisher, 69c. a day; crane hands, 55c. a day; machinists, 55c. to 75c. a day; masons, 65c. a day; laborers, 60c. a day; all other employees, 52c. to 70c. a day.

Coal Mining in Sonthalia, India.—The only considerable mine in this district is the Madaukata coal mine, which in 1893 turned out 23,660 tons and employed 388 workmen. The other two are surface quarries rather than mines, and are situated at Domanpur and Ghatchora. They turned out between them 316 tons and employed 29 work people.

Coal in Siberia.—The geological examinations made in connection with the Siberian railroad have shown the existence of a large number of coal deposits near the line. Many of these, however, have long been known, but have not been worked on account of the difficulty of transportation. Among the old and better known deposits are those of the Katschai basin near Achinsk, and the Kubskowa deposits in the Yenisei Valley. In the last named district, the deposits have long been worked from outcroppings on the surface. The coal is a brown coal or lignite, of good quality, and is used locally, although the demand so far has been comparatively small. Recent borings have shown the existence of a lower seam of much better quality. The Katschai coal is a bituminous coal, which is said to make a good steam coal, and also to coke well. Some coke has been made from it for use in the silver smelting works at Krasnoiarsk. There are also some important deposits in the Irtish basin. A company has recently been formed at Omsk to work these on an extensive scale.

Coal Production in Westphalia.—From statistics published by "Gluckauf" on the mines in the Rhenisch-Westphalian coal district we find that the production of coal for the men employed in those mines varied very much. In making the computation the entire number of laborers in the mine, on the surface and at the coal washers, is included. Only one mine shows a yield of over 400 tons per man per year, and that is the Vonder Heydt mine, which is at the head of the list with 445 tons. Six mines show a yield of from 350 to 400 tons per man; 17 from 300 to 350 tons; 43 from 250 to 300 tons; 64 from 200 to 250 tons; 18 from 150 to 200 tons; five from 100 to 150 tons; four from 50 to 100 tons, while four fall below 50 tons per man per year. During the first eight months of the present year the output of briquettes amounted to 490,000 tons, as against 450,000 tons for the same period last year. With a view of maintaining the present high price of the briquettes there is a strong disposition on the part of the makers to curtail production.

Mexican Coinage.—The Statistical Department of the Ministry of the Interior of Mexico states that in the nine months of the current fiscal year, from July 1st, 1893, to March 31st, 1894, the value of the coinage at the mint was $416,088 in gold, and $22,077,064 in silver. No copper coins were made during this period. The department has also published an interesting statement showing the total coinage of money in Mexico from the foundation of the mint in the colonial period up to the end of the last fiscal year, June 30th, 1893. The statement is divided into three periods: the first, including the colonial epoch; the second, the republic period, from the foundation of independence up to June 30th, 1883; and the third, the last 10 years, 1883-1893. The following table shows the totals:

	Gold.	Silver.	Copper.	Nickel.
Colonial	$68,778,411.00	$2,082,250,657.44	$542,893.37	.....
Independence	52,056,822.00	980,037,550.73	5,438,476.33	$1,256,000.00
1883-1893	3,374,868.50	258,210,812.15	1,011,491.63	2,744,000.00
Total	$124,210,101.50	$3,320,509,030.32	$6,993,261.33	$4,000,000.00

The total coinage of all sorts was, therefore: Colonial, $2,151,581,961.81; Independence, $1,038,788,859.06; 1883-93, $265,341,572.28; total, $3,455,712,393.15.

The above amounts given are, of course, the value of the coinage in Mexican dollars. The division of the coinage by value for the entire period was 3·59% gold, 96·09% silver, 0·20% copper, and 0·12% nickel.

Petroleum in the Caucasus.—Some official statements have been made recently concerning the deposits of petroleum at Grosnoia, in the Caucasus, which have attracted attention by the abundance of their production, and also by their situation near the line of the Petrovsk Railroad. The petroleum deposits cover four sections of land, three of which belong to the Tersk Kossaks and the fourth to the Stanitza of Alkarjurdov. The existence of petroleum had been for a long time known to the Kossaks, who collected small quantities in shallow wells or basins, from which it was drawn by buckets. The first of these, it is said, was sunk more than 60 years ago. In June, last year, the sinking of a well was begun by the Acherdov Company near Alkarjurdov. The first well commenced to produce oil at a depth of 123 m. The production rapidly increased until it reached the enormous figure of 800,000 kilos. a day. After a time it fell off a little, but it still produces 160,000 kilos. daily. A second well, not far from the first, commenced to yield oil at a depth of 56 m. only. At 60 m. the well commenced to spour, as our oil men would say, and for a time threw out enormous quantities of oil, which could not be measured, since there were no means of catching the flow; most of it ran off through the Neftianka River. As rapidly as possible a huge dike or bank was built, 120 m. in length, 10 m. in thickness and 12 m. in height, in such a way as to form a huge open tank or basin. This well, although the flow has decreased somewhat, is still producing very largely. This petroleum has a density of about 0·875. In distilling it gives about 25% of illuminating oil, 12% of benzine, the rest being residue of 0·950 density. Arrangements, however, are being made for more complete and careful refining and it is believed that very good results can be obtained with the oil. The company is also building receiving banks near the station at Grosnoia.

PATENTS RELATING TO MINING AND METALLURGY.

United States.

The following is a list of the patents relating to mining, metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

TUESDAY, OCTOBER 30TH, 1894.

528,153. Electrolytic Apparatus for the Manufacture of Chlorine and Caustic Soda. Thomas Drake, Huddersfield, England. A porous pot holding the solution has a metallic top with depending piece forming the anode; the cathode being formed by a close-fitting metallic cover.

528,200. Rolling Apparatus. Levi D. York, Portsmouth, O., Assignor of one-half to James Edwin York, Duluth, Minn. Combination of supplemental sizing rolls with the main rolls.

528,214. Process of Decarbonizing Steel. Willis K. Topley, South Williamsport, Pa. The heated steel is subjected to an acid bath, then reheated and cooled in sand.

528,279 Dump Car. George A. Roberts, Three Rivers, Mich. Hopper-bottom car, the hopper being opened automatically by a device actuated from the wheels.

528,289. Coal Screen. George W. Cross, Pittston, Pa. Cylindrical screen, combined with water spray-pipe for wetting the coal.

528,312. Steam Shovel or Excavator. John R. Webber, Toledo, O., Assignor to the Vulcan Iron Works Company, same place. A swinging arm, or crane, carries the shovel, or dipper.

528,322. Process of and Apparatus for Electrolytic Decomposition of Alkaline Salts. Hamilton Y. Castner, London, England. The electric current is passed through the solution to a moving body of a liquid metal or alloy, forming an alkaline amalgam, which is decomposed by the current.

528,365. Process of Reducing Aluminum. Frank A. Gooch, New Haven, and Leonard Waldo, Bridgeport, Conn. Said Waldo assignor to the Waldo Foundry, of New Jersey. The chlorides of aluminum, sodium and another alkaline metal are fused, and an electric current is passed through the mass.

528,386. Coal or Ore Separating Apparatus. Frank Pardee, Hazleton, Pa. An endless traveling belt carried in a frame to which a reciprocating motion is given.

528,434. Separator. Robert W. Jessup, Los Angeles, Assignor of one-half to Fairfax H. Wheelan, Santa Barbara, Cal. Inclined walls having a continuous longitudinal opening at the bottom.

528,442. Concentrator. John Norbom, San Francisco, Cal. In a belt concentrator, the drums carrying the belt are supported by curved elastic arms, and means are provided for oscillating the belt and the table.

528,449. Method of and Apparatus for Removing Water or Oil from Bottoms of Gas Wells. Raleigh H. Staley, Sheridan, Ind. The gas is sealed in the bottom of the well, and a jet of gas is then discharged below the surface of the liquid, forcing it up.

528,510. Open-Hearth Furnace. James Furves, Munhall, Pa. An invertible furnace, having opposite side doors, supports it on which can be turned a half revolution, and an invertible door.

528,513. Method of Improving Surfaces of Aluminum. Arthur V. Davis, Pittsburg, Pa. The surface is treated with a mixture of hydrofluoric and nitric acids.

TUESDAY, NOVEMBER 6TH, 1894.

525 546. Dumping Car. William G. Lane, Pictou, Canada. Assignor to the Universal Coal Dumping Car Company, Springfield, Ill. Hopper bottom with sliding doors working on rollers.

528,579. Excavating and Hoisting Bucket. Gurdon H. Williams, Brighton, O. The bucket is made in two sections, pivoted together and opened or closed by levers connected to the cable.

528,586; 528,587. Apparatus for Electro-deposition. Henry L. Bridgman, Blue Island, Ill. The cathode is in the form of a plate and is secured to a shaft, to which a rotary motion is given.

528,631. Process of and Apparatus for Forming and Treating Metals. Godfrey Engel, South Baltimore, Md. The metal is heated by an electric current passed through the mold, before the pressure is applied to shape it.

528,676. Support for Mandril Bars of Tube Rolling Mills. Carl G. Larson, Sandviken, Sweden. Upper rocking support carried in a frame above the rolls.

528,753. Dumping Incline. James O. Wright, Lafayette, Ind., Assignor of one-half to the Marion Steam Shovel Company, Marion, O. The incline is made movable on wheels or rollers, and can be connected with the level track without interruption; it carries also a platform from which the cars can be dumped.

598,770. Mechanism for Handling Molten Metal. John S. Dougherty, Anaconda, Mont., Assignor to Marcus Daly, same place. Ladle suspended from a frame connected with a crane or traveler.

523,779. Testing Machine. John H. Kellogg, Battle Creek, Mich. Hydraulic testing machine wish vertical stand and crosshead.

528,803. Coal and Mineral Washer. Erskine Ramsay, Pratt Mines, Ala. A revolving shaft keeps the coal agitated in a conical casing; the water is forced into the casing from below.

528,804. Method of and Composition of Matter for Smelting Titanic Iron Ore. John L. Randall, Brooklyn, N. Y. The flux is composed of cast-iron scrap, puddling furnace slag and feldspar.

528,815. Amalgamator. Henry L. Simmons, Wickes, Mont. Combination with a separating device consisting of a receptacle adapted to hold molten metal, a furnace for keeping the said metal in a molten condition, and means for subjecting the material to attrition in the said receptacle; of a reducing furnace inclosing the upper portion of the said receptacle and adapted to receive the overtail.

528,819. Machine for Making Chains. Philander H. Standish, St. Mary's, O. Combination of heating furnace and conveyor for carrying the blank to the press.

528,841. Process of Preparing and Utilizing Rock Asphalt. William A. Adams, Cincinnati, O. The asphalt is reduced to a fine powder and mixed with a suitable proportion of soft asphalt.

528 850. Mining Drill. Arthur E. Buzzo, Ishpeming, Mich. Combination of block, frame, carrier and guide bar.

528,872. Oil Feeding Apparatus for Gas Generators. Olaf N. Guldlin, Fort Wayne, Ind. Combination of superheater, injector and steam supply pipe

Great Britain.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy:

WEEK ENDING OCTOBER 27TH, 1894.

21,239 of 1893. J. J. Hood and A. G. Salamon, London. Preparing cyanide of potassium by passing ammonia over a heated mixture of carbonate of potash and a metallic reducing body.

22,763 of 1893. G. Fisher, Shotts. Combined pig-bed moulding apparatus and pig carrier for use at blast furnaces

23,498 of 1893. W. Walker, Saltburn. Coal-getting machines; an improvement on No. 10,981 of 1891.

16,136 of 1894. M. Settle, Darcy Lever. Improvements on No. 23,268 of 1893; making the lime cartridge with internal passages radiating from the central water inlet.

16,834 of 1894. P. W. Gates and C. L. Carman, Chicago, U. S. A. Crushing mills of the Gates type, improvements relating to the separation of the driving and crushing mechanisms.

16,862 and 16,853 of 1894. Gates Iron Works, Chicago, U. S. A. Detailed improvements on the Gates crushing mill.

WEEK ENDING NOVEMBER 3d.

20,467, of 1893. A. Nobel, Paris, France. Mining fuse, made of nitro-glycerine, with nitro-naphthaline as a retarder, and an oxidizer to insure regularity of combustion.

22,301, of 1893. W. Shapton, London. Traveling hydraulic crane for unloading coal and mineral cars which come up at right angles to the quay wall.

23,804, of 1893 A. Gray and G. Tarbit, Skelton. Boring machines of a type in which the drill is applied in the right direction by hand power into the face of the coal or other mineral; applying a combined rotary and forward motion which is continuous instead of intermittent.

187 of 1894. J. P. Roe, London. Aerial ropeways; improvements in details of system described in patent No. 15,913 of 1888.

4,916 of 1894. E. Warzee, Brussels. Separating zinc and iron chlorides by adding sufficient metallic zinc to the solution to throw down all the iron as oxide.

15,104 of 1894. F. Parker, J. D. Wright, F. F. Stuart and A. M. Colquhoun, Toronto Canada. Pulverizers, consisting of a series of short rods hinged loosely to shafts which revolve around and parallel to a central shaft.

PERSONAL.

Ernest Prochaska, M. E., will leave Birmingham, Ala., to accept a position with the Otis Steel Company at Cleveland, O.

Mr. Albert L. Butler, for a number of years manager of the Chicago branch of the Crescent Steel Company, has resigned his position on account of ill-health.

Mr. Thomas W. Buzzo, of Salt Lake, Utah, has been appointed superintendent of the Alice Mining Company at Butte, Mont., in place of Mr. W. E. Hall, who has resigned.

Mr. Frank L. Nason, mining engineer and geologist, started for California, November 13th, to examine and report on some gold mines in Death Valley, Kern County. He expects to be gone a month.

Dr. William P. Blake, general manager of the mines and works of the Wisconsin Lead and Zinc Company, has returned to Shullsburg, Wis., from an examination of gold and silver mining properties in the State of Sonora, Mexico.

Mr. John D. Powell, A. R. S. M., F. Y. S., has been appointed by Messrs. Bainbridge, Seymour & Co., mining engineers, of London, as their representative in British, French and Dutch Guiana and Venezuela. Mr. Powell's address is Box 70, Georgetown.

Mr. M. E. McDonald, for some time past superintendent of the Frisco mine, in Idaho, has resigned that position in order to take the management of a group of mines at Gibbonsville, in the same State, owned by the American Mining and Development Company, of Butte, Mont. He is succeeded at the Frisco mine by Mr. W. Ogilvie, a well known mining man in the district.

Mr. J. W. Flintham, of Colorado, has been appointed superintendent of the Salt Lake Copper Manufacturing Company, at Salt Lake, Utah. Treasurer Shoenberg has been in charge since the resignation of Mr. Stalmann, the late superintendent, but Mr. Flintham will assume control at once.

OBITUARY.

D. E. Stearns, who died at Peckville, Pa., November 12th, was for a number of years coal inspector for the Hillside Coal and Iron Company. He was 47 years old.

Henry Odgers, who died in Grass Valley, Cal., November 7th, was one of the pioneers of that camp, and had been engaged in mining there for many years. He was unmarried and lived alone on Winchester Hill. He was 68 years old.

George T. Davis, who died suddenly in San Francisco, November 4th, was 55 years old, and was one of the pioneers of Nevada. He assisted in founding Carson City, and was for many years engaged in mining in the State, and later in general business. He was on a visit to San Francisco when he died.

SOCIETIES AND TECHNICAL SCHOOLS.

American Society of Mechanical Engineers.—The nominating committee has submitted the following list of officers to be voted upon at the annual meeting in December: For president, E. F. C. Davis, Richmond, Va.; for treasurer, Wm. H. Wiley, New York; for vice-presidents, F. H. Ball, New York; Jesse M. Smith, Detroit, and M. L. Holman, St. Louis; and for managers, John C. Kafer, New York; Chas. A. Bauer, Springfield, O., and Arthur C. Walworth, Boston.

Arizona School of Mines.—The Board of Regents of the University of Arizona has authorized the director of the Bureau of Mines to purchase and erect a complete new plant of machinery for the treatment of gold ores by the stamp milling process. A five-stamp mill with all modern appliances will be added to the present extensive apparatus in the mill of the School of Mines at the University. Heretofore the officers of this important department have been able to treat nearly all classes of ores, much of the machinery being especially adapted to silver ores. The increasing output of gold in the Territory and the growing demand for tests upon a working scale have led the director to plan this necessary addition.

South Dakota School of Mines.—At this school in Rapid City the daily attendance of students in all branches averages over 40. The faculty is as follows: Dr. V. T. McGillicuddy, president; Frank Clemer Smith, professor of geology, metallurgy and mining engineering; A. J. Morse, professor of chemistry and assaying; Earle R. Hare, professor of mathematics and language; W. F. Tindall, instructor in assaying. Beginning the first of the year, a special course will be given in blowpipe analysis, assaying and mineralogy. The instruction intended to be given by this course can be acquired in a few weeks and will be of special use to prospectors and miners. Fuel gas has recently been introduced into the laboratories of the school and is giving good satisfaction.

Civil Engineers' Society of St. Paul.—A regular meeting of this society was held in St. Paul, Minn., November 5th. A resolution was passed thanking President F. W. Cappelen, of the Minneapolis Engineers' Club for courtesies extended on the occasion of the Sault Ste. Marie excursion. Mr. Chas. A. Alderman was elected to membership. The subject of "Transition Curves," introduced at the last meeting, was continued by the reading of several letters from engineers of various parts of the country. An hour's general discussion followed. At the request of President Wilson, Prof. W. R. Hoag outlined the present relations between the Minneapolis State University, the United States Coast and Geodetic Survey and the United States Geological Survey, touching the geological and topographical survey of the State. Pending on adjustment in December next of rather an unsettled state of affairs in this matter of interest to engineers and citizens generally, a committee consisting of Mr. Hilgard, Mr. Woodman and Mr. Stevens was appointed to examine the facts in detail and report at the next meeting. Mr. Louis Dunn then exhibited models of safety devices for switches.

Engineers' Club of Philadelphia.—At the regular meeting, November 3d, the president announced that, as Secretary of the Association of Engineering Societies, he had issued to the prominent outstanding local and sectional engineering societies, including this club, a circular-letter soliciting co-operation in the Association's work, which at present consists entirely in the publication of the papers and proceedings of the societies in a monthly journal, issued by the Association, and embodying also an index of current current technical literature. The association, formed 12 years ago, now embraces eight of the engineering societies of the country, with an aggregate membership of about 1,200, and the "Journal" is issued monthly to these members and to a number of subscribers and exchanges. As pointed out in the circular-letter referred to, the co-operation solicited does not necessarily involve the abandonment of the separate publication of this club's "Proceedings." At present the club is not asked to commit itself in the premises, but merely to confer with the association as to what arrangements might be made.

Dr. Henry Leffman presented a paper entitled "The Filtration of Public Water Supplies," which was illustrated by lantern-slides, showing the filter plants of Hamburg and Moscow, and by a small filter in operation. This called out a long discussion among the members present. Mr. C. L. Prince exhibited some lantern-slides of the Tower Bridge, together with some views taken on the club's excursion to Reading in June last. A photograph received from Mr. O. M. Weand was exhibited, showing part of the west pier cofferdam of the bridge now being erected across the Schuylkill at the falls. This is the largest dam ever placed in the Schuylkill River above tidewater, and has successfully withstood three floods in the river since its construction. One 6 in. centrifugal pump empties the dam in 10 hours, running at half capacity, and so tightly is the sheet-piling fitted to the rock that pumping is only necessary every five hours.

Engineers' Club of St. Louis.—At the regular meeting, November 7th, Walter J. Sherman was elected a member. Mr. Edward Flad introduced resolutions providing that a committee of 10 be appointed by the chair to report to the club a schedule of the customary charges made by engineers for services rendered either for consultation or expert work, reports, plans and specifications, etc., or for services by the month or year, with a view to establishing a record of the usual and limiting charges customary, rather than a proper schedule of charges. The chairman to be a member of the committee. After discussion by Messrs. H. A. Wheeler, Philip Moore, E. Flad, W. H. Bryan, J. A. Ockerson, J. B. Johnson and S. B. Russell the motion was carried. The chair appointed the following committee: E. Flad, J. B. Johnson, H. A. Wheeler, M. L. Holman, J. A. Ockerson, W. B. Potter, E. D. Meier, J. Pitzman, W. H. Bryan and S. B. Russell. Prof. H. A. Wheeler then read a paper on "The Merz Process of Handling Garbage at the South St. Louis Works." Previous to 1891 the garbage had been dumped in the river, the quantity then being estimated at 40 tons per day. It now averages 150 tons daily, and has reached 300. All garbage is now reduced by the St. Louis Sanitary Company. The upper, or No. 1, plant, built four years ago, was originally of 40 tons' capacity; it was later increased to 75, and last summer handled as high as 100 tons. The No. 2 plant, at the foot of Chouteau Avenue, was only temporary and has been abandoned. The No. 3 plant is located at the foot of Montana street in South St. Louis, and began operations in the spring of 1894. Its daily capacity is 200 tons. Professor Wheeler explained in detail the system employed, devoting special attention to the methods of ventilation. In his opinion the plant was of great interest to engineers and deserved the good opinion of the profession as representing an intelligent effort in the direction of a solution of a most difficult problem. The discussion was participated in by Messrs. Johnson, Judson, Wise, Hermann and Chauvenet.

INDUSTRIAL NOTES.

The Wayne Iron Works, Pittsburg, will advance the wages of its puddlers 10% shortly.

The Roanoke Machine Works, Roanoke, Va., will reduce its working force about one-third during this or the coming month.

The Babcock & Wilcox Company is putting in a 100-H. P. boiler at the Marvin branch of the U. S. Baking Company in Pittsburg.

The Laughlin Nail Works, at Martin's Ferry, O., have gone into operation after two months' idleness. Six hundred men are employed.

J. C. Harris and associates have leased and will operate the Sheffield Machine Works and the Sheffield Stove Works, at Sheffield, Ala.

The Elliott Steel Company, New Castle, Pa., has been reorganized as the Elliott-Washington Steel Company. The company makes fine rolled strip steel.

Pine Grove Furnace of the South Mountain Mining and Iron Company, in Cumberland County, Pa., is undergoing repairs, preparatory to blowing in shortly.

The Vulcan Iron Works Company has been organized at Denver, Colo., to manufacture mining machinery, railroad supplies, etc. It has absorbed the Gilbert H. Denton Iron Works Company.

The Ellwood Shafting and Tube Company, Ellwood City, Pa., is erecting a steel building 80 × 80 ft., and otherwise considerably increasing the capacity for the manufacture of seamless tubing.

The Edward P. Allis Company, of Milwaukee, has secured contracts for four 1,000 H. P. engines for the Metropolitan Elevated Railway Company, of Chicago, to be used in operating the electric equipment.

The Goulds Manufacturing Company, Seneca Falls, N. Y., has issued a preliminary catalogue of some of the more recent additions to its manufactures. A large general catalogue is in preparation and will soon be issued.

The Tyson Chrome Works Company, Baltimore, has notified its 350 employes that on December 1st their wages will be increased 10%. Six months ago the company reduced wages, owing, it was said, to business depression.

The Glamorgan Pipe and Foundry Company, of Lynchburg, Va., has resumed operations. A fire at the works made it necessary to suspend operations some six months ago, until the burnt structures could be replaced.

The York structural steel plant at Ironton, Minn., Duluth's suburb, is in operation and is turning out 12-in. beams. The new machinery with which it is expected to roll 36-in. beams is in place and a pressure pump is all that needs to be installed.

The creditors of the Morehead & McLeane Company have declined to grant more concessions, and as a consequence a note indorsed by M. K. Morehead, the vice president, for $150,000 has gone to protest. The creditors have not yet announced what they will do.

The Tennessee Paving Brick Company, Robbins, Tenn., recently made a large shipment of paving bricks to Jacksonville, Fla., where they will be used in paving 75,000 sq. yds. of street. The company has supplied bricks for street paving in nearly all the large cities in the South.

Keystone furnace, of the Reading Iron Company, Reading, Pa., has blown out for repairs, after two years' continuous operation. The two Reading furnaces, which have been idle for a long time, are said to be in good working condition, and are likely to be blown in at an early date.

The plant of the Greensburg Steel Company, Greensburg, Pa., which has been idle for several years, and is at present owned by J. C. Jamison, of Pittsburg, will probably be put in operation in a short time. A new crucible furnace of 12 pots has recently been added to the plant.

Messrs. Pardee & Young, coal dealers, of Fall River, Mass., have recently obtained permission from the Harbor Commissioners to extend their coal wharves, and are erecting machinery to handle their coal. They will use the C. W. Hunt Company elevator and two automatic railways.

James Todd, of Edgewood, said to be the inventor of the chromium steel process, has brought suit against the Sterling Steel Company, of Pittsburg, to recover between $20,000 and $30,000 in royalties for the use of his process in the making of the United States government's projectiles.

Preliminary work has been begun on the blast furnaces to be erected by the Carnegie company at Duquesne, Pa. The tract of land upon which the plant will stand contains 54 acres, and it is expected that the buildings, together with the necessary trestles and tracks, will cover nearly all of it.

The Union Iron Works, of San Francisco, is building a 20-stamp mill for the Eagle Mountain Mining Company, Nevada County, Cal.; a 30-stamp mill, for the Gund Gold Mining Company, of Idaho City Idaho; and a 20-stamp mill for gold and silver for the Baradone Mining Company, of Guanacere, Mexico.

The new car wheel works which have been building at Raleigh, N. C., for several months, have been completed and put in operation. The works have a capacity of 50 wheels a day. The company has a capital stock of $100,000, and the Lobdell Car Wheel Company, of Wilmington, Del., is said to be largely interested in them.

The new machine shop for the American Hard Fibre Company, at Newark, Del., is now completed. It was designed and built by the Berlin Iron Bridge Company, of East Berlin, Conn., and is 50 ft. wide by 226 ft. long, the roof being made of steel and covered with the Berlin Iron Bridge Company's patent anti-condensation corrugated iron roof covering.

At a recent meeting Cofrode & Saylor, incorporated, re-elected Francis H. Saylor president; Joseph H. Cofrode, vice-president; and P. R. Foley, secretary and treasurer. It is stated that arrangements have been made to reorganize the company and close the receivership, as well as that of the Reading Rolling Mill Company, which it controls.

C. W. Bray, formerly mechanical engineer for the Lloyd Booth Company, Youngstown, O., has accepted the presidency of a new company organized at New Lisbon, O., and who will erect a tin plate plant at that place. The main building will be 100 × 200 ft., and all the buildings will be of iron. The contract for their erection has been given to the Youngstown Bridge Company, of Youngstown, O.

The Blake pump has been adopted by the Newport News Shipbuilding and Drydock Company for the United States gunboats Nos. 7, 8 and 9, the contract having been awarded last week to the George F. Blake Manufacturing Company. The contract includes Blake's special design of vertical duplex boiler-feed pumps, fire pumps and bilge pumps, also an outfit of pumps for the distillers and evaporators.

The Excelsior Iron Works has orders for a large firebox boiler for Butte, Mont.; an overbalanced electric hoist, water boiler and indicators for Aspen, Colo., and a 10-ton hand winch for the same place; a Corliss engine, boilers and pumping plant for central Montana; and an air compressor and complete outfit for a large chemical works. It is also shipping two carloads of supplies and machinery to British Columbia.

The American Pipe Company has just completed a plant at South San Francisco, Cal., for the manufacture of bituminous pipe. It claims that the pipe is equal to anything now in the market, and has the advantage of being a non-conductor, non-corrosive, non-frictional, perfectly pure and sanitary, and free from any sediment. It is also impervious to alkalies, acids, ammonia and all atmospheric influences; tough, elastic and strong.

A new product called frigorifuge is now being introduced into the Chicago market by the Frigorifuge Company, of Chicago. This material is a liquid product for the prevention of the freezing or congealing of water in pipes, gasmeters, hydraulic machinery, accumulators, etc., and is said to remove ice from slippery sidewalks. It is the invention of a French chemist. It is claimed that not being volatile it can be used over and over again.

The Electrical Engineering Company, of San Francisco, Cal., is erecting an electric power plant, consisting of one 150-H. P. dynamo and two 60-H. P. motors, to operate a 30-stamp mill and hoist on the Empire mine for the Gold Valley Mining Company, of Gold Valley, Sierra County, Colo. It is also erecting a 30-H. P. electric dynamo and a 25-H. P. electric hoist for the Phœnix mine in Sierra County, Colo., and a 40-H. P. electric pumping plant for the Taylor mine in Eldorado County, Colo.

The Picher Lead Company, of Joplin, Mo., is a very progressive concern, and its enterprise in pushing its products in the market is indeed doubly effective by the excellent quality of what it produces. The latest reminder of its sublimed white lead comes to us in a box of excellent plumbago or "black lead" pencils enameled with sublimed white lead made at the Lone Elm Works, Joplin, Mo., by the Lewis Bartlett process, with which the readers of the "Engineering and Mining Journal" are familiar.

The contract for postoffice lockboxes, etc., for the different public buildings throughout the United States, for the fiscal year ending June 30, 1895, was awarded to the Yale & Towne Manufacturing Company, of Stamford, Conn., on the 5th. The Yale company was the lowest bidder among the following: Corbin Cabinet Lock Company, New Britain, Conn.; J. B. Schroder & Co., Cincinnati; D. M. Miller Lock Company, Philadelphia; Thos. Kane & Co., Chicago; Keyless Lock Company, Indianapolis, Ind.

The Baltimore Copper Smelting and Rolling Company, of which Mr. William Keyser is president, has advanced the pay of the men in the smelting department of the works at Canton 5%, to take effect at once. About 175 men are affected by the increase. There are three other departments in the company's works, but the employes in these are not affected, their pay remaining the same. At the beginning of the business depression, about a year ago, the wages in the smelting and other departments were reduced 10%. The increase therefore does not bring the earnings up to the standard received 18 months ago.

The following regarding Jessop's steel, the product of Wm. Jessop & Sons, Ltd., Sheffield, Eng., and New York, appears in a recent contribution to the Sheffield Daily "Telegraph," from its Paris correspondent. In an article upon "The French Trade in Sheep Shears" the writer says that most of the orders that come from the United States are accompanied with the stipulation that the steel used must be Jessop steel, and, in fact, nearly the whole of the shears sent abroad are made of this material. Where possible, makers will employ French steel, but they prefer to employ Sheffield steel, and where quality is the point to be considered, no hesitation is felt in taking the material from this place.

Arguments were concluded Saturday in the United States Circuit Court in the patent suit of the Westinghouse Air-Brake Company, of Pittsburg, against the Boyden Power-Brake Company, of Baltimore. Judge Morris held the case under advisement, reserving his decision. It is claimed by the Westinghouse company that its first patent for quick-action air-brakes, issued March 29th, 1887, has been infringed by the Boyden company, and the court is asked to restrain the alleged infringement. This patent has never been litigated, but a later patent of Jan. 24th, 1888, has been successfully maintained by the Westinghouse company in the courts of New York. The Boyden company justifies its use of the brake manufactured by it under a patent granted George A. Boyden, June 26th, 1883, and two patents granted Mr. Boyden, August 16th, 1892. In the two later patents of Mr. Boyden, it is said, the Patent Office differentiated the invention of Mr. Boyden from that of the Westinghouse company, which is the cause of the present litigation. The alleged infringement is denied by the Boyden company.

Advices from Pensacola, Fla., state that the Export Coal Company has made an assignment to Mr. F. C. Brent, president of the First National Bank, for the benefit of its creditors. This course was agreed upon at a meeting of the board of directors held several days ago, and the papers were filed in the office of the County Clerk on Wednesday. The object of the assignment is to place in the hands of the assignee all of the company's property, to be divided among its creditors according to their various demands. Mr. Brent has accepted the position of assignee and filed his bond. In response to an inquiry he stated that the cash value of the company's assets is about $139,000 and the liabilities a little in excess of the assets. He further stated that the company hopes to pay out in full, and that he will endeavor to sell the plant as quickly as possible. In the mean time, as assignee, he will continue to fill the company's old contracts, and thinks there is reason to believe there will be no cessation of business. It is well understood that the assignment means the organization of a new company to take the place of the old one, and the business of exporting coal from this port will in the future be conducted on a much larger scale than heretofore. The Louisville & Nashville Railroad Company has a large force of men at work rebuilding the coal chutes, and it is expected that the new company will be fully organized by the time the chutes are completed.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" of what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind, and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying or selling goods of any kind.

GENERAL MINING NEWS.

ALABAMA.

Cleburne County.

(From our Traveling Correspondent.)

Anna Howe Extension.—Julius Houston, of Arbacoochee, the lessee of this property, has purchased the machinery of the old Huntingdon mill, which was erected on the Anna Howe property proper, some years since, and has laid idle for the last four years. He has thoroughly overhauled and repaired the same, and started it on ore from the Anna Howe Extension. This is the same ore on which he made a sample run of about 10 tons last June in the old Hicks-Wise 10-stamp mill, and claims to have saved $175 in free gold, besides the concentrates, by plate amalgamation and blankets. With the Huntingdon mill he gets a Frue vanner concentrator, and hopes to demonstrate that he can mine and mill this ore profitably. The ore body where he is working is quite thin and in lenses, consequently the cost of mining is excessive, but the ore is rich and averages very evenly. The bulk of the value is carried by the concentrates, and undoubtedly barrel chlorination will have to be resorted to before the full values are saved.

Golden Eagle.—W. D. Vaughn, of Heflin, and associates, the holders of the bond on this property, have just completed the erection of a three-stamp mill for prospecting, and the stamps will be dropped by November 1st. The ore pans very well, but carries graphite, and it is the intention of these gentlemen to make a thorough sampling and test in order to ascertain if they can eliminate the graphite, and prevent its interference with amalgamation. If their tests are successful they have an ore body 6 ft. thick at 30 ft. in depth which carries but a very small percentage of sulphurets, and at 75 ft. in depth the ore might be treated in the same manner as at the Haile mine in South Carolina, because of the large percentage of free gold. But eventually Mr. John E. Rothwell's practice, I am satisfied, will have to be adopted through the entire South. Because I find that a large percentage of free gold is so fine, and of the sulphurets so light that the specific gravity is not sufficient to cause them to settle in running water, and consequently such are not caught in concentrating. But by the practice of roasting the raw ore all of this difficulty will be overcome. This question of light gold and concentrates, and the fact that such carry value, I have proved by practical tests.

Hick-Wise.—J. J. Bowman, of Heflin, the administrator of the estate of H. H. Wise, deceased, has advertised the sale of this property at public auction on the premises November 20th, 1894. The property to be sold is the farming right on 80 acres of land, and a one-half interest in the mineral right. The entire tract will be divided up into lots of about 120 or 160 acres each. One of these lots will contain this prospect which has been sunk on 122 ft., and drifted on about 200 ft. at 85-ft. level. The property was optioned in 1893 for $30,000 by a miner from Colorado, who milled several hundreds of tons of the ore, and claimed to save $2 a ton at a cost for mining and milling of $1.25. His option expired during the panic of 1893, and the property has remained idle since.

Jefferson County.

Messrs. Charles and J. R. Smith are getting out ore on the top of Red mountain at the head of Nineteenth street, Birmingham. The vein forms the crest of the mountain, and no underground work is necessary. The ore is rolled down into the cars on the Mineral railroad a few feet below.

Randolph County.

(From our Traveling Correspondent.)

Pinetucky Mica Mines.—It is reported that a sale is being consummated of this property by R. E Merrill, of Micaville, who has had a lease for some time past, and mined mica on a limited scale. This mine has been sunk to a depth of 60 ft. and below water level. The mica from that depth is superior in grade, and the size of the plates much larger, than nearer the surface. A sale of this property was negotiated last spring, but the final consummation was not completed, for some reason. The prospective purchaser took out about 100 lbs. of dressed mica and went to Chicago to organize a company to work the property on an extensive scale, but allowed his rights to expire before he had been successful in his purpose.

ALASKA.

Bear & Ophir.—On these claims, at Berner's Bay, the right of way for the new 1,750-ft. tramway has been cleared, and the tunnel to tap the veins has been driven 100 ft. The station for the compressor machine at the mill is almost finished and the machinery up.

Ebner Mine.—At this mine, says the Juneau "News," a force of men under Foreman Henry Jones has run in on the ledge 75 ft. and raised three stopes on the vein to the surface. The ledge is regular and well defined, having no lateral stringers or spurs, in fact showing up as a fissure vein It varies in width from 1 ft. to 22 in., the white quartz carrying free gold and iron pyrites. The walls are hard, composed of a diorite formation, belonging to the slate family. A bucket tramway connects the workings with the road, a distance of 1,000 ft.

Silver Bow Basin.—A. Hayward and C. D. Lane, of California, have about consummated the purchase of 21 of the most extensive and richest gold-bearing quartz mines in Silver Bow Basin, says the Juneau "News." They have entered into and about completed the negotiations for the purchase of the entire stock of the Juneau Mining Company which hold the following 16 patented claims in the Basin: Eureka, Hancock, Major, Paymaster, Garfield, Jamestown, California First, California Second, Montana First, Fuller Second, Montana Second, Hughes, North Star Second, Jamestown Second, Carroll and Blaine. Charlie Wells and Captain David Wallace have sold to them the Florence, Independence, Wallace and Helen mines, and Archie Campbell pooled his entire interest in the Fuller First mine, mill and plant, and has agreed to take stock in the close corporate company. It is currently reported that L. W. Shinn, in the interest of C. D. Lane and the company, endeavored to secure ground in the bottom of the Basin near the head of the flume tunnel from the Nowell Gold Mining Company for a mill site, but so far has met with no success. It is also stated that the new owners will begin work early in the spring on their mining property; sinking development shafts and running levels to determine the extent and nature of the ledges in depth several hundred feet below the surface.

Webster Mine.—On this claim near Juneau, says the "News" of that place, men under W. E. Ross are engaged in taking out ore from stringers of quartz, varying in width from 1 ft. to 5 ft. They have worked into the hillside about 100 ft., and have now a ledge formation fully 30 ft. in width, with seams of slate separating the layers. The bucket tramway connecting the mine with the mill will deliver a bucket containing 250 lbs. of ore in a minute's time, the bucket automatically dumping its contents into the mill's bin. Wm. Webster runs the

5 stamp mill, the first one built on this side in the spring of 1882.

ARIZONA.

Maricopa County.

Zulu.—At this mine, in the Tonto Basin, owned by S. Hills, a 6-ft. vein, about 3 ft. of which carries free gold, was struck recently in a crosscut on the 200-ft. level.

Pima County.

Old Glory.—There are now two Griffin mills, working 30 tons a day, at this mine. The test runs have shown well.

Pinal County.

Ripsey.—A stamp mill has been ordered for this mine, and is to be erected before the close of the year.

Yavapai County.

Austin & Owens Mine.—These claims in the Santa Maria district, says the Phœnix "Gazette," are located about 100 miles to the northeast of Phœnix, 35 miles west of Congress and about eight miles north of the county line. The new railroad, at its Date Creek station, will be but 15 miles to the eastward. The mines are located far up on the side of a steep and narrow canyon. Below runs a mountain torrent, which never falls below 1,000 miners' inches, its sharp descent rendering feasible a pipe line to the mine, to furnish power for the machinery of both mine and mill. The ledge, which parallels the stream, has been uncovered for a long distance, though to no considerable depth. Almost from the surface the ore is strongly sulphuretic, rendering concentration the only feasible mode of working it at a profit. Experts declare it to be an excellent ore for the purpose of concentration, and equally available, by lack of copper, for the reduction by the cyanide process. A working sample taken at distances of 5 ft. from the ledge where it had been exposed for 100 ft. by an open cut gave returns of $44 per ton. The ledge is a strong one, with well defined walls, and dips at a sharp angle away from the stream. It can readily be worked by means of an incline.

(From our Special Correspondent.)

Ohio Group.—Colorado mining men have secured control of this group of mines on the Hassayampa Creek, eight miles south of Prescott, and are building a stamp mill. The property consists of three claims, on all of which ore of good grade is developed.

CALIFORNIA.

Calaveras County.

Herald.—On this mine the winze from the upper tunnel has been sunk 20 ft. deeper, making 40 ft. in all, and the vein has gradually improved in the quality of ore. The vein is fully 4½ ft. of ribbon quartz, giving free gold and carrying 2½% of high grade sulphurets.

(From our Special Correspondent.)

Boston Mine.—This mine, on Indian Creek ravine, 2½ miles northeast of Mokelumne Hill, is being reopened. It is a large vein 60 ft. wide, consisting of a reticulated mass of quartz in a large dike of altered diorite.

Gwin.—This mine is looking well, good progress having been made in recovering the long abandoned stopes and levels. The mine was 1,500 ft. deep when closed down in 1882; it was a large producer and is said to have yielded over $2,000,000.

Mariposa County.

(From our Special Correspondent.)

Coulterville is showing most decidedly the effect of the rapid growth of interest in the mining boom. A year or so ago the Tyro mine was the only property operating, excepting the dozen or so pocket mines scattered through the mountains to the eastward of the town. The vast Cook estate, comprising about 20,000 acres, and embracing several mines of known value, was then and had been idle for many years. Recently the Cook estate passed into new hands and now all is activity. The Tyro is about to enlarge the mill, and active work is in progress looking to the rehabilitation of the various mines on the Cook property. This work will include the building of roads, reopening of the mines by means of long adits and new shafts, the construction of hoists and mills at various points, or the building of one large milling plant from which railroads will diverge to the several mines, and the installation of a large electric plant on the Merced River for the purpose of generating power to run the mills, railroads and other machinery. In fact, it will be one of the most extensive mining enterprises on the Coast, if the announced intentions of the management are carried out. There is no doubt of the value of some of the mines. There are two great fissures on the property, the Mother Lode and the West Lode. These each have several large mines. At a point in the famous Pine Tree-Josephine mine on the Mariposa estate, situated on the south side of the Merced River, these great fissures diverge. The east fissure is the Mother Lode, which has such distinctive features as to make it readily recognizable for many miles to the northward, at least to Carson Hill, in Calaveras County. These features are the occurrence of immense quantities of a magnesian iron lime carbonate, known as ankerite, which is always accompanied by that peculiar grass-green, scaly mineral named by Professor Silliman "mariposite" (an iron magnesian silicate). Through this mass is a system of reticulated quartz veins, great and small, bearing gold, the ankerite being itself gold-bearing at times, as at the Mary Harrison and Louisa. In the Rawhide mine, in Tuolumne County, it was fabulously rich. The walls east and west of this great fissure called the Mother Lode are at times black slate, again diabase, and often serpentine. The principal mines on the Cook estate, on the Mother Lode, are the Mary Harrison, Daliah and Louisa. The West Lode is a clean, well-defined fissure in black slate, being usually accompanied by a light-gray dyke rock. The vein is from a few inches to 12 ft. and rarely 20 ft. wide. The principal mines on this vein are the Tyro, not owned by the Cook estate; the Potosi, Malvina and Malvina No. 2. A large amount of work has been done on these mines in years gone by, and everything points to the conclusion that they are by no means worked out. Under the improved conditions—the application of electricity; cheapening of labor; lower cost of supplies; the use of modern explosives, together with less explosive and more successful metallurgical operations—it is believed that their working will result in success.

On the Mariposa estate, agents of the company, of whom John W. Mackey John P. Jones and Alvinza Hayward are the principal owners, have been engaged in opening and sampling the numerous mines on the tract (over 40,000 acres). A five-stamp mill was erected on Missouri gulch near the town of Mariposa for this purpose, and hundreds of tons of rock have been tested. A revival of operations may be looked for in this locality also. The principal mines are the Pine-Tree, Josephine, Mount Ophir, Princeton, Green's Gulch, Elizabeth and a new mine recently discovered in the vicinity of Mount Ophir. John Ludwig is in charge of this work.

Nevada County.

Liberty Hill.—Messrs. Abe Brockington, Will Connors and Chas. A. Brockington have leased the Liberty Hill and Noon-Summer claims, situated between the Pennsylvania and the W. Y. O. D claims, from Messrs. Oliver and Berryman, says the Grass Valley "Times." They will at once sink a shaft and erect hoisting works. Prospecting done on these claims has proved very profitable and their favorable location makes them valuable.

Mary Jane.—A well defined quartz ledge, 2 ft. in width and carrying free gold, has been struck in this gravel mine near Washington.

Phelps Claim.—Charles Phelps has for some time past been running a bedrock tunnel into his gravel mine at Phelps Hill, this side of Washington, says the Nevada "Transcript." He has got into the hill about 100 ft. and has just entered the edge of a gravel channel. The prospects obtained from some of the gravel are encouraging. He intends to drive the tunnel 100 ft. further, which he calculates will about take him across the channel. The gravel in the tunnel is the regular blue gravel. Years ago, before hydraulic mining was suspended, this same mine paid.

San Bernandino County.

Boomerang.—On this mine at Vanderbilt the mill saved about 80% of the assay value, on the last run of 300 tons of ore, and about 10% additional was found in the concentrates.

Brick.—At this mine development work has been pushed, and it is now showing very well. The supply of water is increasing, and the stamp mill is kept running about three-quarters of the time.

Sierra County.

Alaska.—This mine, near Pike City, has changed hands again, the new purchasers being, as on the previous occasion, well-known residents of San Francisco, says the "Post." It will be remembered that this property was rescued from the grip of the sheriff of Sierra County a few months ago by a company which incorporated with the intention of putting co-operation into practice. Enough capital was subscribed to secure the mine, and then the working force came in on the proposition to take stock in lieu of wages, with an allowance for board. The old workings of the mine were not touched, but a start was made by tunnel in a new quarter entirely. A vein was tapped which produced bullion enough to defray running expenses; but a large payment falls due next month, for which preparations had to be made. Several offers had been made during the interim for the property, and it was finally decided to accept the most favorable one. The sale was closed upon the basis of 15 to 20c. a share, all the loose stock being picked up within these figures. Harbor Commissioner Cole, Emil Gunzburger, G. H. and Oliver Sunderhaus are the purchasers. The two last named members of the syndicate were the original owners of the Young America mine. The mine will continue to be managed by W. W. Casserly. The new owners will not work through the old shaft, which is full of water, nor will they tunnel in from back of the hill. It is proposed to make a new departure entirely by sinking another shaft at a point which will carry them in about 250 ft. below the 400-level of the mine, the lowest workings in the property. This will permit the heavy flow of water to be handled to good advantage at a much less cost. It is also intended to put in an electric plant at the Yuba River, which will run all the machinery. A great saving will be effected in this, as it takes an enormous amount of wood for fuel under the old system. The Alaska is a mine with a history. Before passing through the hands of the sheriff to its present owners for $12,500, it was sold for $3,000,000 in London on the strength of its bullion product within the year or two it had been in operation. Owing to some hitch in the negotiations the sale fell through, and the company, hampered by litigation, had to throw up the sponge, and the mine filled up with water when the pumps ceased work.

COLORADO.

Mineral surveys approved by the United States Surveyor-General for Colorado during the week ending November 3d, 1894:

No. 8,984, Pueblo, Little Anna Roney; 9,146, Gunnison, Only Chance; 9,149, Pueblo, Bolivia, St. Joseph and Phœnix lodes; 9,024, Pueblo, King Solomon; 9,130, Gunnison and Del Norte, George Third, Annie and Hattie lodes; 9,167, Pueblo, Crown Point; 9,078, Leadville, Powderly; 9,102, Pueblo, Mary Ann; 9,162, Pueblo, Modock; 9,049, Pueblo, Hillside; 9,136, Pueblo, Martha W.; 9,100, Pueblo, Omonde; 9,139, Denver, Petzite, La Clede and Occidental lodes; 9,143, Leadville, Claribel and Florence placers; 9,171, Pueblo, Robert E. Lee; 7,556, amended, Pueblo, Fairfax; 4,461, amended, Leadville, Kismet.

Boulder County.

Giles Mining and Milling Company.—This company has been incorporated with a capital of $250,000, and its directors are George A. Tenny, M L. Luebben, Theodore Miller, H. F. Luebben and J. H. LeClair. The company will operate mines in Boulder county.

Pine Shade.—At this mine, says the Ward "Miner," the buildings are under headway; the shaft-house and boarding-house are finished and the mill has been started. It will be 130 ft. long. It will be equipped with 30 Fraser & Chalmers stamps weighing 850 lbs. and 120 drops per minute, bumpers and Johnston tables. The power will be generated in a 100 H. P. boiler and the engine will be 75 H. P. The hoister will be 45 H. P., friction. Water will be raised 600 ft. from the creek with a set of rams made by the Land Hydraulic Ram Company.

Poorman.—A controlling interest in this mine at Caribou has recently been purchased by the Gold and Silver Extraction Company, of Denver. This is one of the oldest mines in the Caribou district and the workings are very extensive. The shaft has been sunk to a depth of 600 ft. and levels branch off from this every 100 ft. About a year ago the pumps were pulled out of the mine and it has been lying idle since.

Gilpin County.

Iron City Mill Company.—Articles of incorporation have been filed by this company to work at Iron City. The company starts out with a capital of $50,000, and its directors are Lyne S. Newell, Jr., S. V. Newell, F. Givvener, Jr., and William Jacob.

Lake County.

Ferrum Mining Company.—This company has been incorporated with a capital stock of $500,000. The directors are W. L. Thompson, G. E. Taylor, J. A. Ewing, R. B. Estey and C. T. Limberg. It is intended to work mines near Leadville.

Lake County—Leadville.

There were a number of good strikes this week in properties along the gold belt.

Amity Mining and Milling Company.—After a long idleness the Amity property has been leased by the company to G. L. Reese who is doing considerable work and shipping a little mineral. Only occasional rich pockets can be shipped from, as the general run of the silver in the Amity is of very low grade.

Australian Mining Company.—These people started a new shaft on the gold belt 1,000 ft. north of the Ibex property early in October, and at a depth of 150 ft. have encountered 3 ft. of ore carrving 1 oz. gold, 10 oz. silver and 18% lead. The strike demonstrates the fact that the gold ore chute exists in this locality at a much shallower depth than near the Johnnie. Shipments are to be commenced soon. This company owns the Australian, Little Winnie and Virginius mining claims.

C. M. Fraction.—After a deal of hard work the lessees on this property caught a good body of ore while drifting toward the Doris. The stuff is an oxide of iron, and assays 7·3 oz. gold and 16 oz. silver. In another portion of the drift a fine body of carbonate of lead ore was disclosed recently. The new strike is to be developed at once, and shipments will be commenced.

New England Mining Company.—These people own the Lady Crawford, Ohio Bonanza, Pauline, Colonel Sellers, Christmas, Daniel, O'Connell, Ottawa, and Inferno lodes. This includes 70 acres of ground, and the shaft, already down 200 ft., is to be sent down to the gold ore chute. Judge Bond is to be at the head of the new enterprise.

Silver Queen.—Lessees recently took hold of this property and have uncovered a vein 4 ft. in width. There is but little profit in this work with silver at the present price, as the Queen is clearly a silver proposition.

Wapiti Mining Company.—These people own 5,000 acres of ground on Farncum Hill, and at present are taking out $25,000 a month from different lodes. The big development will begin next spring, after the completion of the new flume now being built by 300 men. It will be 14 miles long and will be the largest placer enterprise in the West.

Pitkin County.

Aspen Mountain Tunnel and Drainage Company.—This company is pushing work at the breast of the tunnel at the base of West Aspen Mountain, which is now in 558 ft. L. M. Dorr, who finished his contract there recently, has been employed to

continue the work. The face of the tunnel is now in the Copperopolis claim and it is expected that the contact will be reached within a few more feet.

Della S.—Blocks in this mine are in demand by lessees, and recently a bonus of $1,650 was paid for a lease, for which several parties bid.

Little Annie.—It is expected that the new tunnel will be so far completed this month as to drain the mine.

FLORIDA.

Hernando County.

A sale of 280 acres of rock and gravel phosphate land has recently been made by H. F. Mayfield, M. C. Resdell and Dr. Temple, of Florida, to Achille Laurent, of Paris, representing a French company. The company will erect a plant costing $22,000, having a capacity of 75 tons daily. A branch railroad 2½ miles long will connect with the South Florida & Western Railroad. Contracts have been let to mine and deliver rock in the bins for $1.75 per ton. Some $272,000 will be invested altogether.

GEORGIA.

Lumpkin County.

Mary Henry.—Under the new management this mine is doing well and reports a considerable profit above expenses.

IDAHO.

Shoshone County.

Cœur d'Alene Silver and Lead Mining Company.—This company is working a force of 200 men and running day and night. They are taking out 10,000 tons of crude ore and shipping from 1,600 to 1,800 tons of concentrates per month.

Morning Mining Company.—This mine at Mullan has about 85 men at work on the co-operative plan, arranged by Mr. D. B. Huntley, and more coming in steadily. Soon there will be a full force of men at work, though not as many men are required as formerly. The new plan works nicely, the men showing no signs of discontent. The mill is working two shifts, and will continue to do so until it overtakes the mine. Even at present prices of lead the men are hopeful of making good wages. However, the first month's operation will not be a fair test, as the force has been small and the new men coming in have been at work only a part of the month. The outcome of October's operations will soon be known.

Tiger.—This mine is running day and night, employing 80 men and milling 30 tons of concentrates daily.

ILLINOIS.

Bureau County.

Spring Valley Coal Company.—A threatened strike of the miners has been prevented, and it is stated that all difficulties have been adjusted.

KANSAS.

Cherokee County.

Southwestern Coal and Improvement Company.—This company, which last year bought 1,992 acres of coal land, is controlled by the Missouri, Kansas & Texas Railroad Company, and will furnish coal to that road. The mines will be connected with the road by a spur extending from Parsons, south about 16 miles.

KENTUCKY.

Christian County.

While digging a well near Fairview a seam of coal was found at a depth of 60 ft. Arrangements are on foot to make further examinations.

MAINE.

New England Co-operative Granite Company.—This company has been organized under the laws of New Jersey to manufacture and sell granite paving blocks and monuments. The business will be conducted principally in Maine. The capital stock is placed at $50 000 and business will be commenced with that amount. James Grant and James Murphy, of New York, and William H. Spencer, of Brooklyn, are the incorporators.

MICHIGAN.

Copper.

Calumet & Hecla Mining Company.—This company has declared a dividend of $5 per share, payable December 15th, to stockholders of record on November 17th. The dividend will require $500,000. This will make $15 per share paid in 1894, dividends of $5 each having been paid in May and August.

Franklin Mining Company.—In our issue for October 27th we noted a report that this company had bought the property of the old Peninsula Mining Company. This report was doubted in some quarters, but has now been confirmed by the passing and recording of the deeds. The property conveyed consists of about 1,360 acres of land, through which all known lodes of the mineral belt run, including the Calumet lode, and of which it has a length of about a mile and a half. The plant consists of hoisting engines, boilers, compressors, rock breakers, shaft-houses, stamp mill, washing machinery, pumping engine, etc., mostly in good order, and buildings to accommodate about 200 employees, and is situated about a mile and a half from the Franklin mine. The Hancock & Calumet Railroad runs through the property, and it is situated favorably for mining purposes. About $1,000,000 was expended on the property by the Albany & Boston Company, which sold out to the Peninsula company, the latter having expended quite a sum in openings and boring to test the different lodes on the property, the main object being to explore the Calumet & Hecla lode. A cross cut was started at No. 2 shaft at the fourth level, and opened about 1,000 ft. toward the Calumet & Hecla lode; after which a diamond drill continued through to the lode and brought out some conglomerate charged with fine copper. About this time a strike occurred, and, the price of copper falling, the Peninsula company, being out of funds, decided to suspend operations, and the property has remained idle. Although it is believed to be a very valuable one, its principal stockholders were not mining men and decided to dispose of the property.

Iron—Gogebic Range.

Ashland Iron Mining Company.—This company recently elected officers as follows: Edwin H. Abbott, president; Howard Morris, secretary; Charles F. Rand, treasurer. E. W. Ogesby, C. W. Harkness, W. D. Rees, H. B. Sturtevant, directors.

Iron—Menominee Range.

Aragon Iron Company.—The winter force at this company's mines will be about 250 men. There are reports of an expected change of ownership, but nothing definite can be ascertained.

Penn Iron Mining Company.—No change has been made in the working force, and it is expected that the present force will be continued through the winter.

MINNESOTA.

(From our Special Correspondent.)

Assistant State Geologist Winchell, who, with Dr. U. S. Grant, went over the Rainy Lake district some weeks ago, says in an interview that he is sure there is gold there in good quantity, but that the methods of work of many of the operators, who are ignorant of the necessities of gold mining, will be very costly, and may hurt the reputation of the region. He thinks there will be excellent finds there this winter, and that much of the metal may be taken out next year.

Ore freights from Duluth and Ashland to Lake Erie ports are now $1, and will be at that for the rest of the season—about 10 days more. Nearly all the mines on the lower ranges have shut down, and some of those in this State.

Iron—Mesabi Range.

Mahoning Mine.—Winston Bros., of Minneapolis, and R. B. Dear, of Superior, were successful bidders for the work of removing between 150,000 and 300,000 cu. yds. of earth from this mine, at Hibbing. The figure is $30,000 for the job. The contract must be completed by next August.

(From an Occasional Correspondent.)

Biwabik Ore Company.—One shovel is to be kept busy in ore to the freeze-up, and about 90 cars daily will be sent out. The shipments for the season have not come anywhere near the expectations of the company, though the grade ore has been over the anticipations most of the time.

Canton Iron Company.—This company has let a contract for 1,000,000 ft. of mine timber to be delivered this winter. It will be cut near the location.

Mesabi Chief Iron Company.—The timber on the location is all being cut off, though no statements are made as to the commencement of work at the mine.

Mountain Iron.—This mine will ship to the close of navigation, and is getting out about 3,200 tons daily. Some 340 men are now at work stripping and mining at this and the Rathbun property. Stripping will be continued far into the winter, and the force will not be decreased. The mines are to be put in shape for an immense output next season.

Oliver Mining Company.—This company has stopped work for the season, with total shipments of about 510,000 tons.

Iron—Vermilion Range.

(From our Special Correspondent.)

Chandler Iron Company.—It is expected that this mine will show an output for the season of not less than 600,000 tons, which is believed to be ahead of the total reached by any mine in the Lake Superior region this year.

Minnesota Iron Company.—This company has gradually reduced its force at Tower and Soudan for some time, and is about over for the year. It will stockpile largely during the winter.

MISSOURI.

Jasper County.

(From our Special Correspondent.)

Joplin, Nov. 12.

We can only report a light output from the lead and zinc mines for the past week, as one day was lost by the election, and at Webb City and Carterville the large plants were closed two days on account of the city water works cutting off the supply of water to make repairs. Zinc ore was in good demand by the purchasing agents at a reduction of 50c. per ton, the top price being $20 per ton. There is but little surplus stock on hand.

Lead ore still remains at $16 per thousand, and producers are holding for better prices, and as a result the lead ore is accumulating. The following are the sales of ore from the different camps: Joplin, 1,015,510 lbs. of zinc ore and 398,630 lead, value $15,517; Webb City, 836,980 lbs. of zinc ore and 12,810 lead, value $7,978; Carterville, 861,250 lbs. of zinc ore and 119,080 lead, value $9,984; Oronogo, 32,240 lbs. of lead, value $515; Zincite, 35,350 lbs. of lead, value $565; Galena Kan.), 1,270,000 lbs. of zinc ore and 132,000 lead, value $13,430; district's total value, $47,989. Newton County, 276,060 lbs. of zinc ore and 107,620 lead, value $4,233; Aurora, 672,000 lbs. of zinc ore and 120,000 lead, value $6,802; Stotts City, 40,000 lbs. of zinc ore, value $396; lead and zinc belt's total value, $59,320.

Mr. E. Hedburg, who is operating the Burlington mine in Leadville Hollow, has completed his ore crushing plant and made a good run on lead and zinc ore last week.

A number of new strikes have recently been made on the West Joplin Lead and Zinc Company's land and the John H. Taylor land just west of the city of Joplin.

The South Joplin Land and Mining Company, located in the south part of the city and operating 40 acres of land, is keeping up a steady production of high grade zinc ore. Mr. Marsh Hinton, the superintendent, informs us that he has more ore in sight than he has ever seen at any one time, and this is all in new ground opened up within the past six months.

MONTANA.

Beaverhead County.

Hecla Consolidated Mining Company.—This company will pay on November 25th dividend No. 131 of 1%, or 50c. per share. This will require $15,000, making a total of $1,965,000 paid in dividends up to date. On November 1st the company had $125,000 cash in hand and no debts.

Deer Lodge County.

Montana Mining Company, Limited.—The October report states that the total output for the month was 6,450 tons of ore, which contained 2,540 oz. gold and 28,550 oz. silver. The estimated realizable value of the output is $66,900. The expenditures for the month were: Working expenses, $36,600; development, $12,100; extra expenses, including insurance, $2,360; permanent improvements, $800; making a total of $51,860, and leaving a balance of $15,040 profit for the month.

Lewis & Clarke County.

The following recent notes are from the Maysville "Mountaineer":

Blue Bird.—Frank Murray, lessee of this mine, has struck a lead of a size that will net him returns for the labor expended on the property.

Calliope.—The work of sinking and drifting is to be carried on through the winter at this mine in the Heddleston district.

Hubbard.—A report reaches us from a reliable source that a lead of high-grade ore has been struck in this mine at Jay Gould. The lead is 5 ft. in width. The work of sinking on the lead will be started at once with a large force of men.

Monitor Mining Company.—The mill of this company in Drinkwater Gulch is nearing completion, and will be ready to start up about January 1st, 1895, if nothing happens to delay work.

Spokane.—Work on the tunnel is progressing favorably, and good bodies of ore have been encountered during the progress of the work.

NEVADA.

Lincoln County.

Phœnix Reduction Company.—This company has completed the work of rebuilding its mill at Bullionville, which was burned down a year ago. In the new mill the company will use the cyanide process. A beginning will be made by treating a quantity of the tailings from the old mill by this process.

Storey County—Comstock Lode.

Four new assessments have lately been announced by Comstock companies: The Alpha, No. 13, of 10 cents per share; the Challenge, No. 17, of 5 cents per share; the Justice, No. 57, of 5 cents per share; and the Occidental, No. 17, of 5 cents per share. All are payable immediately.

The total amount of the payrolls of the Comstock companies for the month of October was $88,600. This is $22,412 in excess of September and is the largest reported in any month for two years past. The companies reporting the largest amounts were: Consolidated California & Virginia, $9,856; Crown Point, $8,582; Belcher, $7,880; Yellow Jacket, $7,232.

The following are extracts from the latest weekly official letters:

Alta.—The west drift on the 825 level was advanced 11 ft.; total length, 532 ft. The north winze, 725 level, was sunk 9 ft.; total depth, 138 ft. Work in the winze was somewhat retarded by a flow of water encountered during the early part of the week.

Belcher.—The mine yielded 70 tons of fair grade ore during the past week. Prospecting continues on the 300, 350, 400, 600, 1,000 and 1,100 levels.

Best & Belcher.—On the 200 level the south drift from incline upraise No. 1, 50 ft. above this level, has been extended 20 ft., total length, 52 ft.; discontinued work, with face in porphyry. On the 800 level the west crosscut No. 2, started from main north drift, has been extended 18 ft.; total length, 626 ft.; face in soft porphyry, clay and quartz.

Chollar.—On the 550 level, the north drift, from the main west crosscut, has been cleaned and repaired for a distance of 40 ft. The winze from the 450 level, 30 ft. south of the north line, is now down a distance of 36 ft.; the bottom shows a width of 11 ft. of ore, face samples from which run from $25 to

$55 per ton. Extracted from the winze and from the old stope on the 450 level during the past week 193 tons 1,600 lbs. of ore, the average battery sample of which was $39.11. Shipped to the Carson Mint 325 lbs. of crude bullion.

Consolidated California & Virginia.—On the 1,650 level we have continued to stope out ore from the new ore body, from the sixth floor up to the tenth floor, and the faces of the stopes continue to look as well as usual. We have carried up two upraises—30 ft. apart—in ore from the tenth floor to the eleventh floor, leaving the top of these openings in porphyry and quartz of low assay value, with 3 or 4 ft. of good ore lying against the west or foot wall. The winze has been sunk during the week 16 ft.; total depth on the slope 56 ft.; the first 5 ft. being in ore which assayed $60 per ton and the remaining 11 ft. in ore assaying $33 per ton. Samples taken from across the bottom of the winze gave an average assay value of $19.05 per ton. We have extracted during the week, from the stopes and from the winze, 347 tons of ore, the average assay value of which, per mine car samples, was $67.70 per ton. We have shipped to the Morgan mill 324 tons 1,930 lbs. of ore, the average assay value of which, per railroad car samples, was $62 34 per ton. The average assay value of all ore worked at that mill during the week (459 tons 1,080 lbs.) was $59.64 per ton. Bullion shipped to the Carson Mint, assay value, was $52,852.

Crown Point.—The south lateral drift on the 500 level has been advanced for a length of 44 ft. south of crosscut No. 1. The face continues in porphyry, clay slips and quartz of no practical value. During the past week we have extracted from the stopes above the 600 level and from the openings between the 600 and 700 levels 616 tons 220 lbs. of ore, which has been shipped to the Mexican mill for reduction. The average battery sample for the week was $9.53 per ton, of which $8.68 per ton was gold.

Gould & Curry.—On the 200 level the south drift started from west crosscut No. 5, 1,115 ft. from northwest drift, has been extended 18 ft., passing through porphyry and stringers of quartz; total length, 334 ft.

Hale & Norcross.—On the 975 level have advanced No. 1 west crosscut 10 ft.; total length, 70 ft. Face in porphyry. Stopped work temporarily in the face of this crosscut. About the end of crosscut have started a north prospecting drift on a small seam of ore and advanced the same 4 ft. On the 1,100 level are working on the second floor in the upraise started from the end of north drift in the old stope, and have saved 9 carloads of ore from this floor the past week, assaying per mining car sample $31.40 per ton. The top of the upraise shows some fair-grade ore.

Ophir.—On the 1,465 level the west crosscut, 62 ft. up, from the upraise carried up 80 ft. above the sill floor of this level, at a point 70 ft. in from the mouth of the crosscut, run east from the main north lateral drift and 124 ft. north from the main east crosscut from the shaft, was extended 11 ft.; total length, 90 ft.; continuing in prophyry and quartz of low assay value. Have continued jointly with the Mexican company the work of making repairs in the main shaft on the 1,100 level and upward. On the Central Tunnel the drift running southeast from the end of the south drift from the bottom of the winze, on the 250 level of the mine, has been extended 46 ft.; total length, 66 ft.; face in a quartz formation which carries a low assay value.

Potosi.—The winze from the 450 level, 200 ft. south of the north line, is down 48 ft.; the bottom is in porphyry with streaks of low-grade quartz showing pay. The south drift from the main west crosscut, 550 level, has been extended to a total length of 7 ft. We have resumed work in the face of the northwest drift from the shaft on the surface, which is now out a total distance of 47 ft.; face is in quartz of low grade on the average.

Savage.—On the 1,000 level in the north lateral drift, started from the east drift, they continue to extract ore from the sill floor upward to the seventh floor, and ore of fair grade is also being stoped from the south drift from the east drift on the same level. During the week have hoisted 57 cars of ore, the average sample of which assayed $29 per ton.

NEW MEXICO.

Santa Fe County.

Golden Smelter.—Arrangements are being made to erect smelting works at Golden, to work the ores of that district. Most of them are now shipped to the smelters at Cerrillos or Pueblo.

Taos County.

Iron King.—In this mine, in the Cochiti district, a pocket of very rich ore was recently struck. Its extent has not yet been fully ascertained.

OREGON.

Douglas County.

International Nickel Company.—A receiver for this company has been asked for in the Circuit Court, Chicago, by the Colorado Iron Works on behalf of all creditors. The complainant is a judgment creditor, holding claims of $4,629 and $3,211. The capital stock of the defendant corporation is $5,000,000, but it is claimed that property owned by it never exceeded in value $100,000. On the original subscription of stock $4,998,300 was taken by William H. Taylor. This scheme was floated in 1890, it is claimed, a nickel mining claim, covering 260 acres, having been purchased in from Selah Reeve for $51.000, the property being worth $100,000. But little work has been done at the mines.

PENNSYLVANIA.

Anthracite Coal.

Lehigh & Wilkesbarre Coal Company.—Last week, says the Hazleton "Standard," the last shovelful of clay was removed from the No. 3 Wharton stripping at Tresckow. Dick & Mantz had a steam shovel working there for the past year, in which time many thousand yards of clay were removed. When the company opened up the vein to remove some of the coal they discovered it to be a failure, the coal being but 2 ft. thick in many places. What coal is stripped will be removed, but no further outlay will be made there.

Bituminous Coal.

A Pittsburg dispatch says that the national officers of the United Mine Workers have notified the secretary of the Railroad Operators' Association of the Pittsburg district that any attempt of the operators to force a rate of less than 69c. will be met with resistance by the miners. The letter states that any change in the price of mining would act injuriously to the entire coal trade and bring on an industrial warfare between employer and employee. The officials deplore the fact that several companies in this district are paying less than the scale rate, but hope the other operators will put up with this inconvenience rather than disrupt the coal trade. The miners' officials are willing to attend a meeting of the Inter-State Board and consider the price of mining in this district.

Bell, Lewis & Yates Coal Company.—This company announces a reduction in wages from 40c. to 35c. per ton net. The reduction, it is stated, is made necessary by the fact that in other districts only 35c. has been paid and is now the ruling rate.

Pennsylvania Midland Coal Company.—This company has been organized, with office at Waterville, Me., for the purpose of owning coal lands and timber lands, with $500,000 capital stock. The officers are: President, John J. Gerrish, of Portland, Me.; treasurer, R. W. Dunn, of Waterville, Me. The property is stated to be in central Pennsylvania.

SOUTH DAKOTA.

Clark County.

South Dakota Mining Company.—The result of a recent run of 125 tons of ore from the mines of this company at the chlorination plant at Garden City was $2,200 in gold, or $17.60 per ton.

Fall River County.

Cheyenne Canyon Coal Mine.—This coal mine, which is now being worked under charge of Avery D. Clark, is located on the Cheyenne River, 7½ miles east of Edgemont. The vein is located about 20 ft. above the river bed, and is 4 or 5 ft. thick. Openings have been made to the distance of 300 ft., exposing a continuous body of coal very closely resembling in appearance and value Rouse coal of Colorado. It is carted to Edgemont on wagons, and is sold in competition with other coals.

Pennington County.

Standby Mining Company.—This company's mill near Rochford has discontinued operations for the present, the force having been put to work repairing the ditch. It is the intention to start up the mill with its full complement of stamps (60) when the ditch is finished. The mine is said to be opening up encouragingly, and it is expected that the mill will run continuously when again started up.

UTAH.

At Salt Lake the ore and bullion transactions fell off last week. The total amounted to only $131,909 in value, as compared with an aggregate of $162,659 for the previous week. The Ontario, however, shipped 53 bars to the amount of 23,774 fine ounces, while the Daly shipped 18 bars aggregating 20,524 oz. The Pennsylvania bullion shipped during the week aggregated $22,040; the Hanauer, $28,200; the Germania, $26,300. McCornick & Co.'s dealings went to $62 250; Wells, Fargo & Co.'s to $29,259; T. R. Jones & Co.'s to $40,400.

Summit County.

Ontario Mining Company.—This company has decided to establish an electrical plant on a large scale, using the flow of water from the new drainage tunnel for motive power. At the mouth of the tunnel all the mine water is available, with a considerable additional flow, due to underground reservoirs which were tapped in driving the tunnel. Leaving the mouth of the new drain tunnel, the stream is led eastward along the top of the dump about 1,100 ft., where a bend is made toward the south into McEwan gulch. About 300 ft. beyond this bend the water will be taken into a head tank provided with racks and settling compartments, whence it is to pass through a 30-in. pipe about 475 ft. long to the Pelton wheels located in the powerhouse, the total fall in this distance being about 130 ft. The Pelton wheels will drive the electrical machinery, which will be very complete and of the most recent design.

Wasatch County.

Superior Mining Company.—Articles of incorporation of this company have been filed. The object of the association is to conduct a general mining business. The company holds several claims in Bonanza Flat. The capital stock is $1,500,000, divided into 150,000 shares of the value of $10 each, and subscribed as follows. F. M. Lyman, 18,000 shares; Abraham H. Cannon, 18,000 shares, Daniel H. Murchie, 18,000 shares; D. H. Ensign, 2,000 shares; Frederick R. Lyman, 1,800 shares; Edward L. Lyman, 18,000 shares; Walter C. Lyman, 18,000 shares. Salt Lake City is the principal place of business, and the officers are Francis M. Lyman, president; A. H. Cannon, vice-president; Edward L. Lyman, secretary and treasurer.

WASHINGTON.

Okanogan County.

Triune Mine.—This mine has been worked this season on a small scale. The results from test runs on 15 tons of ore have been so good that arrangements will be made to work on a larger scale next year.

Pierce County.

Tacoma Smelter.—We have received the following official statement of this smelter for the month of October: Shipments were, 4,000 bars of bullion weighing in all 414.972 lbs. The contents of this bullion were valued as below: 1,620·70 fine oz. gold (at $20.67), $33,500; 27.906·86 fine oz. silver (at 63·5 cents), $17,722; and 412,946 lbs. lead (at 3·03 cents per lb.), $12,512; total value, $63,734. The number of men employed in the smelter was 62, and the payroll was $5,219. In addition there was $426 paid to woodchoppers and teamsters, making a total of $5,645 for the month.

WEST VIRGINIA.

It is reported that the branches of the United Mine-Workers' Association in this State are considering a plan submitted by the officers of the National Association for another strike.

Marion County.

South Penn Oil Company.—This company's new well on the Blackshire Farm, south of Mannington, started up last week at the rate of 700 bbls. per day, but fell to about 400 bbls. in a few days.

Marshall County.

Guffey & Queen Well.—This well is now being drilled deeper, and its development is watched with much interest, as it is in new territory.

WYOMING.

Fremont County.

Mason.—This mine at Lewiston, on which considerable money has been spent, now shows a lead 90 ft. wide. Some of it is high grade and some low. A 20-stamp mill is being erected on the property and it will be kept at work crushing all winter.

LATE NEWS.

Exports of mineral oils from the United States in October were valued at $3,765,991, an increase of $60,886, or 1·6% over October, 1893. For the ten months ending October 31st the value of the exports was $32,851,269, a decrease of $1,510,772, or 4·4%, from last year.

It is reported that a new trans-Pacific line will soon be started, the terminal points being Everett, on Puget Sound, in Washington, and Vladivostok, in Siberia. The first vessel will be a sea-going "whaleback," now ready completed at Everett, and she will be loaded chiefly with material for the Siberian Railroad.

The Atlantic Mining Company reports its copper production for October at 256 tons, against 242 tons for September,

The latest advices from the Tamarack mine in Michigan are said to be encouraging. The drifts from the new No. 3 shaft have opened out into the Calumet vein to a width of 19 ft. It is not expected, however, that there can be any considerable output from this shaft for two or three months to come.

The United States Circuit Court in New York November 15th, made an order giving permission to Dr. A. R. Ledoux as receiver of the Harney Peak Tin Mining Company to borrow $10,000 on a receiver's note for one year at 6%. The money will be used in performing assessment work, perfecting titles, paying taxes and the other necessary expenditures to protect the property. The court ordered that the note should be a first lien upon the property.

Cripple Creek, Colo.

(From our Special Correspondent.)

Anna Lee.—This mine, also owned by the Portland Company, has now the deepest shaft in camp, 410 ft. The deposit of ore has not lengthened, but has gradually increased in value. When the present company took charge of the mine at 200 ft. deep the shipments from the first level were about $40 per ton; at the second level $77; at the third, or 400 ft., assays gave an average of over 4 oz. A new hoist is being put in place. A cross-cut northeast from the shaft has been extended nearly 200 ft.; two veins were intersected, but at the point where found showed but little value.

Bob Tails, Nos. 1 and 3.—Mr. Stratton, on November 8th, purchased nine-sixteenths of these properties on Battle Mountain for $7,000. The Portland Company bought the seven-sixteenths a short time since.

City View.—This mine, on Gold Hill, recently made a shipment of 4½-oz. ore to the sampler and is preparing to make another shipment.

Independence.—This mine, on Battle Mountain, shipped last month in the neighborhood of 600 tons;

the grade, however, was not quite to the standard. The shaft is now 200 ft. deep, and a station has been cut and drifts commenced both north and south. A winze is being sunk between the first and second levels about 120 ft. south of the new shaft and an equal distance north of the old shaft, which shows up well. An assay taken from the pay streak gave $530; the prophyry dike for 6 ft. gave $60.

Lowell.—On this property a plant of machinery is about to be erected. The shaft is now 45 ft. deep.

Scranton.—The Portland Company recently leased 500 ft. of the north end of this claim. The leasee sold this week one ton of 35 oz. ore and five tons of 6-oz. ore.

Sweet Mine.—This mine, owned by the El Reno Company, has shipped a car of high-grade tellurium ore this week. This mine is in granice, and the vein is granite, with tellurium on the seams or joints in the rock. A drift has been extended north of the shaft at the 80-ft level 320 ft., and in mineral nearly the entire distance, the vein in some places being 16 ft. wide.

United States Economic Reduction Company.—This company, at Florence, is now in the market to receive Cripple Creek ores. The mill has a daily capacity of 150 tons. In the construction of the mill 28 cars of machinery manufactured by the Scoville Iron Works, Chicago, were used; 400,000 common bricks, 43 cars firebrick, 247 cars of stone, 3 cars Portland cement, 23 cars of lime, and 70 cars of lumber, a Chicago syndicate furnishing the capital. The intention of the company at present is to use bromine instead of chlorine.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Nov. 16.

Statement of shipments of anthracite coal (approximated) for week ending November 10th, 1894, compared with the corresponding period last year:

Regions:	Nov. 10, 1894. Tons.	Nov. 11, 1893. Tons.	Difference.
Wyoming region.....	534,710	534,191	Inc. 519
Lehigh region.....	136,937	162,448	Dec. 25,511
Schuylkill region.....	283,012	310,612	Dec. 27,600
Total	954,659	1,007,251	Dec. 52,592
Totals for year to date.	35,135,317	37,293,594	Dec.2,158,217

PRODUCTION OF BITUMINOUS COAL, in tons of 2,240 lbs., for week ending November 10th and year from January 1st:

Shipped East and North:	1894. Week.	1894. Year.	1893. Year.
Phila. & Erie R. R.....	927	63,439	69,612
Cumberland, Md.....	62,894	2,541,357	3,601,855
Barclay, Pa.....	‡	16,844	41,120
Broad Top, Pa.....	8,652	312,850	499,531
Clearfield, Pa.....	62,118	2,255,197	3,311,385
Allegheny, Pa.....	26,886	1,040,488	1,082,324
Beech Creek, Pa.....	51,437	1,917,940	2,417,908
Pocahontas Flat Top.....	77,818	12,889,068	2,483,084
Kanawha, W. Va.....	61,102	2,217,058	2,820,937
Totals.....	371,854	13,254,258	16,330,766

† Returns not received.
‡ To November 3d.

Shipped West:	1894. Week.	1894. Year.	1893. Year.
Pittsburg, Pa.....	31,878	1,236,225	1,047,502
Westmoreland, Pa.....	37,058	1,383,020	1,617,005
Monongahela, Pa.....	12,229	571,745	609,238
Totals.....	81,165	3,190,990	3,273,795
Grand totals.....	433,029	16,445,248	19,604,561

Production of coke on line of Pennsylvania Railroad for the week ending November 10th, 1894, and year from January 1st, in tons of 2,000 lbs.: Week, 97,315 tons; year 2,927,733; to corresponding date in 1893, 3,504,773 tons.

Anthracite.

We must once more sound a note of warning to the anthracite operators. We find that the trade is again on the verge of demoralization, and our predictions of this outcome of the farcical meetings of the sales agents have been verified. We find weakness and uncertainty as to prices in the market, a demand below the over-sanguine expectations of producers, and a spirit of competition among sellers which augurs ill for the prospects of the trade during the coming few months.

Dealers in this vicinity have moved coal rather more freely during the past ten days than they did six weeks ago, but for all that we do not find that their stocks are not so depleted as to warrant the expectation of early large orders. Moreover, there are many who have taken advantage of the low prices of the past two months to place orders on which deliveries will be made all through December and even later. And those dealers who may need more coal will find no difficulty in getting a plentiful sufficiency at low figures at any time that they desire to place their orders.

All the companies have been mining all the coal that the limited car supply permits them to ship. It seems as if an almost insane desire to make a record-breaker of the November output has characterized the operations of producers, and only the scarcity of cars and vessels prevents them from achieving this crowning piece of folly. Naturally the outcome has been a desire to place all the coal mined, and this desire has been followed logically by a growing weakness in prices. All reports to the contrary notwithstanding every company has been guilty of selling at low prices in this market. Perhaps just now some of the companies are not so eager to get orders as they were a short time ago. Thus, the Delaware, Lackawanna & Western, which, as we have repeatedly stated in these columns, has been prominent in the selling at figures below the "circular," is now, through Mr. E. R. Holden, whose words at the monthly meeting have been hearkened unto with laughable solemnity by his hypnotized hearers, endeavoring to "maintain prices." Mr. Holden's wise counsel at the present time should be taken to heart, even if we all know that having secured orders by "cutting" to keep him busy for some time to come, he should now fear lest lower prices should prevail. This fear is not diminished in the slightest by the consciousness that in such an event his customers would most naturally ask to be "protected."

We have again seen journals which pretend to know the rudiments of the coal trade, gravely asserting that "cutting" has been indulged in by certain prominent individual operators, chiefly by Coxe Bros. & Co. This is undoubtedly true. But why did these papers neglect to mention the Lehigh Valley, the Delaware & Hudson, the Lehigh & Wilkes-Barre—in fact every coal company controlled by a railroad? It is true that some of them have been less aggressive than others. Thus, the Delaware, Lackawanna & Western just now, and for the reasons cited above, is not cutting alarmingly. The Reading has also been "good"—and thereby has gained censure of many of its stock and bondholders for its "coal policy." Among sellers none can say exclusively "Thou art the man." They are all guilty, more or less.

It is very difficult to quote figures which shall fairly represent the market at the present time. There are so many grades of coal that it is unfair to lump them under the same category. The Reading can sell its white ash coal almost 30% cheaper than its Lykens Valley coal. But fair quotations for good free-burning coals on board to-day are: Stove, $3.20@$3.35; Chestnut, $3.00@$3.25; egg, $3.15@$3.30; broken, $3.00@$3.20; pea, $2.00 and upward; buckwheat, No. 1, $1.60 and upward; No. 2, $1.25 and upward. One seller quotes openly $2.75 for broken, and it is neither a poor grade nor "stock" coal; and if we refrain from giving this figure as a ruling market quotation it is more because we do not wish to seem unduly "bearish," rather than because we deem it too low.

Of course, reports of very low offers are heard almost daily by persons "on the inside" of the trade. Thus we heard from three persons well versed in the prevailing market conditions that the Lehigh Valley Coal Company had been offering some Wyoming chestnut at $2.75 on board. This was understood to be "stock" coal, and may have been very good or very bad, but the circulation of such reports can not but weaken the already weak market. The Lehigh Valley officials refuse to admit that the report is correct, but no amount of denials can eradicate the unsettled feeling which such reports create in the minds of buyers, especially when one remembers the low prices at which this company is known to have sold some of its "stock" coal recently.

A new element has entered into the market in the individual or independent operators; that is to say, those operators who are not directly controlled by the transportation companies. In former years these have been called the disturbing factors of the trade, but this year they have not been as reckless as the companies. A meeting of the board of managers of the Anthracite Coal Operators' Association was held in this city on November 14th. A prominent official of the association said to a representative of the "Engineering and Mining Journal" in reference to the meeting: "The individual operators on the line of the Lehigh Valley Railroad have consistently restricted their coal shipments for the general good of the coal interests, but this course has failed to call forth fair co-operation on the part of the other coal mining interests. A committee from the board of managers of our association, representing the shippers of the Lehigh Valley Railroad have therefore requested the Lehigh Valley Coal Company to meet the market and sell their coal at the best price obtainable at any and all points, in order that line and tidewater prices may be more in harmony."

This statement is the diplomatically worded way of stating that the individual operators do not propose to let the companies carry on the unfair dealings of paying them 60% of the tidewater price and reaping all the benefits of higher line prices. It is followed by the following announcement made by Coxe Bros. & Co. to our representative: "We have determined in future to give to manufacturers and dealers using or selling anthracite coal at all points the benefit of the New York tidewater prices and will hereafter quote for shipments to interior and line points the same price at the mines as the New York price less the freight. For example, when the average price of coal is $3.25 at tidewater, and the freight rate $1.30, the price at the mines will be, say, $2 per ton. This will be the quoted price at the mines for all points instead of $2.50, as is now charged by the coal companies to semi-competitive points."

This action of Coxe Bros. & Co. is to be commended, though of course it cannot be followed by all the individual operators, who lack the facilities for opposing the railroads, who are the sinners, since they control the coal companies.

It is time that the manifest injustice of the companies in this matter is fully understood by the public. The companies buy the coal from these operators on the basis of 60% of the average tidewater price. In other words, that is the railroad freight rate, no matter where the colliery is situated and therefore irrespective of the length of the haul. This fact is important since it probably is at the bottom of the apparent indifference as to tidewater prices which the companies display. When at the last meeting the price was advanced 25c. on stove coal everybody who knows the companies and the trade, knew that the advance could not possibly obtain at tidewater markets. It does not obtain in this city, and some companies who have their own barge service and therefore are not affected by the scarcity of vessels, have been offering stove coal in Boston at $3.85 alongside, while less favored competitors are unable to fill their orders. But the line trade received notice that coal had advanced, and at places where there is little competition the buyer was forced to pay 50c. more than New Yorkers did.

Now, it is impossible to say exactly how much coal goes to line points, but it is not an extravagant estimate to give 60% of the total shipments. Basing our figures on the statistics of "The Mineral Industry" for 1893, this means, in round numbers, about 27,500,000 tons. If the difference between tidewater and "line" prices is 50c. a ton, this makes $13,750,000 gross profit which goes to the railroads annually. Small wonder is it that some of the railroads can pay dividends in spite of the "coal war" at New York!

The individual operators suffer also because a great deal of their coal which they sell on the basis of 60%, the tidewater price, is sold by the companies for 50c. a ton higher. The individual operators do not consider this fair, and we are assured that steps will be taken to bring about a more equitable distribution of the spoils.

Just now a great deal of coal is going to the West by way of Buffalo. Lake navigation will close probably by December 1st. The tidewater market will then be the recipient of much of the tonnage which now goes elsewhere. With every producer at liberty to mine as much as he can, this market will become glutted with coal, and a series of pitched battles will be fought unless one of two things happens: Either the sales agents will enforce a radical restriction in the output, or an exceptionally severe winter may come upon us, accompanied by two or three blizzards.

NOTES OF THE WEEK.

It will interest to know that there is to be a change of management in the companies owned by Coxe Brothers & Co. These companies include the Cross Creek Coal Company of which A. B. Coxe is president, the Delaware, Susquehanna & Schuylkill Railroad and the Coxe Iron Manufacturing Company, of both of which Eckley B. Coxe is president. Both of these gentlemen are to be succeeded as president and general manager on December 1st by Alfred Walter, now general manager of the New York, Lake Erie & Western Railroad. Mr. E. B. Ely will for the present retain the presidency of Coxe Brothers & Co. in New York. These three gentlemen are anxious to retire from the active management of these properties, while still shaping the policy as chairmen of the boards of directors of these companies. It is expected that Mr. Walter will in time assume the active management of all the various interests now owned and controlled by the Coxe Brothers and Mr. Ely. The reasons for these changes are not made public, but it is not unreasonable to suppose that a large interest in these companies has been disposed of by the Messrs. Coxe and Ely to parties unknown.

The Bureau of Anthracite Coal Statistics furnishes the following statement compiled from the returns furnished by the mine operators, giving coal shipments for October and the ten months ending October 30th:

	October. 1893.	October. 1894.	Ten months. 1893.	Ten months. 1894.
Wyoming region..	2,401,586	2,188,690	19,847,721	18,533,878
Lehigh region.....	733,522	692,493	5,775,812	5,520,523
Schuylkill region..	1,390,555	1,255,671	10,124,111	9,717,150
Total	4,525,663	4,136,859	35,747,644	33,773,441

The stock of coal on hand at tidewater shipping points, October 31st, 1894, was 732,265 tons; on September 30th, 1894, 812,549 tons, a decrease of 80,284 tons during the month. For October the production shows a decrease of 388,804 tons, or 8·6%, and for the ten months a decrease of 1,974,203 tons, or 5·5% from last year.

Bituminous.

The soft coal trade is not in as good a condition to-day as it has been of late. The open season has allowed a great deal of coal to go forward to consumers, and it has filled them up pretty well, thus causing a natural scarcity of orders for prompt shipment as well as for shipment on regular contracts. Very little new business is doing, and all consuming territories are equally dull, with the possible exception of the Sound ports, and it would not take very heavy shipments to make the latter as dull as the others. Contracts to the shoal water ports are not yet finished. The great scarcity of vessels during the past few weeks has prevented, to a considerable extent, shipments to these ice ports.

Comparatively speaking, all rail business is in good condition, although tonnages in this branch of the trade show a falling off.

Prices show no change of importance. Rumors of some exceedingly low figures continue to circulate occasionally, although as usual they cannot be verified. Ruling quotations at the various ports are as follows: Norfolk and Newport News, $1.80@$2.10 f. o. b.; Baltimore, $1.85@$2.25 f. o. b.; Philadelphia, $1.80@$2.25 f. o. b.; New York harbor shipping ports, $2.50@$2.75,

Some inquiry for shipments to South America continues, and a small business is doing in this line.

We are reliably informed that efforts are making to resuscitate the Seaboard Steamcoal Association, but thus far they have not met with much success, nor are they likely to come to aught of importance.

Transportation is still slow though a slight improvement has taken place during the week. The Pennsylvania Railroad has removed its embargo temporarily to test the ability of shippers to move the coal when once it reaches tide. Were there a plentiful supply of vessels at the shipping ports we should hear more complaints about the slow movement of coal from mines to tidewater.

The car supply is comparatively good, and shippers who discharge fairly on arrival are receiving all the cars needed by them.

The long expected fleet has not reached the shipping ports yet, and as a consequence rates are higher. There is a good demand for vessels and an almost total lack of them. We quote ocean freight rates as follows from Philadelphia: To Boston, Salem and Portland, 95c.@$1.10 alongside; Providence, New Bedford, New Haven, Bridgeport and other Sound ports, 80@90c.; Wareham, $1; Lynn, $1.10@$1.25; Newburyport, $1.10@$1 15; Dover, $1.35 and towages; Maine ice ports, $1.05@$1.30, towages where usual.

From Baltimore, Norfolk and Newport News rates are 10c. higher than those quoted above.

Buffalo. Nov. 15.

(From our Special Correspondent.)

The anthracite coal market shows a little change for the better since a week ago. The cold weather has caused a demand for fuel, and therefore orders are more numerous. Quotations unchanged; stocks large. Shipments by lake again heavy in consequence of the near approach of the close of navigation.

Bituminous coal quiet, and nominally an unchanged price list is presented, but consumers, knowing the situation, have the advantage over sellers. Stocks large and demurrage changes frequent. In a few days the demand for tugs and propellers will cease, and the trade will be confined to manufacturers. The prospects are not encouraging to miners and dealers.

During October this year 618,000 net tons of coal passed through the Sault Ste. Marie Canal; last year for same period 408,500 net tons.

Sail vessels and barges are being laid up at all ports on the lakes for the winter.

Additions are to be made to the Buffalo, Rochester & Pittsburg Railroad Company's docks at this port during the winter.

By advertisement, the fact is announced that the property and franchises of the Western New York & Pennsylvania Railroad will be sold by auction in the city of Pittsburg, Pa., on February 5th, 1895.

The Depew Gas Company has been formed for the purpose of drilling for natural gas in Erie County, four miles from Buffalo, and operations will be commenced in about six weeks.

The New York State Canals will be closed for the season on November 30th, unless sooner closed by ice. Severe weather, bleak winds and heavy snow at times have prevailed in this section of the country and over the Lake Districts for several days past, commencing last Friday.

The shipments of coal westward by lake from Buffalo from November 4th to 10th, both days inclusive, aggregated 96,265 net tons, distributed as follows: 35,270 tons to Chicago, 27,000 tons to Milwaukee, 17,050 tons to Duluth, 6,000 tons to Superior, 3,835 tons to Toledo, 4,800 tons to Gladstone, 200 tons to Bay City, 1,000 tons to Menominee, 750 tons to Racine, 150 tons to St. Clair, and 200 tons to Marinette. The rates of freight were as follows: 60c. to Chicago; 55c. to Milwaukee, Menominee and Marinette; 50c. to Sault Ste. Marie; 75c. to Racine; 25c. to Toledo; 30c. to Duluth, Superior, Port Huron, and Gladstone, and 40c. to Bay City, Saginaw and St. Clair. Closing firm but quiet.

Chicago. Nov. 14.

(From our Special Correspondent.)

There is observed some slight improvement in the coal trade of Chicago. Retailers about town are finding business better, probably because of the cold weather and snow. At the present time manufacturing concerns are consuming less coal, and as they are the large factor in the trade it is impossible to predict any great improvement in this market until they order better. The want of cars yet affects the quantity of coal coming in from the East. Lake transportation will soon be over, and our supply from that direction will cease until spring. Prices on both hard and soft coals are yet on the "go as you please" plan, and circular rates are not maintained. Coke has had another good week, and a marked increase in buying is observed. Circular rates on anthracite coal are: Grate, $5.25; egg, stove and chestnut $5.50. For bituminous prices are, f. o. b. Chicago: Youghiogheny, $3.15; Raymond, $3.50; Shawnee, $2.50; Blossburg, $3.90; New Kentucky, $2.75; Hocking, $2.90; Brazil Block, $2.40; Birdseye Cannel, $5.25.

Connellsville foundry coke is selling for $3.90; Connellsville coke crushed, $4.15; Pocahontas, $4; New River, $3.90@$4.15.

Pittsburg. Nov. 15.

(From our Special Correspondent.)

Coal.—The situation shows but little change. There are a number of persons who are never happy unless they are talking "strike." There has been no river shipment since September. The late rise did not meet expectations; at the same time it was very beneficial, as it enabled the boats with tows that were detained between this point and Cincinnati to reach home with a big fleet of empties, that were promptly forwarded to the ports to be loaded, giving employment to many thousand miners, provided they are disposed to work. The district officials in mining circles are in a pleasant mood and are prepared to take a very hopeful view of the situation. President Cairns said that affairs in the district were brightening up considerably, and he anticipated that a general improvement in mining matters might be looked for. In railroad circles everything is quiet. Lake Erie shipments are almost stopped and operators are skirmishing for orders to keep their mines going as well as possible; the price is steady at 5c.

Connellsville Coke.—The improvement that was previously inaugurated continues. There were 265 ovens blown out since our last; though it is not so marked as the preceding week, still it looks like a steady, healthy growth. The six day list has been considerably increased. What is still better, the demand for coke continues to increase; the shipments also show an increase, making the demand exceed the production by 3,210 tons, as compared with other years. The production of coke is the largest in the history of the region. The summary for the week shows 14,216 ovens in blast and 3,225 idle; estimated production 140,391 tons. The demand estimated by the number of cars shipped shows an increase of 3,201 tons over the production. The dispute between the Frick and Rainey coke companies over the division of the Beesur coal track at Mt. Braddock is on trial before the master. R. F. Hopwood was appointed by the court to take testimony in the matter. The case is not yet decided. The shipments from the regions were as follows: To Pittsburg, 3,758 cars; to points east, 1,300 cars; to points west, 3,758; total, 8,816 cars. Prices are irregular, varying from 95c. to $1.05 per ton at ovens.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Nov. 16, 1894.

Pig Iron Production and Furnaces in Blast.

Fuel used.	Week ending Nov. 17, 1893. F'ces.	Tons.	Week ending Nov. 16, 1894. F'ces.	Tons.	From Jan.,'93. Tons.	From Jan.,'94. Tons.
Anthracite.	35	16,440	37	18,990	1 279 458	747,927
Coke.....	59	60,567	126	141,402	4,953,891	4,402,110
Charcoal...	25	5,170	23	4,746	364,194	190,222
Totals ..	119	82,117	186	165,138	6,597,543	5,340,259

During the past week there has been no material changes in the condition of the iron market, but our reports from Chicago, Buffalo, Pittsburg, Philadelphia and Birmingham show a more active demand and stronger tone than heretofore. It is to be expected that with the approach of the mid winter holidays there will be a short period of comparative dullness, but unless all indications fail we may look for an active consuming market from then until the summer season. The demand for manufactured products has been increasing slowly, but steadily, during the latter half of this year, and our production of iron has been largely increased to meet it. Thus far there has been no indication of overstocking the market; in fact, as we pointed out last week, our stocks have decreased, and so long as this condition holds the market will remain firm and likely grow stronger. A careful review of the furnaces in blast and idle shows, as we have already pointed out, that but few modern plants are not operating. The majority of those not producing are either old-fashioned stacks which cannot be operated with sufficient labor economy, or those so poorly situated as regards raw material as to be practically out of the fight because of high freight charges. If the price should advance there is no doubt but that these would start up, but from present indications it is not probable that this will take place until spring, at least, or when the consumption has increased so as to be able to carry a greater tonnage.

NOTES OF THE WEEK.

The proposed centralization of the Carnegie works at Homestead, Pa., which has been talked about for some time past, is again being carefully considered by Mr. Carnegie. If carried out the plan will result in a considerable saving, though it would involve a large expenditure of money.

Advices from Scranton, Pa., state that the south mills of the Lackawanna Iron and Steel Company have begun work and the coal mines will increase their output. This, with the works now operating, will employ about 5,000 hands. It has been stated that the Colebrook furnaces, at Lebanon, Pa., which were purchased by the company, will also be placed in active service.

The "Marine Review" states that up to November 1st the shipments of ore from Lake Superior and Lake Michigan ports were 1,458,415 tons in excess of shipments last year. From the former the shipments to November 1st, 1893, were 3,929,911 gross tons, and to November 1st, 1894, 5,456,382 gross tons, an increase of 1,526,471 tons. From Lake Michigan ports the shipments to November 1st, 1893, were 2,163,056 gross tons, and to November 1st, 1894, 1,495,000 gross tons, a falling off of 668,056 tons, leaving a net increase as noted.

We note in our editorial columns an important contract, which has practically been secured from Japan, for 10,000 tons of cast iron water pipe to be sent from Bessemer, Ala., to Tokyo. This transaction has been carried on by Whitney & Co., of New York, who are also bidding on pipe contracts from the same source to Valparaiso and Honolulu. The price named for the Japan delivery is $370,000 or an average of about $37 per ton. The sizes vary from 9 in. to 33 in.; though as measurements under all foreign contracts are given in the metric system it will be necessary to make a new set of patterns. Shipments will be made from Pensacola, Fla., in chartered sailing vessels. In speaking of the matter, Whitney & Co. state that cast iron pipe can be produced so cheaply in Alabama that they find it possible to underbid any country in the world on the foreign pipe trade, and think it is only a question of time when this will belong almost entirely to American producers. The transaction is now pending a final settlement as to terms of payment, and as soon as this is concluded the Howard-Harrison works at Bessemer, Ala., will commence work on it.

In connection with our growing foreign trade the following letter from our London correspondent is interesting. He writes: While the reports of iron and steel producers and manufacturers of Great Britain continue to be very discouraging, the condition of their continental rivals shows increasing prosperity. At the same time that the Societe Cockerill, of Belgium, announce a dividend of 10% with a satisfactory balance held over, the Steel Company of Scotland are advertising for applications for £250,000 mortgage debentures. The Belgian and German iron manufacturers are making a very serious hole in the export trade of Great Britain, and not only so, but they are also cutting into the home trade. The Germans are selling galvanized iron in England at a less price than the English makers, and yet the latter complain of the unremunerative prices and have formed privately a trust to restrict production and raise prices, a perfectly fatuous policy in the face of facts.

Pig Iron.—There has been no business of particular note during the week. Sales have been light, and no unusual inquiry has been noted. Still, prices hold and the market has a fairly firm tone. Quotations are as follows: Northern brands, No. 1 X, $12.50@$13; No. 2 X, $11@$12.50; gray forge, $10.50@$11; Southern irons, No. 1 foundry, $11.75@$12.50; No. 2 foundry; $10.75@11.50; No. 1 soft, $10.75@$11.25; No. 2 soft, $10@$10.75.

Spiegeleisen and Ferromanganese.—There is no change in the market. Nominal quotations remain $20.50@$21 for 20% spiegeleisen, and $49@$50 for 80% ferromanganese.

Billets and Rods.—There is but a light demand. Prices for billets hold $18@$18.25, but domestic wire rods have been shaded to $24.50@$25.

Rails and Rail Fastenings.—Some fair orders are reported, among them one of 5,000 tons for prompt delivery. The market has a more active look than for some time past. A material improvement is anticipated. Quotations remain: Standard sections, $24 at mill, $24.80@$25.50 at tide-water. In rail fastenings quotations are: Fish and angle plates, 1·20@1·40c. at mill; spikes, 1·50@1·75c.; bolts and square nuts, 2@2·25c.; hexagonal nuts, 2·10@2·30c. delivered.

Structural Iron and Steel.—There is no change in the market. The plans referred to last week for the construction of buildings which would require considerable quantities of material are yet undetermined. It may be noted, however, that a better feeling exists in the trade. Quotations remain: Angles, 1·30@1·40c.; beams up to 15 in., 1·40@1·50c.; channels, 1·40@1·50c. on dock; tees, 1·50@1·60c. on dock.

Old Material.—There is practically nothing to note in this line. Nominal quotations remain as last week: Old steel rails, $9.50@$10; old iron tees, $10@$11 per ton; New York railroad scrap, $11.50@$12 per ton delivered at mill, and yard scrap at $10; wrought turnings, delivered at mill, $8@$8.50; No. 1 wrought scrap at $9.50@$10.50 from yard, and machinery cast scrap $9@$10; old wrought tubes and pipe, $6.50@$7; old car wheel, $9.50@$10.50, New York; cast borings, $6@$6.50, delivered at mill.

Merchant Steel.—While there have been no orders of any size, there is a fair volume of business and a better demand. Quotations, remain: Tool steel, 5·65@6·25c. tire steel, 1·50@1·60c.; toe calk, 1·70@1·90c.; Bessemer machinery, 1·25@1·40c.; open-hearth machinery, 1·85@2c.; open-hearth carriage spring, 1·70@1·90c.; crucible spring, 3·40@3·65c.; axles, scrap, 1·40@1·60c.; steel, 1·40@1·55c.; bars, common, 1·15@1·30c.; refined, 1·25@1·40c.; steel hoops, 1·45@1·60c. delivered; hooks and pins, 1·40@1·65c.; plates, flange, 1·60@1·80c.; firebox, 1·80@2·10c.; marine, 2·45@2·70c.; sheared, 1·80c.; shell, 1·40@1·60c.; tank, 1·30@1·40c.; universal mill, 1·25@1·40c.; all on dock.

Birmingham, Ala. Nov. 14.

(From our Special Correspondent.)

No material change can be noted. Prices remain the same and no large orders have come in since last week. There is a decidedly better feeling prevailing and preparations are made to satisfy a larger demand. It is probable that the two furnaces of the Tennessee Coal, Iron and Railroad Company ready for operation will go in blast before the year is out. The Morris Mining Company has sold out to the Tennessee Coal, Iron and Railroad Company, and the latter will begin operations at once on the famous Redding ore mine. This mine will supply the Alice furnace, which has been only waiting for a definite settlement of the ore contracts. Smith Bros. and I. W. Worthington & Co. are opening up new slopes on the Red Mountain and are stripping a large area for soft ore. The furnaces are getting more severe in their inspection and only the upper 8 ft. of the hard ore and 10 ft. of the soft ore are accepted.

The Pioneer Mining and Manufacturing Company has decided on the route for its coal road, and commenced grading and excavating. It is likely that the furnaces of this company will not be started up before the coal mines are opened and able to furnish a sufficient amount of coal.

The city of Bessemer has decided to purchase from the Bessemer Land and Improvement Company the water-works, if the purchase money will be used for the building of a steel plant costing not less than $300,000. The price for the water-works will be $125,000 in city bonds. A contract to this effect has been signed and the transaction will take place so soon as the Legislature authorizes the issue of said bonds. Besides the building of a steel plant, the Bessemer Land and Improvement Company is contemplating the starting up of the Bessemer Rolling Mills, and is entertaining a proposition from several of its former employees to run the mill on a profit-sharing plan. The Alabama Pipe Company is making some improvements in its plant.

Among the most important transactions in furnace property may be mentioned the sale of the Alabama Ore and Railroad Company property at Langdon. This property consists of the Langdon furnace and some 3,300 acres of brown ore land. The Bank of Augusta has bought the whole property for $4,000.

The Woodstock Iron Company will be reorganized as the Woodstock Iron Works, and start up soon.

A greater activity in railroad building can be looked for in the near future. The East & West Railroad, running at present from Cartersville, Ga., to Pell City, Ala., 36 miles from Birmingham, will be extended to this city, and connected with the Belt Railroad, which will give the road excellent terminal facilities and connections with every road entering Birmingham. The Chattanooga Southern is looking also for a terminus at Birmingham for a southern outlet. At present this road is only built from Chattanooga to Gadsden, 55 miles from Birmingham. The surveyed line from Gadsden to Birmingham runs alongside of very valuable brown ore deposits and through rich timber and coal lands, which will be undoubtedly developed as soon as the road is completed.

Quotations for pig iron: Foundry No. 1, $7.50; Soft No. 1, $7.5 ; Foundry No. 2, $7.25; Soft No. 2, $7; Foundry No. 3, $7; gray forge, $6.75.

Buffalo. Nov. 15

Special Report of Rogers, Brown & Co.

There is without doubt an improvement in the demand for foundry iron, and during the past week several good sized orders have been placed. The impression prevails quite generally hereabout that an end has been made to agitation and radical changes, and that business will consequently gradually or otherwise return to its normal condition. To this belief is probably traceable a number of inquiries for long forward delivery, which have also come to the surface. So far but few of these have resulted in business, owing to the reluctance of producers to sell very far into next year without an advance over present prices. Meanwhile, for early delivery, there is no change in quotations, which we repeat below, f. o. b. cars Buffalo: No. 1 foundry strong coke iron, Lake Superior ore, $11 75; No. 2 foundry strong coke iron, Lake Superior ore, $11.25; Ohio strong softener No.: 1, $12 25; Ohio strong softener No. 2, $11.25, Jackson County silvery No. 1, $15.75@$16.75; Lake Superior charcoal, $13.50; Southern soft No. 1, $11.50; Southern soft No. 2, $11.25; Hanging Rock charcoal, $18.50.

Chicago. Nov. 15.

(From our Special Correspondent.)

The iron market for Chicago shows some slight improvement for the week. There has been a marked advance in the number of inquiries now coming in, many of which are of the character that leads to business. Indications are therefore bright for an increased business in the early future. Should the many improvements now talked of be carried out, there is no reason why the Chicago iron market should not have one of the best years on record during 1895. Among the many projects are the various railroad track elevations and new elevated railroads for the north and west sides.

Pig Iron.—Trade for the week shows up rather better than its predecessor. Sales have been quite numerous in carload up to 500-ton lots, and the largest one of the week being 1,000-ton sale of Northern iron. There seems to be more confidence and consequently a large number of inquiries are coming in. A number of good-sized contracts are now being bid on and the coming few weeks may see quite a boom in the market In Southern iron the sales have aggregated quite a little more than the previous week, and it is said that the Southern furnaces have a sufficient quantity of orders on hand to keep them busy into January. If this be true the Southern furnaces have been taking business at rates exceedingly low. Prices in both irons are undoubtedly being cut, but it is certain that mighty little business could be secured were the quoted rates upheld by any furnace. Prices are per gross ton f. o. b. Chicago: Lake Superior charcoal, $13.50@$14.50 Lake Superior coke No. 1, $10.25@$10 50; No. 2, $10@$10.25; No. 3, $9.50@$9.75; Jackson County silveries, $14 50 @$15; Southern coke, foundry, No. 1, $11 25@ $11.50; No. 2, $10.50@$10.75; No. 3, $10@$10.25; Southern coke, soft, No. 1, $10.25@$10.50; No. 2, $10.00@ $10.25; Southern car-wheel iron, $17.50@$18; Southern silveries No. 1, $11.50@$12; No. 2, $11.50@$12; Tennessee charcoal No. 2, $14@$14.50. Bessemer, $11.25@$11.50; Ohio strong softeners, $13@$13.50.

Structural Material.—Market for structural material is yet unchanged, though there remains quite a considerable activity in bridge building. A bridge or two is now being figured on to span the drainage canal. Quotations are f. o. b. Chicago: Angles, 1·45@1·50c.; tees, 1·65c.; universal plates, 1·50@1·55c.; beams and channels, 1·50@1·60c.

Plates.—Quite a fair week's business has been transacted and prospects appear good for the coming weeks. Prices are: Flange steel, 1·65@1·75c.; fire box steel, 3·50@4·50c.; tank steel, 1·40@·50c.; boiler tubes, 70 to 75% discount.

Merchant Steel.—But little business has been done in merchant steel during the week. A better inquiry is noted and there are accordingly brighter prospects for future trade. Prices are, carload lots: Smooth-finished machinery, 1·75@1·90c.; tire steel, 1 70@1·80c.; Bessemer bars, 1·40@1·50c.; toe calks, 2·10@2·20c.; crucible spring, 3·40@3·65c.; tool steel, 5½@6½c. and upward; specials, 10·50@11·50c.

Galvanized Sheet Iron.—Mill shipments continue active with trade from store only fair. Quotations are: 75, 10 and 5% off for mill shipments.

Black Sheet Iron.—Mills continue to run full, with business coming in smaller than for some time past. Prices are f. o. b. Chicago for No. 27: 2·35@ 2·40c.

Billets.—Rather a poor week has passed in billets, the sales being confined to small quantities. Quotations remain $17@$17.50.

Steel Rails.—Orders booked during the week have been but mediumly good. No large contracts have been secured, and all the railroads are holding off. Quotations are $25@$27.

Old Rails and Wheels.—About all the iron rails sold from this market are for Eastern delivery at prices equal to $11 Chicago. Old wheels are quiet at $10.

Scrap.—Small lots represent sales of the week, and few of them. Quotations are: Forge, $8.50@ $9; cast iron borings, $3 50; wrought iron turnings, $4@$4.50; axle turnings, $6.50; mixed steel, $5.50; tires, $12.50@$13; iron axles, $15.

Philadelphia. Nov. 16.

(From our Special Correspondent.)

Pig Iron.—The market has been surprisingly quiet for a few days. Buyers are at home and brokers and agents make no effort to sell. So far as any one can see there will be no hurry to cover winter requirements. For Bessemer the best offer to-day is $12.50 small lots. For No. 1 good stuff sells at $12.50, as usual. Stove iron is offered at $11.50. The mill people have nearly all of them enough iron under contract to see them well into December.

Muck Bars.—The best offer this week was $18 for common.

Billets.—Every consumer in this locality has been buying billets lately. The active demand has been filled at $18 and under. Manufacturers are now trying to get more, but no one has yet paid over $18.

Bars.—Nearly all mills heard from this week have had small additions, in the way of orders, but the cargo buyers have not been heard from. Prices continue at 1·10@1·25.

Skelp.—No important orders have been placed this week, but all agents say everything is moving along smoothly. Prices 1·22½.

Merchant Steel.—The coming of early winter work has helped this market, but strange to say, carriage, wagon and tire steel are all fractionally lower.

Sheet.—There is a halt in negotiations for winter deliveries, buyers refusing to meet prices and terms. Manufacturers are trying to advance prices a little.

Plate and Tank.—The Eastern plate mills are now filling orders at about the same figure as Western mills. The only business coming is made up of small orders. For months past big orders have been in sight, but those who have the giving of them buy little by little. Tank steel is 1·30; shell, 1·50; flange, 1·60.

Structural Material.—Large orders have been looked at. Bridge builders are half inclined to enter into definite arrangements for all the iron they will need until spring. Extra inducements have been offered in two or three cases.

Steel Rails.—Parties familiar with girder rail prospects limit their statements to saying that probably more girder rails will be rolled during the first three months of next year than during the last four or five months. A good deal of trolley line construction is to be begun in the early spring. Competition will be even worse than now, and prospective buyers, therefore, will not place orders a day sooner than necessary.

Old Rails.—Several roads are trying to find agents who can turn old rails into cash at the price quoted in trade papers. This is simply impossible.

Scrap.—Scrap yards are fuller than they have been for months, but the owners pay very low prices. They say they can get all they want at present figures.

Pittsburg. Nov. 15.

(From our Special Correspondent.)

Raw Iron and Steel.—There is practically little change to note in regard to the condition of the iron and steel market. While the aggregate of the transactions is steadily improving, yet there is ample room for improvement. Some parties are talking of a big boom. What is first wanted is a return of confidence such as existed before, and this is steadily gaining strength; and unless all signs fail, the New Year will inaugurate such prosperity as has been so anxiously waited for these many months.

Iron and Steel.—While there has been no large increase in the volume of business, yet it seems to be everywhere recognized that trade conditions will improve and long-deferred orders will soon be given out. The market is firmer, although the transactions fall short of what we would like to see, but the belief is general that there will be no lower prices, and producers feel that they will be higher. The good effects bring favorable reports from many points. Brown & Co. will advance the wages of their puddlers 10% next week; other firms have the matter under consideration and are expected to act favorably on the wage question. Operations have been resumed at the Duquesne Tube Works, which have been idle for some time; employment will be given to 400 men. The pay-roll will aggregate $6,000 per week.

COKE SMELTED LAKE AND NATIVE ORE.

Tons.		Cash.
3,500	Bessemer, Nov., Dec.	$10.65
2,000	Bessemer, Nov., Dec.	10.75
2,000	Bessemer, Nov., Dec	10.70
2,000	Bessemer, Nov., Dec.	10.65
1,000	Bessemer, Nov., Dec.	10.60
500	Bessemer, Nov.	10.70
500	Bessemer, Nov., Dec.	10.70
500	Gray Forge	9.75
500	Mill Iron	9 75
500	No. 2 Foundry	10.75
300	No 1 Foundry	11 75
300	Gray Forge	9.75
200	Gray Forge	9.75
200	No. 1 Foundry	11.75
200	No. 2 Foundry	10.75
100	No. 1 Silvery	13.80
100	No. 2 Silvery	12.30

CHARCOAL BLAST.

100	Cold Blast	23.00
100	No. 2 Foundry	16.50
75	Warm Blast	16.00
75	Cold Blast	23.50
50	Cold Blast	23.50
50	No. 2 Foundry	16.50

BLOOMS, BILLETS AND SLABS.

2,000	Billets, Nov. Dec., at mill	$15.75
2,000	Billets, Nov. and Dec. at mill	15.65
2,000	Billets, Nov. Dec., at mill	15.60
1,000	Billets, Nov. Dec., at mill	15 50
1,000	Billets, Nov. Dec., at mill	15.45
900	Billets, Nov. Dec., at mill	15.75
800	Billets, Nov., Dec. at mill	15 65

SKELP IRON.

480	Wide gr'ved.	1.15 4 m.
320	Sheared	1.25 4 m.
380	Nar. gr'ved.	1.15 4 m.

SKELP STEEL.

500	Nar'w gr'v'd.	1.00 4 m.
350	Sheared	1.11 4 m.
320	Wide gr'ved.	1.12½ 4 m.

MUCK BAR.

525	Neutral, Nov. Dec.	19.00
100	Neutral, Nov.	19.00

BLOOMS, BILLETS, BAR ENDS.

500	Blooms and Billets delivered	11.25
100	Blooms and Billets delivered	1.20

STEEL WIRE RODS.

550	5-gauge American at mill	22.25

SHEET BARS.

350	At maker's mill.	21.80

FERRO MANGANESE.

100	80%, delivered	50.00

SPELTER.

100	Spelter	3.33

OLD RAILS.

600	Long steel rails	16.50
450	Iron rails	12.50
200	Iron rails	12.50
200	Steel rails, mixed	10.00

SCRAP MATERIAL.

400	No. 1 R. R. W. scrap, net	10.00
300	No. 1 R. R. W. scrap, net	10 00
250	Cast scrap, gross	9.00
250	Old car wheels, gross	9.00
200	Wrought iron turnings, gross	8.0

METAL MARKET.

NEW YORK, Friday Evening, Nov. 16, 1894.

Gold and Silver.

Prices of Silver per Ounce Troy.

November.	St. Ex.	London Pence.	N. Y. Cts.	Value of £1, in $.	November.	St. Ex.	London Pence.	N. Y. Cts.	Value of £1, in $.
10	4.87⅛	29⅜	63⅜	.492	14	4.87	29	63¾	.488
12	4.87	29⅛	63⅜	.490	15	4.87	28⅞	62⅞	.486
13	4.87	29	63⅜	.490	16	4.87	23⅛	63	.487

Dullness with small transactions have been the order in the silver market. China and Japan seem to be sustaining the price, but the volume of business is small. Council bills have been purchased on China account, and to this extent the demand for

silver for that quarter is satisfied. Production for the present seems to show a slight falling off.

The United States Assay Office at New York reports the total receipts of silver at 171,000 oz. for the week.

Gold and Silver Exports and Imports.

At all United States Ports, October, 1894, and Ten Months, 1894 and 1893.

	Gold.		Silver.		Total excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
Oct..	$1,080,889	$1,675,371	$4,407,848	$1,501,054	E $2,312,312
1894..	91,602,714	18,598,371	39,773,554	11,:98,407	E.101,479,490
1893..	76,789,532	67,544,569	36,877,387	16,424,323	E. 29,698.027

For the four months of the current fiscal year, from July 1st to October 31st, the imports and exports were as follows:

	Gold.		Silver.		
	1893.	1894.	1893.	1894.	
Exp..	$3,071,594	$20,667,218	$17,325,616	$16,028,713	
Imp..	55,785,526	6,920,943	6,752,752	4,262,488	
Exc. I.	$52,713,932	E. $13,746,275	E. $10.572,864	E. $11,766,225	

The imports and exports of gold and silver in ores for the nine months ending September 30th were:

Net imports:	1893.	1894.	Changes.
Gold	$380,211	$548,341	I. $168.130
Silver	7,378,316	5,617,346	D. 1,760.970
Total	$7,758.527	$6,165,687	D. $1,592,840
Expts., gold and silver	185,845	143,748	I. 42,097

The statement includes all United States ports, the figures being furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York.

For the week ending November 10th, 1894, and for Years from January 1st, 1894, 1893 and 1892.

	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$ 15,186	$33,185	$455,200	$24,733	E. $512,768
1894..	5,461,452	15,259,180	29,633,440	1,543,800	E. 98,291,912
1893..	70,251,054	61,170,538	27,144,719	3,080,989	E. 33,144,246
1892..	59,241,453	7,737,128	18,503,160	2,837,531	E. 67,139,954

The gold exported for the week was chiefly foreign coin and went to France; the silver went to London. The gold imported was from the West Indies and the silver from South America.

During the five days ending November 15th the imports and exports of gold and silver from the port of New York were as follows: Imports, gold $6,484; silver, $12,808. Exports, gold, $16,033; silver, $440,081. All the gold exported was in American coin and went to the West Indies. Of the silver exported, $3,881 was in Peruvian coin and went to South America. The remainder was in American coin and bullion and went to London.

FINANCIAL NOTES OF THE WEEK.

The event of the week has been the decision of the President, to improve the condition of the Treasury by offering for subscription another issue of $50,000,000 in bonds, to be issued under the law of 1875. The announcement that such a loan would be offered was made first by the New York "Times" on Saturday last. The "Times'" information was doubted in many quarters, but a short time served to confirm it, and on November 13th the Secretary of the Treasury issued an official circular, which is as follows:

By virtue of the authority contained in the Act of Congress entitled "An act to provide for the resumption of specie payments," approved January 14th, 1875, the Secretary of the Treasury hereby gives publice notice that sealed proposals will be received at the Treasury Department office of the Secretary, until 12 o'clock noon on November 24th, 1894, for United States 5% bonds, in either registered or coupon form, dated February 1st, 1894, redeemable in coin at the pleasure of the government after 10 years from the date of their issue, and bearing interest payable quarterly in coin at the rate of 5 per centum per annum.

Bidders whose proposals are accepted will be required to pay 20% in gold coin or gold certificates, upon the amounts of their bids, and to pay in like coin or certificates an additional 20% at the expiration of each 10 days thereafter until the whole is paid; but they may at their option pay the entire amount of their bids when notified of acceptance, or at any time when an installment is payable.

The first payment, however, of not less than 20% must be made when the bidder receives notice of the acceptance of his proposal.

The denominations of the bonds will be $50 and upward, and bidders will in their proposals state the denominations desired, whether registered or coupon, the price which the bidder proposes to pay, the place where it is desired that the bonds shall be delivered, and the office, whether that of the Treasurer of the United States or an assistant treasurer of the United States, where it will be most convenient for the bidder to deposit the amounts of his payments.

The bonds will be dated February 1st, 1894, in order to make the proposed issue uniform as to date with the existing issue, but interest thereon will begin November 1st, 1894, and bidders will be required to pay accrued interest at the rate of 5% on the face value of their bonds from November 1st to the date or dates of payment. The total issue of bonds in pursuance of this notice will not exceed the sum of $50,000,000.

The Secretary of the Treasury hereby expressly reserves the right to reject any or all bids.

All proposals should be addressed to the Secretary of the Treasury, Washington, D. C., and should be distinctly marked, "Proposals for the purchase of 5% bonds." Blank forms for proposals may be had on application to the Secretary of the Treasury.

It is understood that, as in the case of the last loan, no bids will be considered below an upset price so calculated that the interest on the money actually received will not be over 3%. This will make the minimum price between 116 and 117, and at this rate the issue will bring the Treasury somewhat over $58,000,000.

As to the necessity for the issue, there are wide differences of opinion. There is no question as to the authority to issue the bonds, and no question that the Treasury will be benefited; but there is some doubt whether the gold reserve will be strengthened as desired. Should the banks show an unwillingness to part with gold, a considerable portion of the money to pay for the bonds will be taken from the Treasury in exchange for legal tenders, and the operation may result chiefly in adding to the Treasury cash balance and not much to the gold reserve. On the other hand, the action is approved by many who believe that a strong Treasury will be a material aid to the restoration of confidence and the consequent improvement of business.

That the bonds will be taken there is no doubt, and already there are indications that the issue will be largely over-subscribed. It is understood that a number of bids will be made on foreign account by bankers here. An undoubted 3% investment is not an opportunity to be neglected in the present state of the money markets.

It is understood that the President, in his message to Congress next month, will make a prominent feature of the question of currency reform. Of course it is not known whether he will advocate any special measure; probably he will not do more than to indicate some general line of policy, and urge the necessity of early action.

The New York State Bankers' Association held a reception on November 13th. While the occasion was chiefly social, the Baltimore plan for adjusting the national bank currency was informally discussed. A rumor was noted by one of the members to the effect that the plan would be mentioned in the President's coming message.

The Bureau of Statistics, Treasury Department, makes the following advance statement of United States imports and exports of merchandise for the ten months ending October 31st:

	1893.	1894.
Exports	$690,897,351	$660,166,618
Imports	677,060,694	563,271.016
Excess, exports	$13,836,660	$96,895,632

For the month of October the total exports were $83,558,372, a decrease of $4,117,109 as compared with last year, while the imports were $59,681,674, an increase of $7,946,352. The smaller exports were due chiefly to light shipments of breadstuffs, while the increase in imports is largely because of the comparison with a very poor month last year.

A late report is that a meeting was held on Thursday in Denver, at which the Omaha, Puebla, Hanauer and other silver smelters were represented, to discuss the question of uniting interests. Two plans were said to have been discussed; one, the transfer of all the smelters to a syndicate, the other the appointment of a single agency to handle the silver from all the smelters, in order to reduce expenses and to prevent sudden fluctuations in price. The statement is given as current rumor, but there seem to be many difficulties in the way of any such arrangements as those mentioned.

The statement of the New York banks for the week ending November 10th shows decreases of $1,107,300 in loans, $78,500 in specie, $2,188,300 in legal tenders, $2,928,700 in note deposits and $319,200 in circulation. In some respects this return is a little disappointing. The outflow of currency has been rather lighter than it was expected, and the decrease in loans was hardly looked for. It should be remembered, as we have heretofore noted, that the amount of loans is the largest ever reported by the banks, with the exception of three weeks in October, and the week ending November 3d. As compared with previous years there is an increase of $96,728,700 over the corresponding date last year, and of $53,755,900 over 1892.

The statement of the United States Treasury on Thursday, November 15th, shows balances in excess of outstanding certificates as below, comparison being made with the corresponding day of last week:

	Nov. 8.	Nov. 15.	Changes.
Gold	$61,830,401	$61,878,274	I. $47,873
Silver	8,203,250	7,686,778	D. 516,472
Legal tenders	10,408,247	9,203,798	D. 1,204,449
Treasury notes, etc.	28,397,667	27,730,256	D. 667,411
Total	$108,389,565	$106,499,106	D. $2,340,459

Government deposits with national banks on same date amounted to $10,875,054, a decrease of $42,417 during the week.

Specie and bullion spipments from San Francisco in October were as follows:

	Gold.	Silver.	Total.
Hongkong	$7,917	$564,501	$572,418
Japan	.....	752,101	752,101
Central America	.....	6,330	6,330
Mexico	.....	6,000	6,000
Honolulu	25,000	.....	25,000
New York	791,080	15,162	806,242
Total	$823,997	$1,344,094	$2,168,091

In September, 1893, the total shipments were $2,138,725. For the 10 months ending October 31st the total shipments this year were: Gold, $18,160 544; silver, $5,302,142; total, $23,462,686, an increase of $3,503,035 over last year.

A London despatch of to-day (November 16th), notes the engagement of $1,000,000 gold for New York. It is understood that it is intended to pay for subscriptions to the new bonds.

The Bank of England on Thursday, November 15th, reported its total gold holdings at £35,558,023, an increase of £10,033,921 as compared with the corresponding date last year. Less gold has gone out during the week, and the Bank's balances have increased somewhat. The proportion of reserve to liability was 63% against 62·12% last week, and 48 50% a year ago. The gold shipped during the week was chiefly to France, an no more it noted for Russia.

The Bank of France on Thursday, November 15th, reported its specie holdings at 1,946,941,000 fr. gold and 1,237,474,000 fr. silver; an increase of 243,591,131 fr. gold and a decrease of 27,142,057 fr. silver as compared with the corresponding date last year. Changes during the week were an increase of 18,729,000 fr. gold, and a decrease of 925,000 fr. silver. The bank has been increasilg its gold reserve recently at a somewhat rapid rate.

Specie holdings of other European banks on Thursday, November 15th, are reported by cable to the "Journal of Commerce" as below:

	Gold.	Silver.	Total.
Imp. Bank of Germany	.....	.....	$249,330,000
Austro-Hungari'n Bank	$74,805,000	$72,097,000	147,902,000
Netherlands Bank	20,381,000	33,671,000	54,052,000
Belgian National Bank	.....	.....	25,000,000
Bank of Spain	40,020,000	49,125,000	89,145,000

The Imperial Bank of Germany and the Belgian National Bank do not report gold and silver separately. No report of so late date is received from the Imperial Bank of Russia.

The Austro-Hungarian statistical office reports the imports and exports of coin and bullion for the nine months ending September 30th, as below, including both gold and silver:

	1893.	1894.	Changes.
Imports	Fl. 148,600,000	Fl. 31,900,000	D. fl. 116,700,000
Exports	16,200 000	200,000,000	I. 3,800,000
Excess, imports	132,400,000	11,900,000	D. 120,500,000

The heavy imports last year were due to the large amounts of gold brought in under the currency reform law.

Shipments of silver from London to the East for the year up to November 2d are given by Messrs. Pixley & Abell's circular as below:

	1893.	1894.	Changes.
India	£5,928 851	£4,253,815	D. £1,675,036
China	1,523,516	2,452.917	I. 929,431
The Straits	1,313,613	1,149.646	D. 163,967
Total	£8,765.980	£7,856,408	D. £909,572

Shipments reported for the week were £111,640 to Bombay.

In our issue for November 3d we published the total figures of the official statement of the gold held by the Russian Government on August 31st, 1892, January 1st, 1893, January 1st, 1894, and October 10th of the current year. These total holdings amounted in 1892 to 603,685,000 roubles; in 1893 to 605,054,000 roubles; on January 1st last to 609,111,000 roubles, and on October 10th to 646,291.000 roubles. The details of the last dated statement we give below:

	Roubles.
1. Gold belonging to the Government:	
At the Bank	209,308,000
At the Mint	16,559,000
With bankers abroad or in transit	33,253,000
Total government gold	259,210,000
2. Gold belonging to the Bank:	
In circulation, in transit, etc	99,979,000
Abroad	1,723,000
General fund for bills of exchange	210,379,000
Special " " " " temporary issues	75,000,000
Total bank gold	387,081,000
Total	646,291,000

The gold in the mint includes also gold from private mines in transit, and gold certificates of the German Bank and the Finland Bank. The gold rouble is worth 77·2c.

Domestic and Foreign Coins.

The following are the latest market quotations for the leading foreign coins:

	Bid.	Asked.
Mexican dollars	$.51	$ .51¾
Peruvian soles and Chilean pesos	.48	.51
Victoria sovereigns	4.85	4.88
Twenty francs	3.86	3.88
Twenty marks	4.74	4.80
Spanish 25 pesetas	4.78	

Other Metals.

Copper.—The market has been very quiet, and not much business has been doing. Consumers are evidently very anxious to buy at lower figures, but find no encouragement on the part of holders. There are still a great many rumors to the effect that negotiations are being carried on to restrict production between the principal producers, but no definite news can be gathered, and if negotiations are pending, they are conducted in the strictest secrecy. The event of the week was a sale of about 6,000 tons of Boston & Montana matte containing very little silver, which material was put in store here during the year of 1888 for account of the French syndicate, and it has always been understood that there was some litigation about this lot. The selling price is 8s. 3d., c. i. f. Liverpool, and considering that the cost price was at least 15s., and that there was about six years' interest, rent, fire insurance, etc., to be added, one can easily calculate that hardly anything will be left when the returns are made. Consumption of copper here is said to be rather satisfactory. The exports for this month are likely to be heavy, as the above 6,000 tons of matte, representing more than 3,000 tons of fine copper, will, we understand, be shipped promptly. For Lake copper we have still to quote 9½c., but at this price the principal companies are not in the market. Electrolytic copper is worth 9¼@9⅜c., and casting copper 9@9⅛c.

In Europe the tendency was flat throughout the week, and consumers' orders were rather scarce. The speculative market moved within very narrow limits, and closes dull at £42 17s. 6d.@£40 for spot and 7s. 6d. higher for three months prompt. For refined and manufactured we quote: English Tough, £42 10s.@£42 15s.; Best Selected, £42 15s.@£43 5s.; Strong Sheets, £50@£51; India Sheets, £46@£46 10s.; Yellow Metal, 4¼d.

According to our cable, the statistics for the first half of the month in Europe do not show any alteration.

Messrs. James Lewis & Son's monthly report of November 1st says: Shipments from the United States to Europe for the past month show a considerable falling off, being about 4,800 tons, against an average of 6,909 tons for the previous three months, and against 11,473 tons for October last years. Rumors have been rife with regard to a satisfactory conclusion of the negotiations to limit production, but in the absence from New York of the representative of the company most largely interested no definite settlement has yet been made. If the larger producers would agree not to increase their output it would appear that this would be all that is required to insure stability to the market. The returns made by American producers give a production for the past 12 months of about 142,000 tons, against 130,700 tons for the previous 12 months, while the export has been about 81,000 tons, against 70,700 tons, leaving 61,000 and 60,000 tons respectively for home consumption. As, owing to the currency crisis and tariff agitation, consumption in the United States the past two years has been much interfered with, an increase on these figures may reasonably be anticipated in the future, reducing the quantity available for export. Notwithstanding the increase in the shipments to Europe of 10,000 tons, stocks generally are probably considerably less now than they were 12 months ago. The public stocks in England and France show an increase of 5,000 tons, but those held in Germany and the private stocks in England and France are, we consider, from 10,000 to 15,000 tons less now than when 43,912 tons had been shipped from the United States in the preceding four months against about 25,500 tons in the past four months.

The same authority reports recent sales of furnace material in England as follows: 100 tons 20% Mexican ore at 7s. 9d.@8s. per unit; 277 tons Libiola ore, 10⅝%, at 6s. 9½d. per unit; 256 tons Libiola Mundic, 8½%, at 6s. 9½d. per unit.

Actual imports of copper into Great Britain for the 10 months ending October 31st were, in tons of 2,240 lbs.:

	1893.	1894.	Ch'ges.
American	36,883	29,890	D. 6,993
Chilean	16,668	17,522	I. 854
Other sorts	37,258	37,789	D. 531
Total	90,809	85,201	D. 5,608

Stock or visible supply, October 31st, was estimated at 52,788 tons, against 48,040 tons a year ago, showing an increase this year of 4,748 tons.

The following figures give the production (in tons of 2,240 lbs.) of copper in the United States, and also by the chief foreign mines, and the exports from the United States, for October and the 10 months ending October 31st:

Producing fine copper, long tons.	Oct.	Year, 1894.	1893
Reporting mines in U. S.	12,692	122,354	108,517
Pyrites and outside sources U. S.	1,500	13,880	10,646
Reporting foreign mines	7,231	73,961	67,589
Total production, long tons	21,423	210,195	186,752
Exports from U. S., fine copper	5,057	65,553	64,273

There was a decrease of 2,036 tons in the United States exports for October, as compared with those for September. The total for the 10 months shows an increase of 1,280 tons over last year.

Copper Exports.—The exports of copper from the port of New York for the week ending November 15th, as reported by the New York Metal Exchange, were as follows:

Glasgow—Anchoria	Ingots	10	tons
Bremen—Elbe	Ingots	59	"
Rotterdam—Rotterdam	Bars	72	"
" "	Plates	157	"
" Amsterdam	Plates	65	"
Liverpool—Lucania	Pigs	80	"
Havre—La Bretagne	Ingots	50	"
Liverpool—Etruria	Ingots	24	"
" Cevic	Pigs	30	"
" "	Ingots	56	"
Bremen—Salm	Ingots	2	"
Liverpool—Germanic	Pigs	100	"
Trieste—Pocasset	Ingots	20	"
Genoa—Fulda	Plates	25	"
Swansea—Mohican	Bars	100	"
Havre—La Bourgogne	Ingots	28	"
Rotterdam—Amsterdam	Ingots	85	"
" "	Cakes	25	"
" "	Plates	140	"
Liverpool—Etruria	Pigs	44	"
Matte:			
Swansea—Mohican		12	tons

The export of matte is the first noted for many weeks.

Exports of copper from Baltimore for the week ending November 15th are reported by our special correspondent as follows:

Rotterdam—Prodano	57 cakes	22,454	lbs.
" "	285 bars	45,690	"
Bremen—Weimar	293 bars	44 843	"

Other metals exported during the week were: 668 bundles tin scrap, 107,290 lbs., to Rotterdam.

Tin.—Business is fair, but prices remain depressed, and forward delivery can still be bought very cheap We continue to be entirely dependent upon the fluctuations of the London market. We quote November and December at 14·55@14·65, January to June at 14·50@14·60.

In England the market appeared firm, but soon showed signs of weakness, and the closing prices are the lowest of the week, viz., £65 12s. 6d.@£65 15s. for spot, and £65 17s. 6d.@£66 for three months prompt.

Messrs. De Mondey & Havelaar's circular gives the movement of Banker, Billiton and Straits tin in Holland as follows for the ten months ending October 31st, in tons: Supplies, 11,663 tons; deliveries, 10,249 tons; stocks in warehouse, 2,970 tons; stocks afloat, 2,400 tons. The exports of tin from Holland for the nine months ending September 30th, were 8,846 tons.

Lead.—The demand may be called very good indeed, but is freely met by producers and refiners. Active business has been done at 3⅛@3·15 As navigation is now on the point of closing and higher freights have to be paid on shipments from the West, we ought to see somewhat stiffer prices in the eastern markets.

London has eased off somewhat, and Spanish lead is quoted at £915s. and English lead at £9 17s. 6d.@£9 18s. 9d.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: "Lead firm at 2 92½c. Trading light owing to limited offerings. About 600 tons sold during the past week at the above price. Occasionally a car of special brand selling at 2·95c.

Spelter is flat and scarce, but producers are vigorously resisting a further decline in price, and we have to quote 3·30@3·35 New York.

In Europe the market is lower, and good ordinaries are quoted in London at £14 5s. and specials at £14 7s. 6d @£14 10s. This is quite a serious decline.

Antmony is lifeless. Cookson's, 8½c.; L.X., 8c.; Hallett's, 7⅞@7½c.; U. S. French Star, 9c.

Quicksilver.—There is no change in this market, and quotations remain: New York, $37; London, £6 10s.@£6 15s. The receipts of quicksilver at San Francisco during October this year amounted to 1,680 flasks, against 2,718 flasks for the same month last year. From January 1st to October 31st, 1894, total receipts were 20,455 flasks, compared with 19,559 flasks for the first 10 months in 1893. Exports by sea from that port for the first 10 months of this year amount to 12,565 flasks, valued at $383,164, as against 11,825 flasks, valued at $481,215, in 1893.

Aluminum.—Current quotations are unchanged as follows, No. 1 being over 98% pure metal, and No. 2 over 94% pure: No. 1 in rolling ingots, 63c. per lb. for small lots at factory; 60c. in 100 lb. lots; 58c. in ton lots. No. 1 in ingots for remelting, 60c. for small lots, 55c. for 100 lb. lots, and 53c. in ton lots. No. 2 in ingots for remelting, 55c., 53c. and 50c. per lb., according to size of order. Sheets, 80c. @$4.40 per lb., according to size and thickness. Wire, $1@$2.50 per lb., according to gauge. Castings, 90c. per lb. up, according to number, weight, patterns, etc. Tubes, from 20c. to $3.15 per foot, according to thickness and diameter.

Abroad quotations for 99% pure metal in Paris are 5·75@7·50 fr. per kilo. for ingots; 7·25@11·50 fr. for sheets; 9·00@17·50 fr. for wire, and 15@22 fr. for tubes. The Neuhausen Company quotes No. 1 (guaranteed 98% pure, and in fact 99·75%) at 5 fr. per kilo. for ingots in small lots; for large lots a considerable discount is allowed. This price is at the works in Switzerland.

Bismuth.—Recent sales in New York are lacking and quotations are nominal at $2@$2.50 per lb., according to quantity.

Magnesium.—No quotations are to be found for this metal in New York, where sales are seldom made. Prices in Germany are, for lots of over 10 kilos.: Ingots, $6.75 per kilo.; bars, $6.50; powder, $9; ribbon and wire, $9.50. For orders of less than 10 kilos., 25 cents per kilo. must be added for ingots or bars, and 50 cents for ribbon, wire or powder. These prices are delivered at works; the Aluminum und Magnesium Fabrik, Hemelingen, Germany, is the only maker of the metal in commercial quantities.

Nickel.—No sales are reported here; quotations are nominal at 40@45c. London quotations are 16½ @18d. per lb., with small sales.

Phosphorus.—Quotations continue steady at 50 @52½c. per lb., f. o. b. New York or Philadelphia.

Platinum.—Abroad the prices are still firm, with no recent change.

For chemical ware, hammered metal, Messrs. Eimer & Amend, New York, quote crucibles and dishes 41c. per gram for orders of over 250 grams; 43c. for orders of 100 grams or over, and 45c. for small lots. Wire and foil are 40c., 41c. and 42c. per gram, respectively, for orders of the quantities named. Current retail prices for crucibles are 50c. per gram.

Sodium.—In England and Germany makers quote 90@$1 per lb. Sales in this market are too small to furnish quotations.

CHEMICALS AND MINERALS.

NEW YORK, Friday Evening, Nov. 16.

Heavy Chemicals.—We find little change in the heavy chemical market since our last report. There is a fair jobbing trade doing for prompt delivery, but business for next year, though fair, has undergone a decrease, due in part to the firmer prices of alkali and caustic soda. Bleaching powder is in quite active demand and there is rather a scarcity of spot goods. Sal soda is in fair demand for prompt delivery. Caustic soda is quiet. For alkali and carbonated soda ash a fair inquiry for spot is reported. Prices are practically unchanged. We quote this week: Caustic soda, 60%, 2·15@2·25c.; 70%, 74%, 2·05@2·10c.; 76%, 2·27½c. Carbonated soda ash, 48%, ·95@1c.; 58%, ·87½@·90c. Alkali, 48%, 90·95c.; 58%, ·85@·90c. Bleaching powder. English, 1·75@1·80c.; German, French or Belgian, 1·5(@1·62½. Sal soda, ·72½@·75c.

Acids.—Manufacturers report an improved inquiry for acids, and consumers have been demanding prompt delivery on existing contracts. Little or no business for 1895 delivery is reported. Prices are unchanged, and we quote: Acids, per 160 lbs. in New York and vicinity, in lots of 50 carboys or more Acetic, in barrels, $1.40@$1.60; muriatic, 18°, 80c.@$1; 20°, 90c @$1.10; 22°, $1@$1.25; nitric, 40°, $4; 42°, $4.50@$4.75; sulphuric, 75c.@$1; chamber acid, $6 per ton. Mixed acids according to mixture, oxalic, $6.50@$7.50 per 100 lbs. Blue vitriol is quoted at $3.50@$3.62½; glycerine for nitro-glycerine 11½@ 12½c., according to quality and quantity.

Brimstone.—The market for Sicilian brimstone is quiet. Quotations for shipments are $16.75 for best unmixed seconds, and $15.25 less for thirds. There are no spot goods available.

Fertilizing Chemicals.—The fertilizer market has been very dull during the past week. Very little business has been done, and there is an absence of speculative buying. The ammoniate market shows weakness in prices. Our quotations this week are as follows: Sulphate of ammonia gas liquor, $3.60 for spot and $3 50 for prompt shipments from Europe; bone goods, $3.50 for spot and $3.45 for forward delivery. Dried blood, high grade, $2.30@$2.35; low grade, $2.10@$2.15. Azotine, $2.25. Concentrated phosphate (30% available phosphoric acid), 75c. per unit. Acid phosphate, 13% to 15%, av. P_2O_5, 60c. per unit at seller's works in bulk. Dissolved bone black, 17% to 18%, P_2O_5, 90c. per unit. Acidulated fish scrap, $14@$15, and dried scrap nominally $22 f. o. b. fish factory. Tankage, high grade, $23@24; low grade, $22@$22.50. Bone tankage, $22.50; bone meal, $24@$25.50.

In lots of 50 tons on contracts we quote: Double manure salts, 48-53% (basis of 48%): New York and Boston, $1.12; Philadelphia, $1.14½; Charleston, Savannah, Wilmington, N. C., and New Orleans, $1.17. High grade manure salts, 90-95% and 96-98% basis 90%), respectively: New York and Boston, $2 07@$2.11; Philadelphia, $2.09½@$2.13½. Charleston, Savannah, Wilmington, N. C., and New Orleans, $2.12@$2.16.

Phosphate Rock.—Quotations at Charleston, S. C., are: $4@4.25 for standard land, kiln dried rock; ground rock, in buyer's bags $5.50@$5.60, in seller's bags $1 higher. Acid phosphate remains at $6.25@ $6.50.

Muriate of Potash.—Arrivals during the past week aggregate 3,000 bags at this port. In lots of 50 tons, quotations are as follows: 80·85% and minimum 95% (basis 80%), respectively: New York and Boston, $1.78@$1.91; Philadelphia, $1.80½@$1.83½; Charleston, Savannah, Wilmington, N. C., and New Orleans, $1.83½@$1.86.

Kainit.—Prices for kainit (minimum 23%) in cargo lots for 1894 delivery are as follows for invoice and actual weights respectively: New York, Boston and Philadelphia, $9@$9.25; Charleston, Savannah, Wilmington, N. C., and New Orleans, $9.75@$10. For sylvinit, 27-35%, prices are as follows, per cent. per gross ton, invoice weight: New York, Boston and Philadelphia, 37½c.; Charleston, Savannah, Wilmington, N. C., and New Orleans, 41c. Actual weight, 1c. more per cent.

Nitrate of Soda.—The nitrate market is stronger

and higher this week. There has been a fair demand, and owing to the fart that goods in store are held by few hands, and to non-arrival of two vessels which were expected, spot nitrate is quoted at $2.10. Shipments next year are offered at $1.90@$2, according to position.

The Permanent Nitrate Committee of London, in its public circular for November, furnishes the following statistics: Total exports to Europe, October, 2,732,000 qtls.; loading for Europe, 1st November, 3,600,000 qtls.; imports, Europe, October, 89,650 tons; deliveries in Europe, October, 54,300 tons; visible supply, stocks and afloat, Europe, 1st November, 355,660 tons.

Liverpool. Nov. 7.

(Special Report of Joseph P. Brunner & Co.)

For most lines of heavy chemicals the demand is very unsatisfactory so far as fresh business is concerned.

Soda Ash in limited request for Leblanc makes and prices nominal at about the following range: Caustic ash, 48%, £3 15s.@£4 per ton; 57 and 58%, £4 10s.@£4 15s. per ton. Carb. ash, 48%, £3 5s.@£3 15s. per ton; 58%, £3 15s.@£4 per ton, net cash.

Ammonia ash, 58%, is wanted, and some makers are unable to fill orders for prompt delivery. Prices range from £3 10s. to £3 12s. 6d. per ton, for tierces, and 5s. less for bags, for any position.

Soda crystals slow, at nominally £2 10s. per ton, less 5%.

Caustic soda flat and quotations vary considerably according to export market, the range being about 60%, £6 15s.@£7 10s. per ton; 70%, £7 15s.@£8 10s. per ton; 74%, £8 15s.@£9 10s. per ton; 76%, £9 15s.@£10 10s. per ton, net cash. For parcels under 10 tons, 5s. per ton extra is charged.

Bleaching powder is stagnant, although prices are nominally unchanged, ranging from £7 5s. to £7 15s. per ton net cash for hardwood packages, as to market.

Chlorate of potash is quite a dead letter so far as prompt business is concerned, and 5¼d. is nominal quotation. For 1895 delivery 5¼@5½d. are about quotations, while speculators are reported to have shaded the lower figure.

Bicarb. soda steady at £6 15s. per ton, less 2½% for 1 cwt. kegs, with usual allowances for larger packages.

Sulphate of ammonia, while not active, keeps fairly steady at £12 15s.@£12 17s. 6d. per ton, less 2½%, for good gray 24-25% in double bags f. o. b. here.

Nitrate of soda unchanged at £9 2s. 6d.@£9 5s. per ton, less 2½% for double bags f. o. b. here.

Carb. Ammonia.—Lump, 3¾d. per lb.; powdered, 4d. per lb., less 2½%.

MINING STOCKS.

[For complete quotations of shares listed in New York, Boston, San Francisco, Anpen, Colo.; Baltimore, Pittsburg, St. Louis, London and Paris, see pages 478 and 480.]

NEW YORK, Friday Evening, Nov. 16.

A slightly better feeling prevailed in the mining stock market during the past week. There is an improved demand for certain stocks, especially for those of gold mining companies, although some of the silver stocks also have been more inquired after than for some months past. Thus far these inquiries have not resulted in much actual business, but the movement, slight though it be, is looked upon by brokers as a hopeful sign of an impending revival of the old-time interest, on the part of the public, in mining securities.

The Comstocks do not show any change of importance. For the first time in three years Consolidated California & Virginia has declared a dividend of 25c. per share. Whatever beneficial effect the declaration of this dividend might have had upon the Comstock group has been offset in a great measure by the assessment of 25c. per share levied by Best & Belcher. Consolidated California & Virginia this week shows sales of 270 shares at $4.25@$4.75. Hale & Norcross was quiet, total sales amounting to but 200 shares at $1.05; the price of this stock has ruled steady and has shown a tendency towards an advance, which leads some observers to believe that a deal of some kind is contemplated by the insiders. Savage advanced from 64c. to 69c., with sales of 300 shares. Chollar was in fair demand, 750 shares changing hands during the week at 74@80c. Other sales were as follows: 100 shares of Ophir at $3.25; 300 shares of Sierra Nevada at 85@91c.; 400 shares of Yellow Jacket at 71@76c.; 400 shares of Consolidated imperial at 8c.; 100 shares of Potosi at 80c., and 100 shares of Union Consolidated at 70c.

None of the California shares was traded in during the week. The superintendent of the Standard Consolidated Gold Mining Company at Bodie wrote to the vice-president of the company in this city that he thought the company could afford to declare a dividend. In answer to this message the vice-president, with the consent of other directors, telegraphed to Mr. Leggett to declare the dividend. We expect daily to receive the news that the company has declared a dividend of 10c. per share for the month of December.

Horn Silver was quiet, only a solitary transaction of 100 shares at $3.25 being reported this week.

Castle Creek, which had not been traded in for a number of months, this week shows a transaction of 1,000 shares at 2c.

NOTES OF THE WEEK.

The full official returns of the ore worked and bullion produced at the Morgan mill for account of the Consolidated California and Virginia mine for the month of October, 1894, were as follows: 1,699 tons and 1,080 lbs. of ore worked. Value of bullion produced, $125,623.55, of which $76,357.79 was gold and $49,265,76 was silver. The average yield in bullion was $73.91 per ton. The average assay value of the ore per ton per battery samples was $76.87, and the average assay of the railroad-car samples of the ore was $78 76 per ton.

The following mining companies report having had cash on hand October 31st, 1894: Alta, $5,057; Alpha Consolidated, $2,963; Andes, $12,061; Belcher, $15,387, Bodie Consolidated, $67,524; Bulwer Consolidated, $3,457; Best & Belcher, $5,701; Crown Point, $1,326; Consolidated California and Virginia, $171,086 in cash and unsold bullion valued at $17,086, with further large shipments to be received to close the monthly account; Chollar, $12,722; Consolidated New York, $2,518; Challenge Consolidated, $351; Consolidated Imperial, $1,810; Exchequer, $3,714; Gould & Curry, $10,213; Gray Eagle, $14; Hale & Norcross, $10,684; Lady Washington, $129; Mexican, $8,542; Mono, $959; Ophir, $15,205; Occidental Consolidated, $408; Potosi, $14,470; Savage, $3,109; Silver Hill, $1,213; Sierra Nevada, $15,842; Seg Belcher, $5,250; Union Consolidated, $6,505; Utah Consolidatec, $1.741.

The following companies reported an indebtedness on the 5th: Commonwealth, $18.246; Grand Prize, $704; Navajo, $365; North Belle Isie: $3,348; North Commonwealth, $28,807.

Boston. Nov. 15.

(From our Special Correspondent.)

Another dull week in copper stocks, and although prices have shown a good degree of firmness there is no vim to the market, and very little disposition shown to speculate in this class of stocks. Franklin has been in good demand, and it is generally believed that the company has secured the control of the Peninsular mine, which will be of great value to the Franklin in its future development. The stock opened at $11½, and advanced to $12¼ on good buying orders, and held the quotation, with none offered to-day under $13. Osceola was made active yesterday on a bear attack by an anonymous circular which carried the price down from $22 to $20¾, from which it quickly recovered, selling to-day at $21¼@$21¾. It is stated by good judges that the company will show a mining profit for the year of $1 per share, and, if so, a dividend may be expected early in 1895.

Calumet & Hecla declared a dividend of $5 per share this week, and the stock sold in a small way at $295. Tamarack was quite steady at $148 in early dealings, and advanced later to $150, with latest sales at $149. Quincy declined from $94¾ to $92 for a five-share lot, and the scrip was off $½ to $34½.

Boston & Montana ruled steady with light sales at $29, until to-day, when it declined to $28¾ for 100 shares. Butte & Boston advanced from $10¼ to $10½ on moderate sales.

Kearsarge sold at $7½ for 50 shares and $7 for small lot. Centennial sold at 50c.@60c. A few small sales of Tamarack, Jr., were reported at $11@$11¼. Wolverine was the most active stock on the list, and the only one which showed any speculative strength. Sales were made at $2⅞@$3¼, the latter price to-day, and it closed $3⅛ bid, $3¼ asked. About 3,200 shares changed hands. A sale of Ridge Mining Company was reported at 87½c.

The market closed firm, but without any special feature.

San Francisco.

BY TELEGRAPH.

SAN FRANCISCO, Cal., Nov. 16.—Prices during the week have ruled fairly steady, although the market has been rather quiet. The following were the opening quotations to-day: Best & Belcher, $1.05; Bodie, 85c.; Belle Isle, 5c.; Bulwer, 10c.; Chollar, 70c.; Consolidated California & Virginia (ex-dividend), $4.30; Gould & Curry, 63c.; Hale & Norcross, $1.20; Mexican, $1.20; Mono, 15c.; Ophir, $3.25; Savage, 59c.; Sierra Nevada, 80c.; Union Consolidated, 60c.; Yellow Jacket, 66c.

London. Oct. 30.

(From our Special Correspondent.)

The public interest in West Australian promotions is dying down. Three or four new companies have come out this week, but it is not likely that the shares will be subscribed. More attention is being paid to South African, Australian and American shares: The De Lamar Company has taken this opportunity of circulating a statement of its position which admirably contrasts with the promises of the West Australian promoters. They have given a full history of the working of their property, showing the details of production, costs, profits, etc., from the beginning. The circular has been widely circulated and quoted, and it has had a very good and strengthening effect on the market for the stock. During the three years of its existence the dividends have been £70,0 0, £90,000 and £100,000 on a nominal capital of £400,000.

New Gustons have fallen from par to 17s. 6d. during the week, but this is only a natural reaction after the rather too sudden improvement. Montanas, Harqua Halas and Elkhorns have been dealt in with little variation in price. Jay Hawks continue weak in the presence of sellers. Poormans have sunk down to 1s. 6d.; no buyers are found, and holders are being strongly advised and pressed to keep their stock.

Colonel MacLaughlin, of Golden Feather, has followed up his cable referred to last week by another announcing that operations have ceased for this season. He says: "Delayed by heavy storm, but I am in a position whereby three weeks' labor preparing the mine for winter guarantees sluicing in the richest portion of the claim directly after the river is turned next season. To devote remaining time to mining would be a fatal mistake." One of the directors who, with the secretary, is now at the mine cables that, having seen all, he considers that Colonel MacLaughlin has done his best and that the outlook for next season is good.

The Harvey Continental Steel Company Limited, has been constituted in London with a capital of £120,000, in 12,000 £10 shares, to acquire from the Harvey Steel Company, of New Jersey, the Harvey steel process patent, and from John Brown & Co., of Sheffield, the Tressider armor plate rights for all the world, save the United States, Canada, Great Britain and France. The Harvey method for treating steel, explains the prospectus, is one by which low-grade metal is converted at moderate cost into steel, possessing great decremental hardness, and thus is applicable to armor plates and other manufactures in which intense hardness aud tenacity are desired. Harveyed armor plates have been tested by the governments of Great Britain, the United States, France and Russia, and it is stated that the British Admiralty has recently ordered 17,000 tons for vessels now in course of construction. The company is to receive a royalty on plates made by the licensees of the Harvey companies in Great Britain and France, and exported into those portions of the globe to be served by the new corporation. Tests of the process for various uses, other than the defence of naval armaments, have been made in the United States with, says the prospectus, most excellent results, indicating considerable possibilities of future development. The price payable to the vendors for the patents and rights transferred is £100,000—£80,000 to the Harvey Company and £20,000 to Brown & Co.—to be satisfied by 25% in cash, 35% in cash or fully-paid shares, at the option of the directors, and 40% in fully-paid shares. Eight thousand shares are now offered to the public, the list opening on Friday and closing the same day for town and the following morning for the country.

Paris. Nov. 5.

(From our Special Correspondent.)

The market this week has been so entirely a political one that the special mining stocks have been rather neglected, and a short account will dispose of their course. The metallurgical stocks have shown but few and unimportant changes. The same thing can, in effect, be said of the coal and iron stocks also, which have been fairly steady on light dealings. The zinc and lead companies' shares, though rather neglected, have not been weak, with the exception of Laurium, which has shown a downward tendency. Nickel is again fluctuating, this time losing the small advance which it made a week or two ago, and somewhat more.

In the copper stocks there has been a little more activity. Rio Tinto has been dealt in quite largely, and a strong clique is said to be working the stock with ultimate ends which are not yet quite apparent. In sympathy with the leader, Cape Copper, Tharsis and Jerez-Lanteira have shown more activity.

Huanchaca has not responded as was hoped by the manipulators to the persistent puffing which has been tried here and in London. The public has not joined the claqueurs with any degree of enthusiasm. The Transvaal gold stocks have been less active, like the rest of the list. There have been some heavy transactions in De Beers, evidently the work of a clique, in which Amsterdam is said to have a hand.

An interrogation in the Chamber of Deputies this week failed to bring out any announcement as to the policy of the Ministry in relation to the project of law for the extension of the privileges of the Bank of France, which was introduced in 1891 and has since been allowed to rest. The privileges do not expire until 1897.

The official returns of the six great railroad companies and the State railroads for the half-year ending June 30th show that the total length of the lines is now 35,902 km., an increase of 621 km. during the half-year. The earnings were 563,847,037 fr., an increase of 8,769,260 fr. over last year. The average earnings per kilometer decreased a little, having been 15,661 fr., against 15,699 fr. last year.

The report of the Bureau of Labor shows that in 1893 there were in France 634 strikes, in which 170,000 men were concerned, losing an average of 18·7 days each. This was the largest number of strikes ever noted in a year. In 25% of the troubles the strikers gained their point; in 43% they were defeated, and in the remaining 32% there was a compromise. Over one-half the strikes were for an increase of wages, uncomplicated by other causes.

AZOTE.

DIVIDENDS.

Calumet & Hecla Mining Company, $5 per share, payable at the office in Boston, December 15th, to stockholders of record on November 17th.

Consolidated California & Virginia Mining Company, dividend No. 37, of 25 cents per share, paid at the office in San Francisco, November 14th.

Homestake Mining Company, dividend No. 196 of 20c. per share, $25,000, payable November 26th, at the office of Messrs. Lounsbery & Co., Mills Building, No. 15 Broad street, New York City. Transfer books close November 20th.

NEW YORK MINING STOCK QUOTATIONS.

DIVIDEND-PAYING MINES.

Name of Company.	Par val	Nov. 10.		Nov. 12.		Nov. 13.		Nov. 14.		Nov. 15.		Nov. 16.		Sales
		H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Belcher, Nev.														
Belle Isle, Nev														
Bodie Cons., Cal														
Bulwer, Cal														
Chrysolite, Colo														
Comstock T. bonds, Nev														
" scrip., Nev														
Cons. Cal. & Va., Nev		4.75		4.60				4 25		4 65				270
Crown Point, Nev														
Deadwood, Dak														
Eureka Cons., Nev														
Father de Smet, Dak														
Gould & Curry, Nev														
Hale & Norcross, Nev								1 05						200
Homestake, Dak														
Horn-Silver, Utah						2.25								100
Kentuck, Nev														
Leadville Cons., Colo														
Little Chief														
Mono, Cal														
N. Belle Isle, Nev														
Ontario, Utah														
Ophir, Nev		3.25												100
Plymouth, Cal														
Quicksilver, Pref., Cal														
" Com., Cal														
Savage, Nev						.64				.69	.65			300
Sierra Nevada, Nev		.91		.85										3 0
Silver King, Ariz														
Standard Cons., Cal														
Victor, Colo														
Yellow Jacket, Nev				.71		.76	.75	.75						400

NON-DIVIDEND-PAYING MINES.

Name of Company.	Par val	Nov. 10.		Nov. 12.		Nov. 13.		Nov. 14.		Nov. 15.		Nov. 16.		Sales
		H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Am. Flag						.03								500
Alpha, Nev														
Alta, Nev														
Barcelona, Nev														
Belmont, Cal														
Best & Belcher, Nev														
Brunswick, Cal														
Castle Creek						02								1,000
Chollar, Nev		.78	.75			.80	.74			.80				750
Comstock T., Nev														
Con. Imperial, Nev								08						450
El Cristo, Rep. of Co														
Exchequer, Nev														
Independence, Nev														
Julia, Nev														
Justice, Nev														
King & Pembr, Ont														
Lacrosse, Colo														
Mexican, Nev														
Nevada Queen, Nev														
N. Standard, Cal														
N. Commonw'th, Nev														
Overman, Nev														
Oriental & Miller, Nev														
Phœnix of Ariz														
Potosi, Nev										.80				100
Scorpion, Nev														
Seg. Belcher, Nev														
Union Cons., Nev				70										100
Utah, Nev														

*Ex-Dividend. † Dealt in at New York Stock Ex. Unlisted securities. ‡Assessment paid. § Assessment unpaid. Dividend shares sold, 1,670. Non-dividend, 2,850. Total, 4,520.

BOSTON MINING STOCK QUOTATIONS.

Name of Company.	Par val	Nov. 9.		Nov. 10.		Nov. 12.		Nov. 13.		Nov. 14.		Nov. 15.		Sales
Atlantic, Mich														
Breece, Colo														
Bost. & Mont., Mont						29 00		29.00		28.63				405
Calumet & Hecla, Mich						295								5
Central, Mich														
Cœur d'Alene, Id														
Franklin, Mich		12.25	11.50			12.75	12.50	12.50		12.50				620
Honorine, Utah														
Horn Silver, Utah														
Kearsarge, Mich		7.50										7.00		55
Lake Superior, Iron														
Minnesota Iron, Minn														
Napa, Cal														
Ontario, Utah														
Osceola, Mich		22.50				22 50		23.00	22.00	22.00	20.75	21.75	21.50	565
Quincy, Mich						92.00								5
" script								34.50						70
Silver King, Ariz														
Tamarack, Mich		148				148				150		150	149	48
Tecumseh, Mich														

Name of Company.	Par val.	Nov. 9.		Nov. 10.		Nov. 12.		Nov. 13.		Nov. 14.		Nov. 15.		Sales
Allouez, Mich														
Arnold, Mich														
Aztec, Mich														
Brunswick, Cal														
Butte & Boston, Mont		10.25	10.13			10.88	10 50			10.50				560
Catalpa, Colo.														
Centennial, Mich								.50		.60				100
Copper Falls, Mich														
Hanover, Mich														
Humboldt, Mich														
Huron, Mich														
Mesnard, Mich														
National, Mich														
Native, Mich														
Phœnix, Ariz														
Pontiac, Mich														
Tamarack, Jr., Mich								11 00		11.26				6
Washington, Mich														
Wolverine, Mich		3 00	2 94					2.94	2 88	3 00		3 25	3 00	3,168

Dividend shares sold, 1,773. Non-dividend shares sold, 3,834. Total shares sold, 5,607.

COAL AND COAL RAILROAD STOCKS.

Name of Company.	Par value.	Nov. 10.		Nov. 12.		Nov. 13.		Nov. 14.		Nov. 15.		Nov. 16.		Sales
		H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Am. Coal						90								100
Balt. & Ohio				70		70		68½		68¾				460
do. pref														
Buff., R. & P.														
do. pref.														
Ches. & Ohio				19¾	19½	19⅛		19⅛	19¼	19⅜		19		3,730
do. 1st pref.														
Col. C. & I.														
Col. Coal														
Col. Fuel				26½	26	26½				24				1,070
do. pref.						72								25
Col., H. V. & Tol		19	18⅞											100
do. pfd														
Col. & H. Coal		7												300
do. pfd														
Cons. Coal														
Del. & Hud. C		128	127½	128½	127¼	127⅝	127	127⅝	126¾	127¼	124	125	123¼	7,920
Del., L. & W		162½	160½	16 ½	160⅜	162	161	160⅜		159⅞	159½	159½	158⅜	2,480
*Junt. & Fr. T.														
*do. pref.				50¾		51		51	50¾					60
Lake Erie & W		18½	18	18¼	18	18⅛	17⅞	17¾		17¼	16¾	17		1,920
do. pref.		74	73¾	74		73¼		72¾				73		963
*Lehigh C. & N.		48		48¼		48		48						4 8
*Lehigh Val.		35¾	35½	35⅞	35½	35½	35	35	34½	34¼				552
Lehigh & W. B.						22								200
Mahon'g C. R.						102								500
Morris & Es'x.														
New Ct. Coal.														
N. J. Central		97½	96	98⅛	96¼	96⅞	95½	95¾	95⅛	96	93⅛	93¾	91⅛	38,092
N. Y., L. & W.								117½						5
N. Y., L. E. & W				14¼		15⅛	15	14⅛	14	14⅜		14	13¾	2,315
do. pref.						31	29	30						290
N. Y., Susq. & W		16¼	16	16½	15¼	16	15¾			16	15⅛			3,2 0
do. pref.		45⅛	45	46	45⅝			44½						1,375
N. & West.		8	7⅞			7½		7⅞		7¼				930
do. pref.								22¾		23⅛				120
Penn. Coal														
*Penn. R. R.		51¼	51	51½	51¼	51½	51⅛	51¼	51	51¼	50⅞			1,762
Phil. & Read.		18⅜	18¼	18½	17⅞	18	17⅝			17¾	16¾	17⅜	16½	45,220
Tenn. C. & I.		17	16¾	16¾	16							15⅞	15⅛	1,510
do. pref.														
Wheel. & L. E		12⅝	12	13	12⅝	12⅝	12⅜	12⅝		12⅜	12¼	12	11⅛	2,750
do. pref.		43¼	42	43¼						43	42¼			425

*Philadelphia quotations for week commencing Nov. 9 to Nov. 15. Total shares sold, 119,422.

INDUSTRIAL AND TRUST STOCKS.

Name of Company.	Par value.	Nov. 10.		Nov. 12.		Nov. 13.		Nov. 14.		Nov. 15		Nov. 16.		Sales.
		H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Adams Exp.				145						145	145			53
Am. Cot Oil.		29	28⅛	29¼	28½	28⅞	28⅝	29	28¼	28½	28⅜	28¾	28½	5,280
do. pref.		77		76½	76	76⅝		77	76½					1,087
Am. Dist. T.														
Am. Expr		112⅛		115						114				291
Am. Sug Rf.		94⅛	91¼	96½	92¾	93⅜	91⅛	91½	87⅞	90⅝	87¼	88⅝	86⅞	495,539
do. pref		95		96	95	95		93½		93⅛		93	92¼	2,656
Edis. E. I. Co.				101¼		101								403
Edis Gen. El		37¾	37½	37¾	36½	36⅞	36½	36½	36⅛	36½	36	35½	34⅞	12,452
Nat. Lead Co		42⅛	42⅛	42¾	41¾	42	41¾	41¾	41¼	42¾	41½	42½	41⅞	12,533
do. pref		89¼	89	88½		88⅛		88⅜		89	88⅛	89		1,253
Nat. Lins. Oil.		20¼		20⅛						21		20⅞		760
U. S. Cord. Co.		13	12½	12⅝	10¾	12	11	11⅛	11	11¼	9¾	10¾	10¼	14,759
do. pref		20¾		20⅞	19¾	20	19	20⅞	19¼	19¼	17¾	18⅝	18⅛	5,545
U. S. Expr'ss		48		48						46	44			118
U. S. Rubber		44½	43	45	43⅛	44⅝	44¾	44	43	43	40½			12,567
do. pref.		96½	95	96½	96	95½	95¼	96¾	95⅞	95½	95			3,3 8
Wells, Fa Ex		107½	105			107	105			111				105
West. Union		89⅜	89¼	89⅞	88¾	90¼	89	90	88¾	89½	88½	88⅞	88¼	37,475
*Westingh'se Brake Co		‡90		‡90				†75	‡90					
*Westingh'se Air Brake		127		†126	‡127			†124½	‡126					

* Pittsburg quotations. † Bid. ‡ Asked. Total shares sold, 604,185.

San Francisco, Cal.

Name of Company.	Par value.	Closing Quotations. Nov. 9	Nov. 10.	Nov. 12	Nov. 13	Nov. 14	Nov. 15.
Alpha							
Alta		.25	.27	.26	.25	.28	.28
Belcher		.85	.85	.78	.81	.80	.78
Belle Isle							
B. & Belch		1.10	1.10	1 05	1.00	1.05	1.10
Bodie		.93	.90	.91	.93	.86	.87
Bulwer		.10				.10	.10
Chollar		.71	.71	.70	72	.71	.70
Com'w'lth							
Con. C. & V.		4.50	4.40	4.25	4 30	4.30	4.20
Con. Pac.							
Crown Pt.		.65	.60	.61	62	62	.58
Del Monte							
E'rekaCon							
G'ld & C'y		6.0	.61	.59	.60	.61	59
Hale & N.		.98	.97	99	1.20	1.20	1.15
M. White							
Mexican		1.25	1.20	1.25	1.20	1.20	1.15
Mono		.18			.16	.18	.17
Mt. Diablo							
Navajo							
Nev. Qu'n.							
N. B'lleIsle							
N. Co'w'th							
Ophir		3 10	3.25	3.35	3 26	3.25	3.15
Potosi		.68	.68	65	.70	.66	.66
Savage		.57	.64	.59	.62	.60	.58
Sierra Nev		.85	.80	.80	.85	.85	.78
Uni'n Con		68	.63	.60	.60	.62	.60
Utah		.10	.09		.10	10	.10
Yel. Jack.		.71	.69	.67	.66	.68	.65

Baltimore, Md. Nov. 14.

	Par val.	Latest actual selling price.	Bid.	Asked.
Atl. Coal, W. Va.	$10			$0.80
Blt. & N. C., N. C.	5	$0.02		.02
B'lt. M. & S., N. C.	..			.02
Big Vein C., Md.	10	1.00		
Conr. Hill, N. C.	5	.04		.04
Con. G. & C., N. C.	5			02
Cons. Coal, Md.	100	30.00	$30.00	32.00
Ga. C. Coal, Md.	100	106.00	104.00	108.00
Gt. Rep'b., Colo.	5	.02		.02
How. C. & C., Md.	5	1.15		1.20
Lake Chr., Md.	5	.05		.10
Newb. O. C'l, Md.	25			
N. State (Balt.), N. C.	5	.05		.10
Ore Knob, Md.	10	.02		.05
Silv. Val., N. C.	5	.25		.20
Ver. M. Co., Md.	5			.10

Philadelphia, Pa. Nov. 15.

	Par val.	Bid.	Asked.
Blooming. C. & C. Co.	$50		
Cambria Iron Co.	50	$47	$60
Connellsville Gas Co.	10		
Central C. & C. Co	100		
do. pref.	100		85
Locust Mt. C. & I. Co.	50		
North Liberties Gas	25		35
Penn. Nat. Gas	..	*12	*11½
Penn. Salt Co.	50	95	100
Penn. Steel Co.	100	*23	
Penn. Gas Coal Co.	50		42½
Westmoreland Coal	50	50	51½
Wyoming Valley Co.	100		

*Actual selling price.

London, England.

(From our Special Correspondent.)

	Par value. £	s.	d.	Nov. 7, 1894. Buyer. £	s.	d.	Seller. £	s.	d.
Al'ska Mex., Al.	1	0	0	1	6	3	1	8	9
Al'ka-Tr'dwell, Alaska	5	0	0	3	12	6	3	17	6
Alma, & T., Mex		2	6			1½			7½
Am. Belle, Col.	1	0	0		1	6		2	0
De Lamar, Id.	1	0	0	1	3	6	1	4	0
E. K'tenay Ex., B. C.					12	6		15	0
Elkhorn, Mont	1	0	0		12	3		12	9
Emma, Utah		5	0			3			6
G. Feather, Cal	1	0	0		3	9		4	3
Golden G., Cal.	1	0	0		2	6		3	6
G Leaf, Mont. & N. M.	1	0	0		3	9		4	3
Harqua H., Ari	1	0	0		5	0		6	0
Holc'b Val., Cal		5	0			9			10
JayH'k & Lone Pine, Mont.	1	0	0		3	6		4	6
La Yesca, Mex	1	0	0			6		1	0
N. Guston. Col	1	0	0		13	9		16	3
N. Mont., Mont	1	0	0		14	0		14	6
Palm'rejo, Mex	1	0	0		1	3		1	9
Pin. Alt., Mex.	1	0	0		6	3		7	6
Pi. Alt., Mex., P	1	0	0		12	6		17	6
Pl. Eureka, Cal					11	3		13	9
Poorman C., Id		5	0		1	9		2	3
Rich. C., Nev.	5	0	0		9	0		11	0
Sier. But., Cal	2	0	0		8	0		10	0
Springd. G. Col		4	0		1	3		1	9
Un. Mex., Mex.	1	0	0		1	3		1	9

Denver, Colo. Nov. 12.

	Par value.	High.	Low.	Sales.
Adele				
Alamo				
Amity		.01¼		9,000
Anaconda		.21¾	.24	500
Aola		.02		2,000
Argentum		1.15		300
Bankers				
Bangkok		.03½		200
Big Six				
Boston-Id		.14	.13¾	700
Bushwhacker				
Calumet				
Cr. & Cr. Cr'k		.01¾		12,500
Fannie R.				
Garfield-Gr'se.				
Golden D.		.00 3/10		20,000
Golden E.				
Golden T.				
Gold S.				
Isabella				
Jack Pot				
Justice				
Lottie Gibson				100
Mollie Gibson		2.09		500
Mt. Rosa		.01⅝		1,500
Pharma		.07¼	.06⅞	1,200
Portland		.32		
Summit				
Union Gold				
Western M.				
Work				
World				

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Par	Assessments. Total Levied	Date and amount of last.			Dividends. Total paid.	Date & amount of last.		
1	Adams, s. l. c.	Colo.	$1,500,000	150,000	$10	*				$637,500	Jan.	1892	.05
2	Alaska-Treadwell, g.	Al'ska	5,000,000	200,000	25					2,050,000	July.	1894	.75
3	Alice, s.	Mont.	10,000,000	400,000	25	*				975,000	Nov.	1891	.06¼
4	Amador, g.	Cal.	1,250,000	250,000	5	*				31,250	Aug.	1890	.12½
5	American, g.	Colo.	3,000,000	300,000	10	*				225,000	Mar.	1892	.05
6	American Belle, s.g.c	Colo.	2,000,000	400,000	5	*				50,000	April	1891	.12½
7	Americ'n&Nettie, g.s	Colo.		300,000						175,000	Mar.	1892	.05
8	Atlantic, c	Mich.	1,000,000	40,000	25	280,000	April	1875	$1.00	700,000	Feb.	1891	..00
9	Argyle, g.	Colo.	1,000,000	1,000,000	1	*				20,000	Mar.	1892	.01
10	Aspen Mg. & S., s. l.	Colo.	2,000,000	200,000	10	*				900,000	Dec.	1893	.10
11	Aurora, i.	Mich.	2,500,000	100,000	25					650,000	Feb.	1893	2.00
12	Badger, s	Ont.	250,000	50,000	5					37,500	Mar.	1890	.25
13	Bald Butte	Mont.	250,000	250,000	1	*				295,000	Oct.	1894	.05
14	Bates Hunter, s. g.	Colo.	1,000,000	1,000,000	1					67,500	Dec.	1891	.00¾
15	Belle Isle, s.	Nev.	10,000,000	100,000	100	230,271	Sept	1893	.10	300,000	Dec.	1879	.25
16	Belcher, s. g.	Nev.	10,400,000	104,000	100	3,262,900	Nov.	1893	.20	15,397,000	April	1876	1.00
17	Bellevue, Idaho, s. l.	Idaho	1,250,000	125,000	10	120,000	Dec.	1889	.25	200,000	Jan.	1890	.10
18	Best Friend	Colo.	1,000,000	1,000,000	1	*				90,000	Feb.	1892	.01
19	Bi-Metallic, s. g.	Mont.	5,000,000	200,000	25					1,630,000	June	1893	.10
20	Bodie Con., g. i.	Cal.	10,000,000	100,000	100	714,990	July	1893	.15	1,628,572	Oct.	1894	.25
21	Boston & Mont., g.	Mont.	2,500,000	250,000	10	*				520,000	June	1886	.15
22	Boston & Mont., c. s.	Mont.	3,125,000	125,000	25	*				2,075,000	Nov.	1891	1.00
23	Brotherton, i.	Mich.	2,000,000	80,000	25	*				120,000	Mar.	1893	.50
24	Bulwer, g.	Cal.	10,000,000	100,000	10	155,000	July	1893	.15	190,000	Oct.	1892	.05
25	Bunker Hill & S.s.l.	Idaho	3,000,000	300,000	10	*				150,000	Oct.	1888	.06
26	Caledonia, g.	Dak.	1,000,000	100,000	100	505,000	May.	1885	.15	192,000	Oct.	1890	.06¼
27	Calumet & Hecla c	Mich.	2,500,000	100,000	25	1,200,000				40,850,000	Aug.	1894	5.00
28	Centen'l-Eureka, s.l.	Utah.	1,500,000	30,000	50	30,000	Mar.	1888	1.00	870,000	Oct.	1894	.50
29	Central, c.	Mich.	500,000	20,000	25	100,000	Oct.	1861	.65	1,970,000	Feb.	1891	1.00
30	Champion, g	Cali	340,000	34,000	10	150,000				183,900	July.	1894	.10
31	Chrysolite, s. l.	Colo.	10,000,000	200,000	50	*				1,650,000	Dec.	1884	.25
32	Cœur D'Alene, s. l.	Idaho	5,000,000	500,000	10					340,000	June	1893	.03
33	Colorado Central, s.l.	Colo.	2,750,000	275,000	10	*				502,661	April	1893	.05
34	Commonwealth, s.	Nev.	10,000,000	100,000	100	200,000	Nov.	1893	.10	20,000	Nov.	1890	.20
35	Confidence, s. l.	Nev.	2,496,000	24,960	100	1,589,550	Aug.	1892	.50	199,680	April	1889	1.00
36	‡Cons. Cal. & Va., s.g	Nev.	21,600,000	216,000	100	216,000	Dec.	1892	.50	3,682,800	Aug.	1891	.50
37	Contention, s.	Ariz.	12,500,000	250,000	50					2,637,500	Aug.	1892	.20
38	Cook's Peak, s.	N. M.	2,000,000	200,000	10					119,532	Nov.	1892	.05
39	‖Cop. Queen Con., c.	Ariz.	2,000,000	200,000	10					1,710,000	Aug.	1894	.25
40	Coptis	Nev.	10,000,000	100,000	100					67,000	July.	1892	.12
41	Cortez, s.	Nev.	1,500,000	300,000	05	*				687,000	Mar.	1892	.50
42	Crescent, s. l. g.	Utah.	15,000,000	600,000	25	60,000	Oct.	1892	.10	238,000	Oct.	1888	.03
43	Crown Point, g. s.	Nev.	10,000,000	100,000	100	2,750,000	June	1893	.25	11,898,000	Jan.	1875	.00
44	Daly, s. l	Utah.	3,000,000	150,000	20					2,850,000	May.	1893	.25
45	†Deadwood-Terra, g.	Dak.	5,000,000	200,000	25	*				1,140,000	Sept.	1892	.05
46	DeLamar, g s	Idaho	2,000,000	400,000	25					1,450,000	July.	1894	.25
47	Derbec B. Grav., g.	Cal.	10,000,000	100,000	100	100,000	Sept.	1892	.10	265,000	Mar.	1894	.05
48	Dexter, g. s	Nev.	1,000,000	100,000	10					105,000	July	1893	.25
49	Elkhorn, s.	Mont.	1,000,000	200,000	5	*				1,337,363	Sept.	1894	.25
50	Elkton	Colo.	500,000	500,000	1					40,000	Aug.	1894	.01
51	Enterprise, s.	Colo.	2,500,000	500,000	5	*				850,000	June.	1893	.25
52	Eureka Con., s. l. g.	Nev.	1,000,000	50,000	100	550,000	June	1889	.50	5,112,500	Jan.	1892	.25
53	Evening Star, s. l.	Colo.	500,000	50,000	10	*				1,437,500	Dec.	1889	.25
54	Father de Smet, g.	Dak.	10,000,000	100,000	100	200,000	Nov.	1878	1.00	1,125,000	Dec.	1885	.20
55	Franklin, c.	Mich.	1,000,000	40,000	25	220,000	June	1871		1,240,000	Dec.	1893	2.00
56	Glengarry	Mont.	1,000,000	100,000	10					10,000	June.	1891	.10
57	Golden Reward	S.Dak	1,250,000	250,000	5					100,000	July.	1894	.05
58	Gould & Curry, s. g.	Nev.	10,800,000	108,000	100	4,688,400	Oct.	1893	.10	3,826,800	Oct.	1870	10.00
59	Grand Prize, s.	Nev.	10,000,000	100,000	100	785,000	Jan.	1890	.30	495,000	Mar.	1884	.25
60	Granite Mountain, s.	Mont.	10,000,000	400,000	25					12,120,000	July.	1892	.20
61	Great Western, l. q.	Cal.	5,000,000	50,000	100					388,366	Nov.	1893	.25
62	Hale & Norcross, g. s.	Nev.	11,200,000	112,000	100	5,646,800	June	1893	.50	1,822,000	Aug.	1888	.50
63	Hecla Con., s. g. l. c.	Mont.	1,500,000	30,000	50					1,950,000	Oct.	1894	.01
64	Hel'a Mg. & Red, s.l.g.	Mont.	3,315,000	663,000	5	*				197,970	July.	1886	.06
65	Helena & Frisco, s.l.	Idaho	2,500,000	500,000	5					170,000	July.	1891	.02
66	Helena & Victor	Mont.	1,000,000	200,000	5					80,000	May.	1892	.05
67	¶Holmes, s.	Nev.	10,000,000	100,000	100	345,000	Mar.	1890	.25	75,000	Apr.	1892	.25
68	Homestake, g.	Dak.	12,500,000	125,000	100	200,000	July.	1878	1.00	5,237,500	Aug.	1894	.20
69	Hope, s.	Mont.	1,000,000	100,000	10	*				583,250	Oct.	1894	.25
70	Horn-Silver, s. l.	Utah.	10,000,000	400,000	25	*				4,930,000	July.	1894	.12½
71	Idaho, g.	Cal.	310,000	3,100	100					5,489,000	Sept.	1893	2.50
72	Illinois, s.	N. M.	100,000	100,000	1	*				45,000	April	1889	.20
73	Iron Mountain, s.	Mont.	5,000,000	500,000	10	*				265,000	Feb.	1894	.02
74	Iron-Silver, s. l.	Colo.	10,000,000	500,000	20	*				2,500,000	April	1889	.20
75	Jackson, g. s.	Nev.	5,000,000	50,000	100	247,500	Mar.	1893	.20	60,000	Jan.	1891	.10
76	Kearsarge, c.	Mich.	1,000,000	40,000	25	190,000	Oct.	1887	1.00	80,000	Jan.	1890	2.00
77	Kennedy	Cal.	10,000,000	100,000	100					1,410,000	July.	1894	.45
78	Kentuck, s. g.	Nev.	3,000,000	30,000	100	454,180	Oct.	1891	.15	1,350,000	Dec.	1886	.10
79	Leadville Con., s. l.	Colo.	4,000,000	400,000	10	*				516,000	Feb.	1893	.03
80	Lexington, g. s.	Mont.	4,000,000	40,000	100	*				652,200	July.	1893	.90
81	Little Chief, s. l.	Colo.	10,000,000	200,000	50	*				820,000	Dec.	1890	.05
82	Maid of Erin	Colo.	3,000,000	600,000	5					708,900	April	1893	.25
83	Mammoth, s. l. c.	Utah	10,000,000	400,000	25	110,000		1882	.25	1,040,000	Dec.	1891	.10
84	Maxfield	Utah	3,000,000	300,000	10					117,000	April	1892	.03
85	Mayflower, d. gravel	Cal.	1,200,000	60,000	20					208,000	July.	1894	.10
86	Minas Prietas, g. s.	Mex.	1,000,000	100,000	10					350,000	Dec.	1890	.50
87	Minnesota, c.	Mich.	1,000,000	40,000	25	420,000	April	1886	1.00	1,820,000	Mar.	1876	
88	Minnesota Iron, i.	Minn.	16,500,000	165,000	100					2,745,000	April.	1893	1.50
89	Mollie Gibson, s.	Colo.	5,000,000	1,000,000	5	*				3,930,000	Dec.	[illegible]	.05
90	Monitor, g.	S.Dak	2,500,000	250,000	10					45,000	Oct.	1890	.03
91	Mono, g.	Cal.	5,000,000	50,000	100	797,500	Feb.	1893	.25	12,500	Mar	1886	.25
92	Montana, Lt., g. s.	Mont.	3,300,000	660,000	5	*				2,619,075	June.	1891	12½
93	Moose	Colo.	600,000	600,000	1					48,000	July.	1894	.02
94	Morning Star, s. l.	Colo.	1,000,000	100,000	10					1,025,000	Dec.	1891	.25
95	Morning Star Drift, g	Cal.	240,000	2,400	100					242,400	July.	1894	4.00
96	Moulton, s. g.	Mont.	2,000,000	400,000	5	*				410,000	Nov.	1892	.07½
97	Mt. Diablo, s.	Nev.	5,000,000	50,000	100	137,500	June	1880	2.00	225,000	Nov.	1893	.30
98	Napa, q.	Cal.	700,000	100,000	7					630,000	July.	1894	.10
99	Navajo, g. s.	Nev.	10,000,000	100,000	100	538,714	Sept.	1893	.10	226,111	April	1889	.10
100	New Guston, s.	Colo.	550,000	110,000	5					1,877,500	April	1892	.75
101	North Banner Con.	Cal.	1,000,000	100,000	10					20,000	July.	1891	.05
102	North Commonw'th	Nev.	10,000,000	100,000	10	90,000	Jan.	1893	.10	25,000	June.	1891	.25
103	N. Hoover Hill, g. s.	N. C.	300,000	120,000	2½	*				30,000	Dec.	1885	.06¼
104	North Belle Isle, s.	Nev.	10,000,000	100,000	100	513,075	April	1893	.10	230,000	May.	1888	.50
105	North Star, g.	Cal.	1,000,000	100,000	10	20,000		1885	.02	450,000	June	1893	.50
106	Omaha Cons., g.	Cal.	2,400,000	24,000	100					97,200	July.	1894	.15
107	Ontario, s. l.	Utah	15,000,000	150,000	100					13,175,000	Oct.	1892	.50
108	Ophir, g. s.	Nev.	10,000,000	100,000	100	4,391,040	July.	1893	.25	1,595,800	Jan.	1880	1.00
109	Osceola, c.	Mich.	1,250,000	50,000	25	480,000	April	1876	1.60	1,847,500	Dec.	1892	1.00
110	Pacific Coast, b.	Cal.	1,500,000	15,000	100					422,500	July.	1893	1.00
111	Parrot, c.	Mont.	1,800,000	180,000	10					1,569,000	June	1893	.10
112	Petro	Utah.	10,000,000	10,025	100					17,500	July.	1891	.75
113	Plumas Eureka, g.	Cal.	1,406,250	140,600	10					2,696,295	Oct.	1893	.18
114	Plymouth Con., g.	Cal.	5,000,000	100,000	50	*				2,280,000	Feb.	1888	.40
115	Poorman, g. s.	Idaho	375,000	300,000	125	*				68,260	Sept.	1892	
116	Portland	Colo.	3,000,000	3,000,000	1					90,000	July.	1894	.03
117	Quicksilver, pref., q.	Cal.	4,300,000	43,000	100					1,823,911	June	1891	1.25
118	" com., q	Cal.	5,700,000	57,000	100					643,867	July.	1882	.40
119	Quincy, c.	Mich.	1,250,000	50,000	25	200,000	Dec.	1862		7,070,000	Aug.	1894	4.00
120	Red Cloud	Idaho	1,000,000	200,000	5					153,000	Dec	1892	.10
121	Retriever, l.	S.Dak	1,250,000	250,000	5					20,000	Aug.	1891	.03
122	Rialto, g.	Colo.	300,000	300,000	1	*				50,250	April	1892	.01½
123	Richmond, s. l.	Nev.	1,350,000	54,000	25	*				4,359,887	Oct.	1893	[illegible]
124	Rico-Aspen	Colo.	5,000,000	1,000,000	5					325,000	Nov.	1894	.02½
125	Ridge, c.	Mich.	1,250,000	50,000	25	219,939	Mar.	1886	50	99,785	Feb.	1880	.50
126	Robinson Con., s. l.	Colo.	10,000,000	200,000	50	*				585,000	Mar.	[illegible]	.05
127	Savage, s.	Nev.	11,200,000	112,000	100	6,966,000	June	1893	.25	4,460,000	June	1869	3.00
128	Sierra Buttes, g.	Cal.	2,225,000	122,500	10					1,559,933	Oct.	1893	.12½
129	Sierra Nevada, s. g.	Nev.	10,000,000	100,000	100	6,521,910	Aug.	1893	.20	102,000	Jan.	1871	1.00
130	Silver Cord, s. l. g.	Colo.	4,500,000	450,000	10					265,000	April	1889	.10
131	Silver King, s.	Ariz.	10,000,000	100,000	100	97,479	Aug.	1892	.25	1,950,000	July	1887	.25
132	Silver Mg. of L.V., s.l.	N. M.	500,009	500,000	1					300,000	Dec.	1891	4.05
133	Small Hopes Con., s.	Colo.	5,000,000	250,000	20	*				3,225,000	Oct.	1893	.10
134	Standard, g. s.	Cal.	10,000,000	100,000	100	100,000	June	1890	.50	3,741,159	July	1894	.10
135	Swansea, g. s.	Colo.	600,000	60,000	10					39,000	Sept.	1893	.10
136	Tamarack, c.	Mich.	1,250,000	50,000	25	520,000	April	1885	3.00	3,870,000	June	1894	4.00
137	Trinity Riv'r Hydr., g	Colo.	500,000	500,000	1	*				37,500	Apr.	1891	.00¼
138	Union	Colo.	1,250,000	1,250,000	1					25,000	Aug.	1894	.00½
139	United Verde, c.	Ariz.	3,000,000	300,000	10	*				207,500	Jan	1892	.10
140	Victor, g	Colo.	1,000,000	200,000	5					170,000	Sept.	1894	.10
141	Ward Con., s.	Colo.	2,000,000	200,000	10					20,000	Dec.	1889	.05
142	W. Y. O. D.	Cal.	60,000	30,000	2	22,500	May.	1891	.10	78,000	July.	1894	.10
143	Yankee Girl, s	Colo.	1,300,000	260,000	5					1,405,000	Sept.	1893	1.50
144	Yellow Jacket, g. s.	Nev.	12,000,000	120,000	100	5,556,000	July.	1893	.25	2,184,000	Aug.	1871	1.50

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Par	Assessments. Total levied.	Date and amount of last		
1	Alliance, s. g.	Utah.	$100,000	100,000	$1	$120,000	Feb.	1891	.10
2	Alloues, c.	Mich.	2,000,000	80,000	25	1,424,937	Oct.	1891	.10
3	Alpha Con., g. s.	Nev.	3,000,000	30,000	100	209,000	Sept.	1892	
4	Alta, s.	Nev.	10,080,000	100,800	100	3,369,880	Jan.	1892	.10
5	American Flag, s.	Colo.	1,250,000	125,000	1	300,000	June	1887	
6	Anchor, s. l. g.	Utah.	3,000,000	150,000	5	560,000	July.	1893	[illegible]
7	Barcelona, g.	Nev.	5,000,000	200,000	5	*			
8	Belmont, g.	Cal.	500,000	500,000	100	*			
9	Belmont, s.	Nev.	5,000,000	50,000	100	735,000	April	1886	.10
10	Best & Belcher, s. g.	Nev.	10,080,000	100,800	10	2,405,275	Aug.	189	.25
11	Black Oak, g.	Cal.	3,000,000	300,000	100	*			
12	Brownlow, g.	Colo.	250,000	250,000	5				
13	Brunswick, g.	Cal.	2,000,000	400,000	2				
14	Bullion, s. g.	Nev.	10,000,000	100,000	100	2,890,000	Aug.	1892	.25
15	Butte & Boston, c. s.	Mont.	5,000,000	200,000	10				
16	Butte Queen, g.	Cal.	1,000,000	100,000	1	6,000	Jan.	1892	
17	Calaveras, g.	Cal.	500,000	500,000	5				
18	Calaveras Con., g.	Cal.	800,000	160,000	10				
19	California, g.	Cal.	1,000,000	100,000	5	9,000	Mar.	1892	
20	California Con. i. q.	Cal.	2,250,000	450,000	10				
21	Challenge Con., g. s.	Nev.	5,000,000	50,000	10				
22	Chollar, s. g.	Nev.	11,200,000	112,000	2	1,820,000	May.	1892	.5
23	Colchis, s. g.	N. M.	500,000	150,000	5				
24	Colorado, s	Colo.	1,625,000	325,000	1				
25	Comstock, s.	Utah.	1,250,000	250,000	100				
26	Comstock Tun.	Nev.	10,000,000	100,000	100	35,000	Mar.	1887	.10
27	Con. Imperial, g. s	Nev.	5,000,000	50,000	50	2,062,500	Jan.	1892	.25
28	Con. New York, s. g.	Nev.	5,000,000	100,000	100	110,000	Mar.	1892	.10
29	Con. Pacific, g.	Cal.	6,000,000	60,000	10	198,000	June	1890	.10
30	Crescent, s. l.	Colo.	3,000,000	300,000	100	*			
31	Crocker, s.	Ariz.	10,000,000	100,000	1	165,000	Aug.	1892	.05
32	Crowell, g.	N. C.	500,000	500,000	1				
33	Dahlonega, g	Ga.	250,000	250,000	10	*			
34	Decatur, s	Colo.	1,500,000	300,000					
35	Denver City s.	Colo.	5,000,000	500,000	11	*			
36	Denver Gold, g.	Colo.	300,000	60,000	5				
37	Dickens-Custer, s.	Idaho	2,100,000	420,000	5				
38	Durango, g.	Colo.	500,000	500,000	1	*			
39	El Dorado, g.	Cal.	1,000,000	250,000	4	*			
40	Emma, s	Utah.	625,000	500,000	125				
41	Emmons, s. l.	Colo.	2,000,000	2,000,000	1				
42	Empire, s.	Utah.	10,000,000	100,000	100				
43	Eureka Tunnel, s. l.	Nev.	10,000,000	100,000	100	*			
44	Exchequer, s. g.	Nev.	10,000,000	100,000	100	940,000	Jan.	1892	.25
45	Found Treasure, g. s.	Nev.	10,000,000	100,000	100	130,500	Jan.	1892	.50
46	Gogebic I. Syn., i.	Wis.	5,600,000	200,000	25				
47	Gold Cup, s.	Colo.	500,000	500,000	1	*			
48	Golden Era, s.	Mont.	1,000,000	200,000	10	*			
49	Gold Flat, g.	Cal.	1,000,000	100,000	10	5,000	Mar.	1892	.05
50	Gold Rock, g.	Cal.	1,000,000	500,000	2				
51	Golden FeatherCo., g	Cal.	900,000	180,000	5				
52	Goodyear g. s. l	Mont.	1,000,000	200,000	5	13,000	Feb.	1892	.01
53	Grand Duke, s.	Colo.	800,000	80,000	10				
54	Gregory Con., g.	Mont.	3,000,000	300,000	10				
55	Harlem M. & M. Co., g.	Cal.	1,000,000	200,000	5				
56	Hartery Con., g.	Cal.	1,000,000	100,000	10	22,000	Oct.	1890	.05
57	Hartshorn, g s. l.	S.Dak	1,250,000	250,000	5	8,750	Sept.	1891	.00⅛
58	Head Cent. & Tr., s. g	Ariz.	10,000,000	100,000	100	16,981	Mar.	1892	.03
59	Hector, g.	Cal.	1,500,000	300,000	5	45,000	Jan.	1889	.15
60	Himalaya, g. s. l.	Utah.	1,800,000	80,000	10	12,800	Oct.	1892	.00⅛
61	Holywood	Cal.	200,000	100,000	2				
62	Huron, c.	Mich.	1,000,000	40,000	25	280,000	May.	1887	3.00
63	Idaho, g. s	Idaho	1,250,000	250,000	5				
64	Ingalls, g	Colo.	100,000	20,000	5				
65	Ironton, i.	Wis.	1,000,000	40,000	25				
66	Iroquois, c.	Mich.	1,250,000	50,000	25				
67	Kentuck Con.	Nev.	10,500,000	105,000	00	57,750	July	1892	.10
68	Julia Con., g. s.	Nev.	11,000,000	110,000	100	1,463,000	Jan.	1889	.10
69	Justice, g. s. c.	Colo.	500,000	500,000	1	*			
70	Lacrosse, g.	Colo.	1,000,000	100,000	10	*			
71	Little Josephine, s.	Colo.	250,000	50,000	5				
72	Lone Star Cons., g.	Cal.	500,000	500,000	1	10,000	April	1892	.00⅛
73	Madeleine, g. s. l.	Colo.	750,000	50,000	1	4,500	Feb.	[illegible]	.00⅛
74	Mammoth Gold, g.	Ariz.	2,500,000	500,000	5	*			
75	Mayflower Gravel, g.	Cal.	1,000,000	100,000	10	*			
76	Mexican, g. s.	Nev.	10,000,000	100,000	100	2,917,560	Oct.	1892	.50
77	Michigan, g s	Mich.	2,500,000	100,000	25	40,000	Mar.	1892	
78	Mike & Starr, s. c.	Colo.	1,000,000	200,000	5	*			
79	Milwaukee, s.	Mont.	500,000	500,000	1	*			
80	Modoc Chief, l. s. g.	Idaho	1,000,000	200,000	5	5,000	Jan.	1892	.00⅛
81	Monitor, g.	Colo.	100,000	100,000	1	* 12,500	May.	1891	.01
82	Montreal, g. s. l.	Utah.	750,000	150,000	5	4,500	Feb.	1892	.00⅛
83	Mutual Mg. & Sm.	W'sh.	100,000	100,000	1	*			
84	Neath, g.	Colo.	1,000,000	100,000	10				
85	Nelson	Cal.	50,000	10,000	5				
86	Nevada Queen, s.	Nev.	10,000,000	100,000	100	200,000	Oct.	1889	.25
87	New Gold Hill	N. C.	1,750,000	350,000	5				
88	New Pittsburg, s. l.	Colo.	2,000,000	200,000	10	*			
89	North Standard, g.	Cal.	10,000,000	100,000	100	20,000	Nov.		
90	Occidental Con., g.s		10,000,000	100,000	100	245,000	April	1892	.25
91	Oneida Chief, g.	Cal.	500,000	125,000	100	*			
92	Oriental & Miller, s.	Nev.	10,000,000	400,000	100				
93	Original Keystone, s.	Nev.	10,000,000	100,000	100	250,000	Mar.	1892	.10
94	Osceola, g.	Nev.	5,000,000	500,000	10	*			
95	Overman, g. s.	Nev.	11,520,000	115,200	100	4,001,840	May.	1892	.10
96	Pay Rock, s.	Colo.	1,000,000	200,000	5				
97	Peer, s.	Ariz.	10,000,000	100,000	100	190,000	Feb.	1892	.10
98	Peerless, s.	Ariz.	10,000,000	100,000	100	405,000	Oct.	1890	.15
99	Pennsylva's Cons., g	Cal.	5,150,000	515,000	10	36,050	Feb.	1892	.10
100	Phœnix, g.	Ariz.	500,000	500,000	1	*			
101	Phœnix Lead, s. l.	Colo.	100,000	100,000	1	*			
102	Pilgrim, g	Cal.	600,000	300,000	2	*			
103	Pioche M.&R., s.g.l.	Utah.	20,000,000	000,000	10				
104	Poorman, Ltd., s. l.	Idaho	250,000	50,000	5				
105	Potosi, s.	Nev.	11,200,000	112,000	100	1,573,000	Mar.	1890	.50
106	Proustite, s.	Idaho	250,000	250,000	1	*			
107	Puritan, s. g.	Colo.	1,500,000	150,000	10	*			
108	Quincy, c	Colo.	3,000,000	300,000	10				
109	Rainbow, g.	S.Dak	1,250,000	250,000	5	4,250	July.	1892	.00⅛
110	Rappahannock, g. s.	Va.	250,000	250,000	1	*			
111	Red Mountain, s.	Colo.	300,000	60,000	5				
112	Ropes, g. s.	Mich.	2,000,000	80,000	25	167,200	Feb.		.50
113	Ruby & Dun., s. l. g.	Nev.	25,300	506	50				
114	Russell, g.	N. C.	1,500,000	300,000	5				
115	Sampson, g. s. l.	Utah.	10,000,000	100,000	100	288,15[illegible]	July.	1888	1.08
116	Silver Age, s. l. g.	Colo.	2,000,000	200,000	10	*			
117	Silver Bell, s.	Ariz.	850,000	170,000	5				
118	Silver King, s.	Cal	2,000,000	400,000	5				
119	Silver Queen, c.	Ariz.	5,000,000	200,000	25	*			
120	Silverton, s	Colo.	300,000	60,000	5				
121	Siskiyou Con., l.	Cal.	2,000,000	200,000	10	13,000	May.	1892	.01⅛
122	South Bulwer, g	Cal.	10,000,000	100,000	100	100,000	May.	1881	.25
123	South Hite, g.	Cal.	10,000,000	100,000	100	195,000	Jan.	1883	.05
124	Stanislaus, g.	Cal.	2,000,000	200,000	10				
125	St. Kevin, s. g.	Colo.	100,000	100,000	1	*			
126	St. Louis & Mex., s.	Mex.	000,000	500,000	10	*			
127	St. Louis & St. Elmo.	Colo.	,000 000	200,000	10				
128	St. L. & Sonora, g. s.	Ariz.	3,000,000	300,000	10	*			
129	Stemwinder, l. s.	Idaho	,500,000	500,000	1				
130	Sunday Lake, i.	Mich.	250,000	50,000	25				
131	Sullivan Con., g.	Dak.	600,000	200,000	3	*			
132	Sylvanite, s.	Colo.	5,000,000	500,000	10	*			
133	Taylor-Plumas, g.	Cal.	425,000	65,000	5	3,575	Mar.	1892	.01⅛
134	Telegraph, g. s.	Cal.	325,000	65,000	5	3,575	Mar.	1892	.01½
135	Telegraph, g. s.	Mex.	100,000	100,000	1	70,000	Feb.	1892	.10
136	Teresa, g. s.	Cal.	1,000,000	200,000	5	10,000	Feb.	1888	.10
137	Tioga Con., g.	Nev.	10,000,000	100,000	10	295,000	May.	1888	25
138	Tornado Con., g. s.	Nev.	100,000	100,000	1	*			
139	Tuscarora, s.	Nev.	10,000,000	500,000	20	385,000	Jan.	1892	.25
140	Union Con., g. s.	Nev.	10,000,000	100,000	100	370,000	June	1892	.25
141	Utah, s.	Nev.	10,000,000	100,000	100	245,000	Aug.	1890	.25
142	Ute & Ulay, s. l.	Colo.	1,000,000	500,000	2	1,500	Mar.	1892	.001
143	Valley, g.	Cal.	575,000	460,000	125				
144	Washington, c.	Mich.	1,000,000	40,000	5				
145	West Argentine, s.	Colo.	750,000	150,000	5				
146	West Granite Mt., s.	Mont.	500,000	100,000	5				
147	Whale, s.	Mont.	5,000,000	500,000	10	*			
148	Wood River, g.	Idaho	2,000,000	200,000	10	3,000	Aug.	1891	.00⅛
149	Yuma, c. s. g.	Ariz.	10,000,000	400,000	2				

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. † The Deadwood previously paid $275,000 in eleven dividends and the Terra $75,000. ‡ Previous to the consolidation in August, 1884, the California had paid $31,320,000 in dividends, and the Cons. Virginia $42,390,000. ‖ Previous to the consolidation of the Copper Queen with the Atlanta, August, 1885, the Copper Queen had paid $1,350,000 in dividends. ¶ Previous to this company's acquiring Northern Belle, that mine paid $2,400,000 in dividends against $125,000 in assessments.

COLORADO SPRINGS, COLO.*

Name of Company.	Par value.	Nov. 5.		Nov. 6.		Nov. 7.		Nov 8.		Nov. 9.		Nov. 10.		Sales.
		H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	H.	L.	
Alamo	$1	.01⅝	.01½	....	....	.01½	.01½	.01⅝	.01½	.01⅝	......	.01⅜	....	2,000
Anaconda	5	.21½	.19½	...	...	.22½	.22½	.25	.23½	.24	.23½	.2½	......	6,538
Argent'm,J		1.11	1.09	..	...	1.12½	1.12	1.14	1.12½	1.10	1.10	1.07½	......	11,550
Cr. & C. C.	1	.01½	.01½	....	.....	.01½	.01½	.01⅝	.01½	.01⅝	.01⅝	.01⅝	.....	24,000
Cripple C. C	1	.01⅝	.01½	....	...	.01½	.01½	.01½	.01½	.01½	.01⅜	.01½	......	41,000
Fanny R.	1	.06½	.06	....	.....	.06¾	.06½	.07	.06¾	.07	.06¾	.07	....	500
Franklin.	1	.00¾	.007	...	......	.00⅝	.00⅝	.00⅝	.....	.00¾	.00⅝	.00¾	....	3,000
Golden Age	1		......	...	......	.00½	....	...		.00⅝	......	.00⅞	.....	...
Gold & Gl.	1	.03¾	.03¾	...	.....	.03⅞	.03¾	.04⅛	.03¾	.03¾	.03¾	.04	....	9,000
Isabella	1	.11¾	.11½	.....	......	.13	.12	.13	.13	..	.....	.17	....	26,900
Mollie G	5	2.00	2.07½	.....	......	2.07½	2.06	2.08	......	2.07½	2.06	2.08	....	10,470
Mt. Rosa	1	.04¾	.04⅝	....	.....	.04½	...	.04½	.04⅛	.04⅝	.04⅛	.04	....	18,000
Pharma	1	.06¾	.06	.....	..	.07	.06⅝	.07	.06⅞	.06⅞	.06⅝	.06⅞	...	35,300
Portland.	1	.32½	.30	.....	......	.31	.30½	.31	.30	.31⅛	......	.25	....	6,200
Specimen	1	.00¾	.00½	.....	......	.01½	......	.01	.....	.01⅛	.....	......	....	3,000
Summit	1	.11		....	.....	.11½	.11	......	....	.11⅛	.10	.11	......	....
Work	1	.02⅝	.02¼	......	......	.02⅜	......	.02½	.....	.02¼	......	.02½	...	2,000

* Official quotations of the Colorado Mining Stock Association. Total shares sold, 200,558.

Aspen, Colo

(Per Telegraphic Dispatch, Nov. 15.)

	Par val.	Clos'g
Argentum-Juniata, Colo	$2.00	$1.12
Aspen Contact, Colo	5.00	.35
Aspen Deep ...m, Colo	...	.05
Best Friend, Colo	....	.05
Bi-Metallic, Colo	1.00	.04
Bushwhacker, Colo	1.00	.07
Caverhill Cons., Colo	....	.10
Della S., Colo	....	....
Gold Valley Placer, Colo		.10
Little Annie. Colo	1.00	.04
Mollie Gibson Colo	5.00	2.10
Old Colony, Colo	....	.75
Pontiac, Colo	...	.04
Sheep Mt.T & M.Co.,Colo.	....	.25
Smuggler, Colo	5.00	2.10
St. Joe & Min. Farm, Colo.	....	.04
West Aspen Mount, Colo	....	.10

Salt Lake City, Utah.

Nov. 10.

Special Report by James A. Pollock.)

	Par val.	Bid.	Asked.	Actual selling price.
Alliance	$1	....	$2.00	$0.75
Anchor	20	$3.60	4.00	3.65
Bull.-B. and Champ'n.	10	8	10	10
Cent. E'reka	50	37½	42	37
Cleve., Con.	1	...	0.50	0.35
Comstock	25	....	0.30	0.28
Crescent	25	0.02	0.04	0.02
Dalton	5	0.01	0.03	0.03
Daly	20	5.00	6.50	5½

	Par val.	Bid.	Ask'd.	Actual selling price.
Daly West	$20	$5	$6.50	$7½
Horn Silver	25	$2½	3	2½
Little Pittsb	5	....	0.25	.10
Mammoth	25	1	1¼	1.15
Meears	25	....	1	.75
Mercur	25	2.50	3.50	2¾
Ontario	100	7	8	8
Silver King	20	12½	14	12¾
Silver Spar.	5	....	1	1
Tetro	1	....	0.25	.10
Utah	1	....	1	.75

* All the above companies are located in Utah.

Helena, Mont. Nov. 9.

(Special Report by S. K. Davis.)

	Par value.	Bid.	Ask'd.
Amer. Develop. Co., Mont	....	......	$3.00
Bald Butte (Mont.)	....	$4.00	4.25
Benton Gro'p (Neihart), Mont	....	.15	.25
Combination (Phillipsburg), Mont	...	.60	.75
Double Eage (Spotted Horse) Maiden	...	1.00	1.50
Helena & Frisco	....	....	1.25
Iron Mountain (Missoula), Mont	....	.45	.50
Ontario (Deer Lodge Co.)	....	1.10	1.25
Piegan (Marysville), Mont	....	.07½	.15
Poorman (Cœur d'Alene, Idaho	....	.30	.45

Pittsburg, Pa. Nov. 12.

Name and Location of Company.	Par val.	Actual selling price.	Bid.	Asked.
Gas Stocks:				
Allegheny	$100	$48½	$49	$50
Bridgewater	100	....	....	....
Chartiers Val.	100	....	8¾	10
Kittanning C	50	....	...	....
Manufactur's.	50	....	....	....
Nat.G., W. Va.	100	....	....	....
Ohio Valley	50	* 35½	...	....
People's Nat.	50	....	....	32½
" N. G. & P.	25	...	14½	
Pennsylvania.	50	....	....	11⅝
Phila. Co.	50	....	19¾	20
Union	50	....	....	....
West. & Cam.	50	....	....	....
Wheeling	50	....	22	....
Oil Co. Stocks:				
Columbia	50	..	....	....
Fisher	50	....	....	....
Forest	100	....	....	....
Hazelwood	50	....	....	....
Tuna	50	....	....	....
Washington	50	....	....	....
Coal Stocks:				
Chartiers Bl'k	50	....	....	....
Mansf. C.& C.	50	....	....	....
N.Y.&Cl.G.C.	50	....	....	46
Stanard	50	....	....	....
Mining Stocks:				
Charlotte	25	....	....	....
Enterprise	5	....	....	....
Hidalgo	10	....	....	....
Lustre	10	....	....	16
Red Cloud	5	....	....	....
Silverton.	10	....	....	....
Sterling Silv.	5	....	....	....
Yankee Girl	10	....	....	....

FOREIGN QUOTATIONS.

Paris, France. Nov. 5.

	Par val.	Fr'cs.
Acieries de Creusot	2,000	2,050.00
" de Firminy	500	1,725.00
" Fives-Lille	500	680.00
" de la Marine	500	856.50
Anzin (coal)	......	4,400.00
Boleo	......	500.00
Callao	125	16.50
Cape Copper	50	38.75
Champ d'Or	......	71.50
De Beers Consolidated	125	443.25
Dombrowa	500	492.00
Huanchaca	......	177.00
Jerez-Lanteira	......	7.00
" " parts	......	3.00
Langlaagte Estate	125	115.00
Laurium, Greece	500	575.00
Lexington, Mont.	......	27.00
" parts	.....	0.75
Malfidano (new shares)	500	760.00
Mines et Usines de Borax.	......	470.00
Mokta-el-Hadid	500	800.00
Nickel, New Caledonia	......	345.00
Pontgibaud	......	235.00
Rio Tinto. Spain	250	385.00
Robinson (Transvaal.)	125	180.00
Sud-Africaine	......	17.50
Tharsis, Spain	......	123.50
Uruguay	......	24.00
Vieille-Montagne, Belg'm.	80	490.00

Shanghai, China. Oct. 12.

(Special Report by J. H. Bissett & Co.)

	Par val.	T'ls.
Jelebu Mg. & Trad. Co., Ltd.	$5.00	4.02
Punjom Mining Co., Ltd	4.00	4.38
" " pref.	1.00	1.24
Raub A'lian G. Mg. Co., Ltd.	5.00	4.02
Sheridan Con. Mg. Co., Colo.	*100	1.00

*Taels.

ASSESSMENTS.

Company.	No.	Dinqt. in office.	Day of sale.	Amt. per sh're
Alpha Cons., Nev	13	Dec. 2	Dec. 21	.10
Black Hills Coal Co. Wyo.	1	....	....	......
Chall'ge Cons., Nev.	17	Dec. 4	Dec. 27	.05
Justice, Nev	57	Dec. 6	Dec. 27	.05
Lady Washing. Con., Nev	10	Nov. 9	Nov. 30	.05
N. Banner Con. T. Co., Cal	32	Nov. 6	Nov. 27	.03
N. Basil Con., Cal	27	Nov. 19	Dec. 10	.05
Occid'l Cons., Nev	18	Dec. 4	Dec. 27	.05
So. Eureka Mg. Co., Cal	14	Oct. 29	Nov. 26	.01
Starlight Mg. Co., Cal	3	Nov. 19	Dec. 10	.10
Transit Mg. Co.	....	Nov. 27	Dec. 11	......
Utah Con. M. Co., Nev	20	Nov. 1	Nov. 20	.05
Welcome, So. Dak	2	Nov. 19	Dec. 8	.50
West. Con. Va. & Cal., Nev	3	Oct. 30	Nov. 27	.25

CURRENT PRICES.

These quotations are for wholesale lots in New York unless otherwise specified.

Acid—Acetic, chem. pure .17@.19
Commercial, in bbls. and cbys. .01¾@.02
Carbonic, liquefied, ⅌ ℔ .18@.25
Chromic, chem pure, ⅌ ℔ 1.00
for batteries .40
Hydrobromic, dilute, U. S. P. .25@.30
Hydrocyanic, U. S. P .45@.50
Hydrofluoric .20@.30
Alcohol—95%, ⅌ gall $2.30@$2.40
Absolute $3.80
Ammoniated $2.80
Alum—Lump, ⅌ cwt $1.75@$1.85
Ground, ⅌ cwt $1.85@$1.90
Powdered, ⅌ ℔ .04½@.05
Lump ⅌ ton, Liverpool £5
Aluminum Chloride—Pure, ⅌ ℔. $1.25
Amalgamating solution, ⅌ ℔ .60
Sulphate, ⅌ cwt $1.90@$2.50
Ammonia—Sal., in bbl. lots, ⅌ ℔ .07½@.08
Carbonate, ⅌ ℔., English and German, .07½@.08
Muriate, white, in bbls., ⅌ ℔ .08½
Aqua Ammonia—(in cbys) 18° ⅌ ℔. .03@.04
20°, ⅌ ℔ .04@.05
26°, ⅌ ℔ .04¾@.05
Antimony—Oxymur, ⅌ ℔ .04@.06
Regulus, ⅌ ℔ .10@.11½
Argols—Red, powdered, ⅌ lb .15
Arsenic—White, powdered ⅌ ℔. .03@.03¾
Red ⅌ ℔ .065@.07
Yellow .08@.09
White at Plymouth, ⅌ ton £12 2 6
Asbestos—Canadian, ⅌ ton $15@$120
Italian, ⅌ ton, c. i. f. L'pool £18@£60
Ashes—Pot, 1st sorts, ⅌ ℔ 4.75@5
Pearl .05¾@.06¼
Asphaltum—
Prime Cuban, ⅌ ℔ .04@.05
Hard Cuban, ⅌ ton $28.00@$30.00
Trinidad, refined, ⅌ ton $30.00@$35.00
Egyptian and Syrian, ⅌ ℔ .05@.07½
Californian, at mine, ⅌ ton $12.00@$26.00
at San Francisco, ⅌ ton. $15.00@$29.00
Barium—Carbonate, pure, ⅌ ℔ .45
Carbonate, commercial. ⅌ ℔ .05@.10
Chlorate, crystal, ⅌ ℔ .75
Chloride, commercial, ⅌ ℔ .05@.10
pure, ⅌ ℔ .16
Iodide, ⅌ oz .40
Nitrate, ⅌ ℔ .06½@.07
Sulph., Am. prime white, ⅌ ton $17.50@$19
Sulph., foreign, floated, ⅌ ton $21@$24
Sulph., off color, ⅌ ton $11.50@$15.00
Carb., lump, f. o. b. L'pool, ⅌ ton £6
No. 1, Casks, Runcorn, " " £4 10 0
No. 2, bags, Runcorn, " " £3 15 0
Baurite—⅌ ton $5 @ $6
Bichromate of Potash—Scotch, ⅌ ℔ .11@.12
American, ⅌ ℔ .11@.12
Bichromate of Soda—⅌ ℔ .09½@.10
Borax—Refined, ⅌ ℔., in car lots .08@.09
San Francisco .08@.08½
Concentrated, in car lots .07½@.08
Refined, Liverpool ⅌ ton £22
Bromine—⅌ lb .25@.35
Cadmium Minion—⅌ lb $2.00
Cadmium Iodide—⅌ lb $5.50
Chalk—⅌ ton $1.50@$2.25
Precipitated, ⅌ ℔ .04@.06
China Clay—English, ⅌ ton $13@$18.00
Domestic, ⅌ ton $9@$11
Chlorine Water—⅌ ℔ .10
Chrome Yellow—⅌ ℔ .10@.25
Chrome Iron Ore—⅌ ton, San Francisco $10.00
Chromalum—Pure, ⅌ lb .35@.40
Commercial, ⅌ lb .02½
Cobalt—Oxide, ⅌ ℔ $1.60@$1.70
Copper—Sulph. English Wks. ton £20@£21
Vitriol (blue), ordinary, ⅌ ℔. .03¼@.03¾
" extra .04½
Nitrate, ⅌ ℔ .40
Copperas—Common, ⅌ 100 lbs .85@.95
Best, ⅌ 100 lbs $1.35@$1.50
Liverpool, ⅌ ton, in casks £2@£2 10s.
Corundum—Powdered, ⅌ ℔ .04½@.09
Flour, ⅌ lb .03
Cryolite—Pow., ⅌ ℔., bbl. lots .07@.08
Cyanide, Potassium—85 to 90%, ⅌ ℔ .50
No. 0, 67%, ⅌ ℔ .40
No. 1, 52 to 55%, ⅌ ℔ .36
No. 2, 40 to 45%, " .30
No. 3, Mining cyanide, per ℔ .28
No. 4, " " 30 to 35%, ⅌ ℔. .22
Emery—Grain, ⅌ ℔. (⅌ kg.) .04½@.05
Flour, ⅌ ℔ .02½@.04
Epsom Salt—⅌ ℔ .01@.01½
Feldspar—Ground, ⅌ ton $6.00@$10.00
Crude $2.00@$3.00
Fluorspar—Powdrd, No. 1, ⅌ ton. $20@$30
Lump, at mine $6@$8
French Chalk—
Fuller's Earth—Lump, ⅌ ton, $16@$20
Glauber's Salt—in bbls., ⅌ ℔ .01@.01¼
Glass—Ground, ⅌ ℔ .09@.10
Gold—Chloride, pure, crystals, ⅌ oz. $12.00
pure, 15 gr., c. v., ⅌ doz. $5.40
liquid, 15 gr., g. s. v., ⅌ doz $5.50
Chloride and sodium, ⅌ oz $6.00
15 gr., c. v., ⅌ doz. $2.75
Oxide, ⅌ oz $27.25
Gypsum—Calcined, ⅌ bbl. $1.25@$1.50
Land Plaster
Iodine—Resublimed, ⅌ oz .30@.33
Iridium—Oxide ⅌ ℔ $90
Iron—Nitrate, 40°, ⅌ ℔ .01@.01½
47°, ⅌ ℔ .02@.02½
Kaolin—*See China Clay.*
Kieserite—⅌ ton $9@$10
Lead—Red, American, ⅌ ℔ .06¾@.07½
White, American, in oil, ⅌ ℔. .06½@.07½
White, English, ⅌ ℔., in oil .08¼@.08¾
Acetate, or sugar of, white .06@.06½
Granulated
Nitrate .09@.12
Lime Acetate—Am. Brown .90@.95
" Gray. $1.75@$1.87½
Litharge—Powdered, ⅌ ℔ .05½@.07½
English flake, ⅌ ℔ .06@.09½
Magnesite—Crude, ⅌ ton of 1,015 kilos $14.75
Calcined, ⅌ ton of 2,240 lbs $22.00
Brick, ⅌ ton of 2,240 lbs $47.50
Manganese—Ore, per unit .23@.28
Oxide, ground, ⅌ ℔ .02½@.06½
Mercuric Chloride—(*Corrosive Sublimate*) ⅌ ℔ .62@.64
Powdered ⅌ q .5
Marble Dust—⅌ bbl $1.25@$1.50
Metallic Paint—Brown ⅌ ton. $20@$25
Red $20@$25
Mica—In sheets according to size.
1st quality, ⅌ ℔ .25@$6.00
Mineral Wool—Ordinary slag .01½
Ordinary rock .02½
Ground, ⅌ ton
Naphtha—Black
Nitre Cake—⅌ ton $10.00
Ochre—Rochelle, ⅌ ℔ .01¼@$01¾
Washed Nat Oxf'rd, Lump, ⅌ ℔. .06½@.06¾
Washed Nat Oxf'rd, Powder, ⅌ ℔. .07@.07½
Golden, ⅌ ℔ .03@.05
Domestic, ⅌ ton $12@$20
Oils, Mineral—
Cylinder, light filtered, ⅌ gal .14@.16
Dark filtered, ⅌ gal .10@.13
Extra cold test, ⅌ gal. .20@.24
Dark steam refined, ⅌ gal., .07½@.12
Phosphorus—⅌ ℔ .50@.55
Precip., red, ⅌ ℔ .80@.85
white, ⅌ ℔ .85@.90
Platinic Chloride—Dry, ⅌ oz $7
Plumbago—Ceylon, ⅌ ℔ .04@.06
American, ⅌ ℔ .05@.07
Potassium—Cyanide, ⅌ lb., C. P. .52
67%, ⅌ ℔ .40
mining .28@.30
Bromide, domestic, ⅌ lb .28@.32
Chlorate, English, ⅌ lb .18@.18¼
Chlorate, powdered, English, ⅌ ℔., .18½@.19
Carbonate, ⅌ lb., by casks, 82% .04½@.05
Caustic, ⅌ lb., pure slick .05½@.06
Iodide, ⅌ ℔ $2.58@$2.80
Nitrate, refined, ⅌ lb .06@.08
Bichromate, ⅌ lb .10@.11½
Yellow Prussiate, ⅌ ℔., 24½c. contr., 25c. single casks.
Red Prussiate, ⅌ ℔ .39@.45
Pumice Stone—Select lumps, ℔ .03½@.15
Original cks., ⅌ ℔ .01½@.02
Powdered, pure, ⅌ ℔ .01½@.01¾
Pyrites—Non-cupreous, p. units. .10@.11
Quartz—Ground. ⅌ ton $6.00@$10.00
Rotten Stone, Powdered, ⅌ ℔ .03¼@.03½
Lump, ⅌ ℔ .06@.07
Original cks, ⅌ ℔ .04½@.05½
Rubbing stone, ⅌ ℔ .03½@.04
Sal Ammoniac—lump, in bbls., ⅌ ℔. .80½
Salt—Liverpool, ground, ⅌ sack .700
Domestic, fine, ⅌ ton $7@$7.5
Common, fine, ⅌ ton $4.50@$5
Turk's Island, ⅌ bush .26@.28
Salt Cake—⅌ ton $10.00@$15.00
Saltpeter—Crude, ⅌ ℔ .03¼@.04
Soapstone—Ground, ⅌ ton $6@$8
Block and slab according to size.
Sodium—Prussiate, ⅌ ℔ .22@.24
Phosphate, ⅌ ℔ .04@.05
Stannate, ⅌ ℔ .06@.12
Tungstate, ⅌ ℔ .30@.35
Hyposulphite, ⅌ cwt., in casks $1.70@$1.80
Strontium—Nitrate, ⅌ ℔ .08½@.06
Sulphur—Roll, ⅌ ℔ .01½@.02¼
Flour, ⅌ ℔ .01¾@.02
Sylvinit, 27@35%, S.O.P., per unit, 3.75
Talc—Ground French, ⅌ ℔ .01¼@.01½
American No. 1, ⅌ ℔ .01¼@.01½
American No. 2 .006
Terra Alba—French, ⅌ ℔ .65@.80
English, ⅌ ℔ .65@.80
American, No. 1, ⅌ ℔ .60@.80
American, No. 2, ⅌ ℔ .40@.60
Tin—Crystals, in kegs or bbls .14@.15
feathered or flossed. .20
Muriate, single .07@.12
Double or strong, 54° B. .10@.15
Oxymur, or nitro .19
Vermilion—Imp. English, ⅌ ℔. .80
Am. quicksilver, bulk .57 @.59
Am. quicksilver, bags .58 @ .60
Chinese .85 @$1.00
Trieste .90 @ .95
American .11½@ .12
Zinc White—Am., Dry, ⅌ ℔. .04½@ .05
Antwerp, Red Seal, ⅌ ℔ .06¼@.07
Paris, Red Seal, ⅌ ℔ .07⅝@.08
Muriate solution. .06
Sulphate crystals in bbls., ⅌ ℔. .03@.03¾

THE RARER METALS.

The prices given below are the prices in Germany, and are per gramme except where otherwise stated:

Arsenic (metallic), per kilo $0.25
Barium (ex amalgam) 2.12
" (per electrol.) 7.75
Bismuth (metallic), per kilo 6.25
Cadmium (metallic), " 2.75
Calcium (per electrol.) 5.25
Cerium (pulv.) 2.25
" (fusum in globulis) 5.50
Chromium (fus.) .40
" (cryst.) .75
Cobalt (metallic), per kilo 10.00
" (pure), per kilo 40.00
Didymium (pulv.) 5.50
Erbium-Yttrium (oxydat.) 10.00
Gallium (cryst.) 100.00
Germanium (fus.) 37.50
" (pulv.) 35.00
Glucinum (pulv.) 7.00
" (cryst) 10.75
Indium 5.00
Iridium (fusum) 1.25
Lanthanum (pulv.) 6.00
" (per electrol.) 11.00
Lithium (in glob.) 5.00
" (wire) 6.25
Manganese (fusum) .25
Molybdenum (pulv.) .12½
Niobium (pulv.) 4.25
Osmium 1.00
Palladium (wire) .06
" (pulv.) 1.00
Potassium (metal), per kilo 27.50
Rhodium 1.63
Ruthenium 2.50
Rubidium 6.25
Selenium (cryst.) .50
" (precipitates) .62½
Strontium (per electrol.) 7.25
" (ex amalgam) 3.25
Tantalum 4.75
Tellurium (fusum) .50
" (precipitates) .22½
Thallium .03¾
Titanium 1.13
Tungsten (pure) .05
Uranium 1.08
Vanadium 4.00

RAILROAD MATTERS.

Mr. T. M. Hunt has been appointed traveling passenger agent of the Queen & Crescent, with headquarters at Dallas, Tex.

Mr. C. H. Schlacks has been appointed assistant general manager of the Denver & Rio Grande Railroad, with headquarters at Denver, Col.

Mr. J. H. Mills, New England freight agent of the Chicago, Rock Island & Pacific, with headquarters at Boston, died in that city November 5th.

Mr. M. W. Joyce, general agent of the Gulf, Colorado & Santa Fe at New Orleans, has been appointed general agent of the Mexican National at the same point.

Mr. W. R. Sweet, heretofore master of transportation of the Augusta Southern, has been appointed assistant general manager of that road, with headquarters in Augusta, Ga.

Mr. Haywood I. Norvell has been appointed commercial agent of the Seaboard Air Line, with headquarters at St. Louis, Mo., succeeding Mr. B. S. Terhune, who is transferred to Cincinnati.

Mr. C. A. Lawton, formerly commercial agent at St. Louis of the Missouri, Kansas & Texas road, has been appointed superintendent of the new Southwestern Weight and Inspection Bureau, with headquarters at St. Louis, Mo. The appointment is effective November 15th.

Mr. Edward P. Waring, who has been connected with the South Carolina & Georgia Railroad for a long time, and since October, 1891, has been general freight and passenger agent, has resigned to accept a position with the Central of Georgia, with headquarters at Charleston, S. C.

General Superintendent Whittlesey, of the Ohio Central, has been elected a member of the special committee on relations of railroad companies with their employees, of the American Society of Railroad Superintendents, at New York. The same society elected him a member of the committee on transportation.

Mr. Willard Kells has been appointed master mechanic of the New York, Lake Erie & Western shops at Cleveland, to succeed Mr. T. Carmody, who resigned some time ago. Mr. Kells is a son of the late Ross Kells, superintendent of motive power of that system, and has been foreman of the Erie shops at Meadville, Pa.

The report of the Master in Chancery on the petition of the Union Pacific receivers for relief from maintenance of non-paying branches of the road under lease and from obligations of the contracts made prior to receivership has been submitted to the court. It finds the contracts are not binding upon the receivers and advises that they be renounced, except as to the contract of the Rock Island and Chicago, Milwaukee & St. Paul roads for the Omaha bridge and tracks in Nebraska and the contract with the Union Pacific, Denver & Gulf, which petitions have been dismissed without prejudice, and the Northern Pacific contract cover the Montana Union road, for which compromise is pending, and the Oregon Navigation line, in which change of parties has been made. All branch roads are found non-paying, their incomes, as well as that of the main line, being insufficient to meet the operation, maintenance and interest. It advises that operation of all branch roads be continued under the readjustment of divisions of earnings, and that the main line make up the deficiencies, as these roads are necessary to the main line.

DIRECTORY OF EXPLOSIVE MANUFACTURERS.

ALPHABETICAL INDEX TO ADVERTISERS.

(-) Indicates every other week or monthly advertisements.

A

Abbott, Wheelock & Co..... 34
Adams, W. H..... 4
Advertising Rates..... 19
Ætna Powder Co..... 22
Ætna Foundry & Machine Co..... 12
Ainsworth, Wm..... 3
Aitcheson, R., Perf. Metal Co..... 16
Allen, Chas. A..... 12
Allis Co., Edw. P..... 27
Allison Coupon Co..... 11
American Developing and Mg. Co..... 21
American Metal Co..... 20
American Zinc Lead Co..... 34
Arms and Explosives..... 24
Armstrong Brothers..... 9
Askew & Russell..... 4
Atlantic Mining Co..... 14
Atlas Cement Co..... 1
Austen, Peter T..... 20
Australian Mining Standard..... 2

B

Bacon, E. C..... 27
Baker & Adamson..... 3
Baker & Co..... 3
Balbach Smelting & Refining Co..... 34
Baltimore Copper Works..... 20
Bandell, H. E..... —
Bath, Henry, & Son..... 20
Becker, Christian..... 3
Beckett Foundry & Machine Co..... 26
Benjamin, J. E..... 4
Berge, J. & H..... 3
Berlin Iron Bridge Co..... 10
Berwind-White Coal Mining Co..... 14
Bethlehem Iron Co..... 10
Bieber & Sohne, F. D..... 6
Bishop, Victor, & Co..... 23
Blake, Geo. F., Mfg. Co..... 12
Blake, T. A..... 27
Blandy, John F..... 4
Blauvelt, Harrington..... 4
Boggs, W. R., Jr..... 4
Boss, Clarence M..... 4
Boss, M. P..... 4
Bostelman, Lewis F..... 36
Boston & Montana Mining Co..... 14
Boston Ore Machinery Co..... 24
Bradley, Fred. W..... 4
Brandis Sons Co..... 2
Brandt, Randolph..... 21
Braschi, Victor M..... 4
Bristol Co..... 1
Broderick & Bascom Rope Co..... 16
Brodie, Walter M..... 4
Brown Hoisting & Con'ing Mch. Co..... 32
Brown Palace Hotel..... 21
Brown, Robt. G..... 4
Buckeye Engine Co..... 9
Bucyrus Steam Shov. & Dr'dge Co..... 30
Bullionist, The..... 31
Bullock & Crenshaw..... 3
Bullock, M. C., Mfg. Co..... 20
Burleigh Rock Drill Co..... 36
Burlingame, E. F..... 4
Butte & Boston Mining Co..... 14
Butters, Charles..... 4

C

California Wire Works..... 33
Cameron, A. S., Steam Pump W'ks..... 12
Campbell-Johnston, R. C..... 4
Canadian Copper Co..... 20
Carpenter, Geo. B., & Co..... 28
Carpenter, Franklin R..... 4
Case, Wm. H..... 4
Castner & Curran..... 14
Cazin, Franz..... 4
Chandler & Shapleigh..... 4
Channing, J. Parke..... 4
Chester Steel Castings Co..... 11
Chicago Rawhide Mfg. Co..... 28
Chrome Steel Works..... 11
Chur, A. T..... 2
Clayton Air Compressor Works..... 1
Clement, Victor M..... 4
Climax Fuse Co..... 22
Cohen, Herman & Co..... 21
Cole, Geo. J., & Co..... 6
Colliery Guardian..... 14
Collins, J. H. & Sons..... 4
Colorado Iron Works..... 31
Columbian University..... 6
Compress Wheel Co..... 10
Consolidation Coal Co..... 14
Contracts Open..... 18
Cooke & Co..... 19
Cookson & Co..... 34
Cooper, Hewitt & Co..... 33
Copper Queen Con. Mg. Co..... 14
Corcoran Scientific School..... 6
Correspondence School of Mines..... 6
Courtis, Wm. M..... 4
Coxe Bros. & Co..... 14
Crawford, John..... 21
Crawford, John S..... 4
Crescent Steel Co..... 11

D

Davis, F. M., Iron Works Co..... 16 & 32
Davis, H. J..... —
De La Bouglise, Geo..... 4
Denver & Rio Grande R. R..... 21
Denver Fire Clay Co..... 2
D'Este & Seeley Co..... 9
Detroit Copper Mining Co..... 14
Dewey, Fred P..... 4
Dewey-Walter Refining Co..... 1
Dickerman, Alton L..... 4
Dickinson & MacDonald..... 20
Dixon, Jos., Crucible Co..... 16
Donaldson, A. M., & Co..... 34

E

Eddy Valve Co..... 9
Ede & Burwell..... 4
Eimer & Amend..... 3
Electrical Plant & Electrical Industry. 16
El Minero Mexicano..... 25
Engelhardt, E. C..... 4
English, Geo. L., & Co..... 34
Epping, Carpenter & Co..... 13
Eureka Co..... 34
Exeter Machine Works..... 31

F

Farish, Wm. A..... 4
Fauth & Co..... 2
Fearn, Percy L..... 4
Financial Times..... 34
Fisk, W. W..... 4
For Sale Advertisements..... 19
Fraser & Chalmers..... 25
Freeland, Francis T..... 4
Freese, E. M. & Co..... 2
Freeman Foundry & Mach. Co..... 31
Frisbee Lucop Mill Co..... 26
Froehling, Dr. Henry..... 20
Frue Vanner Concentrator..... 30
Furlonge, W. H..... 4

G

Gates Iron Works..... 32
Garden City Sand Co..... 2
Garrison, A., Foundry Co..... 11
General Electric Co..... 32
Gold and Silver Extraction Co..... 30
Gooding, C. T..... 4
Goulds Mfg. Co..... 13
Grant, E. R..... 6
Gurley, W. & L. E..... 20

H

Haddock, Shonk & Co..... 14
Hahn, O. H..... 4
Halse, E..... 4
Hampton, Wm. Huntley..... 4
Handy & Harman..... 6
Hardman, John E..... 4
Harrington & King Perforat. Co..... 1 & 20
Harrison Safety Boiler Works..... 11
Hartford St'm Boiler Insp. & Ins. Co.. 9
Harvard University..... 6
Hasenzahl, W..... 20
Hastings, John B..... 4
Hedburg, Eric..... 4
Heil, Henry, Chemical Co..... 3
Hendrick Mfg. Co..... —
Hendrie & Bolthoff Mfg. Co..... 24
Hesse, Carl..... 4
Hiertz, T. & Son..... 9
Hine & Robertson..... 21
Hofmann, Ottokar..... 4
Holibaugh, J. R..... 4
Hoskins, William..... 3
Howard, Chas. M..... 4
Hunt, C. W., Co..... 28
Hunt & Robertson..... 20

I

Ihne, Dr. F. W..... 4
Illinois Smelting Co..... 1
Indian Engineering..... 34
Ingersoll-Sergeant Rock Drill Co..... 36
Iron & Coal Trades Review..... 28

J

James & Shakspeare..... 20
Jeanesville Iron Works..... 13
Jeffrey Manufacturing Co..... 16 & 33
Jenkins Bros..... 1
Jennings, E. P..... 4
Jessop, Wm., & Sons, Ltd..... 11
Jones & Jones..... 4
Jones & Rhett..... 6
Joplin Machine Works..... 31
Jopling & Escobar..... 4
Journal of the Asso. of Engineering Societies..... 16

K

Kansas City Sm. & Ref. Co..... 35
Kearsarge Mining Co..... 8
Keasbey & Mattison Co..... 1
Kennedy, Julian..... 5
Kerr, Mark B..... 5
Keuffel & Esser Co..... 2
Keyes, W. S..... 5
Kimbark, S. D..... 10
Kirby, Edmund B..... 5
Knight, F. C..... 2
Knowles Steam Pump Works..... 12
Krom, S. R..... 25
Krupp, F..... 24

L

Laflin & Rand Powder Co..... 22
Lands and Mines for Sale..... 19
Lau, J. H. & Co..... 22
Lavagnino, G..... 5
Lawrence Scientific School..... 6
Ledoux & Co..... 20
Leffel & Co., James, The..... 28
Leggett, Thomas H..... 5
Leschen, A., & Sons' Rope Co..... 16
Lewisohn Bros..... 20
Lexow, T..... 23
Lloyd & Rigney..... 5
Loring, Frank C..... 5
Lowell, S. J., & Pushie, J. A..... 5
Luckraft & Countryman..... 5
Lunkenheimer Co..... 13

M

Macbeth, Jas., & Co..... 22
MacDonald, B..... 5
MacFarlane, Jas..... 5
Machinery for Sale..... 19
Maltman, Albert..... 5
Mariner & Hoskins..... 5
Martinez, Dion..... 5
Maryland Coal Co..... 14
Mason Regulator Co..... 1
Mass. Institute of Technology..... 6
Mathison Smelting Co..... 34
Matthiessen & Hegeler Zinc Co..... 34
Mayham & Gregg Brokerage Co..... 6
Maynard, George W..... 5
McConnell, A. B..... 6
McDermott & Duffield..... 5
McGowan, John H., Co..... 12
McIndoe, Hugh..... 6
McKiernan, S. G. & Co..... 36
Mecklenburg Iron Works..... 30
Merwin & Richardson..... 5
Metallic Cap Mfg. Co..... 22
Michigan Mining School..... 6
Midland Foundry & Machine Co..... 31
Midland Ry of Kentucky..... 21
Milner & Brown..... 5
Milton Mfg. Co..... 36
Mineralized Rubber Co..... 21
Miners' Assay Office..... 6
Minger, W. C..... 5
Mining Journal..... 28
Miscellaneous Wants..... 19
Mixer & DuBois..... 5
Moore, Dr. Gideon E..... 3
Moore, Samuel L., & Sons' Co..... 27
Mutual Life Insurance Co..... 6

N

Nassau Electrical Co..... 22
National Lead Co..... 11
Newberry, W. E..... 5
New Mexico Mining Exchange..... 6
New York Belting & Packing Co., Ltd. —
Newell Coal Co..... 14
Nicholls, W. J..... 5
Nicholson, Frank..... 5
Norwalk Iron Works Co..... 1 & 23

O

O'Brien, Frank..... 5
Okonite Co., The, Ltd..... 23
Olcott, Eben E..... 5
Ontonagon Miner, The..... 28
Orford Copper Co..... 20
Osceola Con. Mg. Co..... 14
Overland Machinery Co..... 31
Overbrook Chemical Co..... 3

P

Page, Wm. Byrd..... 5
Parkhurst & Wilkinson..... 31
Pattison, Edsall & Hobson..... 6
Pearse, Arthur L..... 5
Penn Smelting and Refining Co..... 34
Pennsylvania Military College..... 6
Pennsylvania Salt Mfg. Co..... 2
Peters, Edward D., Jr..... 5
Phelps, Dodge & Co..... 34
Phillips, Wm. B..... 5
Phosphor-Bronze Smelting Co..... —
Picher Lead Co..... 34
Pickhardt & Kuttroff..... 30
Pitkin, Lucius..... 20
Pittsburg Bridge Co..... 11
Pollock, Wm. B., & Co..... 13
Poole, Robb., & Son Co..... 27
Poor, H. V. & H. W..... 21
Porter, H. K., & Co..... 28
Porter, J. A..... 5
Positions Vacant..... 18
Potts, Frederick A., & Co..... 14
Powell Co., The Wm..... —
Pratt, N. P., Laboratory..... 1
Pratt & Whitney Co..... 12
Pulsometer Steam Pump Co..... 12

Q

Quadruple Steam Pump Co..... 12
Quebrada R. R. Land & Copper Co., Lt. 14
Queen & Co..... 2

R

Racine Hardware Co..... 9
Rand Drill Co..... 36
Randolph, John C. F..... 5
Raymond Bros., Impact Pulv. Co..... 26
Raymond Lead Co..... 30
Raymond, Rossiter W..... 5
Repauno Chemical Co..... 22
Richards & Co..... 3
Rickard, T. A..... 5
Ricketts & Banks..... 20
Robinson, G. H..... 5
Robinson & Orr..... 19
Roebling's, J. A., Sons Co..... —
Roessler & Hasslacher Chemical Co..... 3
Rolker, Chas. M..... 5
Ropeways Syndicate, Ltd..... —
Rothwell, John E..... 5
Rothwell, Richard P..... 5
Russell Process Co..... 1

S

Samuel, Frank..... 11
Sargent, E. H., & Co..... 3
Scaife, William B., & Sons..... 10
Schellenbach's, J., Sons..... 31
Schwarz, Theodore A..... 5
Seamon, W. H..... 5
Shapleigh, W..... 4
Sheffield Car Co..... 1
Shields & Middleton..... 5
Shultz Belting Co..... 1
Simonds, Francis M..... 20
Situations Wanted..... 18
Skewes, Edward..... 5
Smith, C. H., & Co..... 6
Solvay Process Co..... 2
Souther, John, & Co..... 28
State Ore Sampling Co..... 34
Stedman's Foundry & Machine Wks.. 26
Stearns Bros..... 23
Stickney, Conyngham & Co..... 14
Stiles, Geo..... 5
Stilwell, Bierce & Smith-Vaille Co. 12 & 28
Stoiber, E. G..... 5
Strickland, Herbert..... 5
Sullivan Machinery Co..... 1 & 23

T

Tamarack, Jr., Mining Co..... 14
Tamarack Mg. Co..... 14
Tanite Co..... 1
Taylor, John, & Co..... 3
Taylor & Brunton..... 5
Terhune, Richard H..... 5
Thies, Adolph..... 5
Thompson, Samuel C..... 5
Totten & Hogg Foundry Co..... 26
Trent, L. C..... 6
Trenton Iron Co..... 33
Troemner, Henry..... 3
Truax Mfg. Co..... 31
Tudor Boiler Mfg. Co..... 9
Tuttle, Edgar G..... 6

U

Union Iron Works..... 1 & 27
Unzicker, Hermann..... 6

V

Van Slooten, Wm..... 6
Victory Chemical Co..... 34
Vulcan Iron Works..... 32
Vulcan Iron Works..... 28

W

Walburn-Swensen Mfg. Co..... 30
Walter Bros..... 6
Ward & Olyphant..... 14
Weber Gas & Gasoline Engine Co..... 9
Webster, Camp & Lane Mach. Co..... 24
Western Plating and Mfg. Co..... 24
Williams Bros..... —
Williams, John..... 6
Williams Mfg. Co..... 10
Williamsport Wire Rope Co..... 16
Wilson & Salmon..... 6
Wills, J. Lanison..... 6
Wood, R. D., & Co..... 10
Worthington, Henry R..... 1
Wright & Adams Co..... 27
Wuensch, A. F..... 6
Wyatt & Saarbach..... 6
Wyckoff & Son, A..... 13

Y

Young & Park..... 6
Youngstown Bridge Co..... 10

Z

Zeitschrift für Praktische Geologie..... 24

CLASSIFIED LIST OF ADVERTISERS.

Air Compressors and Rock Drills
Bostelmann, Louis F. | Ingersoll-Sergeant Rock Drill Co
Bullock, M. C., Mfg. Co. | McKiernan, S. G. & Co
Burleigh Rock Drill Co | Norwalk Iron Works Co.
Clayton Air Compressor Works. | Rand Drill Co.
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Hasenzahl, W.
(See Diamond Drills.)

Amalgamators
Bucyrus Steam Shovel & Dredge Co. | Fraser & Chalmers.
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Pencoyd Bridge & Construct. Co. | Scaife, Wm. B. & Son

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Baker & Adamson. | Penna Salt Mfg. Co.
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Eqping, Carpenter & Co. | National Lead Co.

Band Wheels
Poole, R., & Son Co.

Bankers and Brokers
Amer. Devel. & Mg. Co. | Handy & Harman.
Bandell, E. | McConnell, A. G.
Bieber & Sohne | McDonnell, A. B.
Cohen, H., & Co. | New Mexico M. Ex'ge.
Grant, E. R. | Smith, C. H.

Belting
Carp'ter, Geo. B., & Co | Jeffery Mfg. Co.
Chic. Rawhide Mfg. Co. | Mineralized Rub. Co.
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Macbeth, James, & Co

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Garden City Sand Co.

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Fraser & Chalmers. | Stilwell-Bierce & Smith-Vaile Co.
Pollock, Wm. B., & Co. | Tudor Boiler Mfg. Co.
Scaife, Wm. B. & Sons. (See Machinery.)

Brass Castings
Epping, Carpenter & Co.

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Mineralized Rubber Co.

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Berlin Bridge Co. | Scaife, W. B. & Sons.
Pittsburg Bridge Co. | Youngsto'n Bridge Co.

Buckets
Scaife, Wm. B. & Sons. (See Machinery.)

Cable Railways
Fraser & Chalmers. | Poole, R., & Son Co.

Carbons
Bishop, Victor. & Co. | Lexow, Theodore.
Bostelmann, Louis F.

Cement
Atlas Cement Co.

Chain and Link Belting (See Belting.)

Chemicals
Baker & Adamson. | Overbrook Chem. Co.
Bullock & Crenshaw. | Penn. Salt Mfg. Co.
Elmer & Amend | Roessler & Hasslacher Chemical Co.
Henry Heil Chem. Co. | Solvay Process Co.

Chlorine Liquid
Pickhardt, Wm., & Kuttroff.

Clutches, Friction
Poole, R., & Son Co.

Coal
Berwind-White Coal Mg. Co. | Maryland Coal Co.
Castner & Curran | Newell Coal Co.
ConsolidationCoal Co. | Potts, F. A., & Co.
Coxe Bros. & Co. | Stickney, Conyngham & Co.
Haddock, Shonk & Co. | Ward & Olyphant.

Coal Cutters
Ingersoll-Sergeant Drill Co.
Jeffrey Mfg. Co. (See Machinery).

Coal Tipples.
Youngstown Bridge Co.

Coke Ovens
Sheffield Car Co.

Concentrators, Crushers, Pulverizers, Separators, Etc.
Allis, Ed P. & Co.
Beckett Foundry & Machine Co.
Blake, Geo A.
Boston Ore Machinery Co.
Colorado Iron Works
Fraser & Chalmers.
Frisbee-Lucop Mill Co.
Frue Vanner Concentrator
Gates Iron Works.
Hendrie & Bolthoff Mfg. Co.
Joplin Mach. Co.
Krom, S. K.
Krupp, F.
Midland Foundry & Machine Works.
Raymond Bros. Imp. Pulv. Co.
Schellenbach, J., & Sons.
Stedman Foundry & Mach. Co.
Waiburn-Swenson Mfg. Co. (See Machinery)

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Bucyrus Steam Shovel and Dredge Co.
Fraser & Chalmers.
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Abbott, Wheelock & Co | Detroit Copper Mg. Co.
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Baltimore Cop. Wks. | Orford Copper Co.
Bath, H., & Son | Osceola Con. Mg. Co
Boston & Mont. M Co. | Penn. Salt Co.
Butte & Boston M. Co. | Phelps, Dodge & Co.
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Copper Queen Mg. Co. | Tamarack, Jr., Mg. Co.

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Poole, R., & Son Co.

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Berlin Iron Bridge Co | Scaife, W. B. & Sons.

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Tanite Co.

Crucibles, Graphite, Etc.
Denver Fire Clay Co. | Stedman's Foundry & Machine Works.
Garden City Sand Co.

Crushed Quartz
Garden City Sand Co.

Cupola
Garden City Sand Co.

Diamonds
Bishop, Victor. & Co | Bostelmann, L. F.
Lexow, Theodore.

Diamond Drills
Bishop, Victor, & Co. | Hasenzahl, W.
Bostelman, L. F. | Lexow, Theodore.
Bullock Mfg. Co., M.C. | Stearns Bros.
(See Air Compressors and Rock Drills.) | Sullivan Machin'y Co.

Drawing Materials
Brandis' Sons. | Queen & Co.

Dredges
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Hendrie & Bolthoff Mfg. Co. | Fraser & Chalmers.
Truax Mfg. Co
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Columbian University.
Correspondence School of Mines.
Harvard University.
Mass. Inst. of Technology.
Michigan Mining School.
Pennsylvania Military College.

Electrical Batteries
Macbeth, James, & Co.
Nassau Electrical Co.

Electrical Machinery and Supplies
General Electric Co. | Okonite Co., Ltd.
Jeffrey Mfg. Co. | Repauno Chem Co.
Nassau Electrical Co. | Stiles, Geo.

Elevators, Conveyors and Hoisting Machines
Brown Hoist & Conv. Mach. Co. | Jeffrey Mfg. Co.
California Wire Wks. | Joplin Macaine Wks
Cooper, Hewitt & Co. | Scafe, Wm. B., & Sons.
Fraser & Chalmers. | Union Wire Rope Tramway Co.
Hunt, C. W., Co. | Vulcan Iron Works.
(See Wire Rope Tramway and Machinery.)

Elevator, Grain, Machinery
Poole, R., & Son Co.

Emery Wheels
New York Belting & Packing Co., Ltd
Tanite Co.

Engineers, Chemists, Metallurgists
Adams, W. H.
Askew & Russell.
Baker & Co.
Benjamin, J. E.
Blandy, John F.
Blauvelt, Harrington
Bogge, W. R., Jr.
Boss, Clarence M.
Boss, M. P.
Bradley, Fred. W.
Braschi, Victor M.
Brodie, Walter M.
Brown, R. G.
Burlingame, E. E.
Butters, Charles.
Campbell-Johnston R. C
Carpenter, Franklin R
Case, Wm. H.
Cazin, Franz.
Chandler, W. H.
Channing, J. Parke.
Clement, Victor M.
Collins, J. H. & Sons.
Courtis, Wm. M.
Crawford, John.
Crawford, J. S.
De la Bouglise, Geo.
Dewey, Frederic P.
Dickerman, Alton F.
Dickins'n & MacDon'd.
Donald, J. T
Ede & Burwell.
Engelhardt, E. C.
Farish, Wm. A.
Fearn, Percy L.
Fisk, W. W.
Freeland, Francis T.
Froehling, Dr. Henry.
Furlonge, W. H.
Gooding, F. W.
Hahn, O. H.
Halse, E
Hampton, W. Huntley
Hardman, John E.
Hastings, John B.
Hedburg, Eric.
Hesse, C.
Hofman, Ottokar.
Holbaugh, J. R.
Howard, Chas. M.
Hunt & Robertson.
Ihne, D. F. W.
Jennings, E. P.
Jooling & Escobar.
Jones & Jones.
Kennedy, Julian.
Kerr, Mark B.
Keyes, W. S.
Kirby, E. B.
Lavagnino, G.
Ledoux & Co.
Leggett, Thomas H.
Loring, Frank C.
Lowell, S. J.
Luckraft & Countryman.
Ma Farlane, Jas.
Maltman, Albert.
Mariner & Hoskins.
Martinez, Dion.
Maynard, George W.
McDermott & Dumaid.
Merwin & Richardson
Milner & Brown.
Minger, W. C.
Mixer & DuBois.
Moore, Gideon E.
Newberry, W. E.
Nicholls, W. J.
Nicholson, Frank.
O'Brien, Frank
Olcott, Eben E.
Page, Wm. Byrd.
Pearse, A. L.
Peters, Edward D.
Phillips, W. B.
Poole, Robt., & Son Co.
Porter, J. A.
Pratt, N. P., L'borat'y.
Pushie, J. A.
Randolph, John, C. F.
Raymond, Rossiter W.
Raymond, R. M.
Rickard, T. A.
Ricketts & Banks.
Robinson, G. H.
Rolker, Chas. M
Rothwell, John E.
Rothwell, Richard P.
Schwars, Theodore E.
Seamon, W. H.
Shapleigh, W
Shields & Middleton.
Skewes, Edward.
Stiles, Geo.
Stolber, E. G.
Taylor & Brunton.
Terhune, Richard H.
Thies, A.
Thompson, Samuel C.
Trent, L. C.
Tuttle, Edgar G.
Unzicker, H.
Van Slooten, Wm.
Walter Bros
Williams, John.
Wills, J. Lainson.
Wuensch, A. F.
Wyatt & Saarbach.
Young & Park.

Engineers' Instruments
Brandis' Sons. | Knight, F. C.
Bullock & Crenshaw. | Kueffel & Esser Co.
Fauth & Co. | Queen & Co.
Gurley, W. & L. E.

Engines
Armstrong Brothers. | Stilwell-Bierce & Smith-Vaile Co.
Buckeye Engine Co. | Union Iron Works
Bullock, M.C. Mfg. Co | Weber Gas & Gasoline Engine Co.
Fraser & Chalmers. | Webster, Camp & Lane Mach. Co.
Joplin Machine Wks. | Wright & Adams Co.
Racine Hardware Co.
(See Machinery.)

Excavators
Bucyrus Steam Shovel & Dredge Co.
Souther & Co.
Vulcan Iron Works.

Fertilizer Machinery
Poole, R., & Son Co.

Fire-Brick and Clay
Chur, A. T. | Garden City Sand Co.
Denver Fire Clay Co.

Flour Mill Machinery
Poole, R., & Son Co.

Fly Wheels ... Poole, R., & Son Co.

Founders
Fraser & Chalmers. | Poole, R., & Son Co.

Friction Clutches... Poole, R., & Son Co.

Fuel Oil... Star Burner Co.

Furnaces
Hoskins, Wm. | Pollock, W. B. & Co.
Moore, S. L., & Son Co. | Sheffield Car Co.
(See Machinery.)

Fuses, Powder
Climax Fuse Co.

Gas Engine
Weber Gas & Gasoline Engine Co.

Gas Works
Pollock, Wm., B. & Co. | Wood. R. D. & Co.

Gauges, Recording, Etc.
Allen, Chas. A. | Bristol Mfg. Co.

Gearing
Chester Steel Cast. Co. | Poole, R., & Son Co.
Fraser & Chalmers.

Grain Elevators
Poole, R., & Son Co.

Grease, Graphite, Etc.
Dixon, Jos., Crucible Co.

Hangers
Poole, R., & Son Co.

Heavy Machinery
Fraser & Chalmers. | Poole, R., & Son Co.

Hopper Cocks
Mueller Mfg. Co

Hose, Rubber, Etc.
Allen, Chas. A. | New York Belting & Packing Co., Ltd.
Mineralized Rubber Co. | Brown Palace Hotel.

Hotels .....

Inspection and Tests
Hunt, The Robert W. Co

Insulated Wires and Cables
Okonite Co., Ltd., The

Insurance Companies
Hartford Steam Boiler Inspect'n and Ins. Co.
Mutual Life Insurance Co.

Iron Castings
Poole, R., & Son Co.

Lamps, Miners'
Stieren, Wm. E.

Lead, White, Machinery
Poole, R., & Son Co.

Lead Linings for Chlorination Tubs.
Raymond Lead Co.

Locomotives
General Electric Co. | Hunt, C. W. Co.
Porter, H. K., & Co

Machine Molded Gearing
Poole, R., & Son Co.

Machinists
Fraser & Chalmers. | Poole, R., & Son Co

Magnesia Covering
Keasbey & Mattison Co.

Marine Railways
Poole, R., & Son Co.

Machinery.

Dealers in Mining, Milling, and Other Machinery
Ætna Fdy. & Mach. Co. | Mecklenburg Ir. Wks.
Allis, Edw. P., & Co. | Moore, Sam. L. & Son.
Armstrong Brothers. | Overland Mach. Co.
Beckett Fdy. & Mch. Co. | Pollock, Wm. B., & Co.
Bostelman, L. F. | Poole, Robt. Son & Co.
Boston Ore Mach'y Co. | Raymond Bros. Imp. Pulv. Co.
Buckeye Engine Co. | Scaife, W. B., & Sons.
Bullock, M. C., Mfg. Co. | Schellenbach, J., & Sons
Carp'ter, Geo. B., & Co. | Stedman Fdy. & M. Co.
Colorado Iron Works. | Sullivan Mach'y Co.
Exeter Mach. Wks. Co. | Trenton Iron Co.
Fraser & Chalmers. | Truax Mfg. Co.
Freeman Fdy. & M. Wk. | Union Iron Works.
Frisbee-Lucop Mill Co. | Vulcan Iron Works.
Hendrie & Bolthoff Mfg. Co. | Walb'rn-Swens'n Mfg. Co.
Jeffrey Mfg. Co. | Webster, Camp & Lane Mach. Co.
Jessop, W., & Sons, Ltd. | Wright & Adam Co.
Joplin Machine Wks. | Youngsto'n Bridge Co.
Krupp, F.
McKiernan, S. G. & Co.
Mech'l Gold Extr. Co.

Metal Dealers
Abbott, Wheelock & Co. | Lewisohn Bros.
American Metal Co. | Mathiesen Sm'lting Co.
Am. Zinc-Lead Co. | Matthiessen & Hegeler Co.
Baker & Co. | Orford Copper Co.
Bath, Henry & Son. | Phelps, Dodge & Co.
Donaldson, A. M., & Co. | Picher Lead Co
English, Geo. L., & Co. | Raymond Lead Co.
Eureka Co. | State Ore Sampling Co.
James & Shakspeare. | Victory Chemical Co.

Metallurgical Works and Ore Purchasers' Processes
Amer. Zinc Lead Co. | Orford Copper Co.
Baker & Co | Pennsyl. Salt Mfg. Co
Balbach Sm. & Ref. Co. | Ricketts & Banks.
Baltimore Copper Wks. | Russell Process Co.
Canadian Copper Co. | St. Louis Sampling & Testing Works.
Donaldson, A. M., & Co. | State Ore Sampling Co.
Fraser & Chalmers. | Waiburn-Swenson Mfg. Co.
Joplin Machine Wks. | Western Plating & Mfg. Co.
Kansas City S. & Ref. Co.
Ledoux & Co.
Matthiessen & Hegeler Co.

Mine Cars
Hendrie & Bolthoff Mfg. Co. | Hunt, C. W., Co.
Sheffield Car Co.
Truax Mfg. Co.

Mineral Specimens
English & Co.
Hiestand, J. C.

Mining and Land Companies
Amer. Devel. & Mg. Co. | Kearsarge Mg. Co.
Atlantic Mg. Co. | Osceola Con. Mg. Co.
Boston & Mont. Mg Co. | Quebrada R. R. L. & C. Co.
Butte & Boston Mg. Co. | Tamarack Mg. Co.
Copper Queen Mg. Co. | Tamarack, Jr., Mg. Co.
Detroit Copper Mg. Co.
Eureka Co.

Moulding Sand
Garden City Sand Co.

Nickel
Canadian Copper Co.

Ore Cars
Donaldson, A. M., & Co. | Hunt, C. W., Co.
Fraser & Chalmers.

Ore Testing Works
Donaldson, A. M., & Co. | Ricketts & Banks.
Hunt & Robertson. | State Ore Sampling Co
Ledoux & Co.

Packing and Pipe Coverings
Brandt, Randolph. | Mineralized Rub. Co.
Hine & Robertson. | New York Belting & Packing Co., Ltd.
Jenkins Bros. | Wyckoff & Son, A.
Keasbey & Mattison Co.

Perforated Metals
Aitcheson, R., Perf. Metal Co.
Fraser & Chalmers.
Harrington & King Perforating Co
Hendrick Mfg. Co.

Periodicals
Arms and Explosives. | Iron & Coal Trades Review.
Austral'n Mg. Stand'd | Indian Engineering.
Bullionist. | Jour. of Assoc. of Engineering Societies.
El Minero Mexicano. | Mining Journal.
Electrical Plant & Electrical Industry. | Zeitschrift fur Praktische Geologie.
Financial Times.

Phosphates
Trenholm, Paul C.

Phosphor-Bronze
Phosphor-Bronze Smelting Co.

Pile Drivers
Bucyrus Steam Shovel and Dredge Co.

Pipes
Pollock, Wm. B., & Co. | Wyckoff, A., & Sons,

Planed Gearing
Poole, R., & Son Co

Platinum
Baker & Co.

Portland Cement Atlas Cement Co.

Powder
Ætna Powder Co. | Lau, J. H., & Co,
Laflin & Rand Powder Co. | Repauno Chem. Co.

Publications
Allison Coupon Co. | Financial Times
Arms & Explosives. | Iron & Coal Trades Rev.
Australian Mining Standard. | Jour. of Assoc. of Engineering Societies.
Bullionist. | Mining Journal.
El Minero Mexicano. | Poor, H. V. & H. W.
Electrical Plant & Electrical Industry | Zeitschrift fur Praktische Geologie.

Pulleys
Poole, R., & Son Co.

Pumps
Ætna Fdy. & Mach. Co. | Knowles Steam Pump Works.
Allen, Chas. A. | McGowan, John H. & Co.
Blake, Geo F. Mfg. Co. | Paisometer Steam Pump Co.
Cameron, A. S., Steam Pump Works. | Quad'ple Steam Pump Co.
Epping, Carp'ter & Co. | Stilwell-Bierce & Smith-Vaile Co.
Fraser & Chalmers. | Worthington, Henry.
Goulds Mfg. Co.
Groetzinger, A., & Sons
Jeanesville Iron Wks.

Quarrying Machines
Bostleman, L. F.
Ingersoll-Sergeant Rock Drill Co.
Rand Drill Co.
Sullivan Machinery Co.
Union Wire Rope Tramway Co.

Quicksilver Eureka Co.

Railroads
Denv. & Rio Gr. R. R. | Midland R. R. of Ky.

Railroad Supplies and Equipment
Carp'ter, Geo. B., & Co. | Porter, H. K., & Co.
Garden City Sand Co. | Robinson & Orr.
Hunt, C. W., Co. (See Machinery)

Regulators, Damper, Heat, Etc.
De Este & Seeley Co. | Jenkins Bros.
Eddy Valve Co. | Lunkenheimer Co.
Hine & Robertson. | Mason Regulator Co

Rock Drills. (See Air Compressor.)

Rolling Mill Machinery
Poole, R., & Son Co.

Roofing
Berlin Iron Bridge Co. | Pittsburg Bridge Co.
Pencoyd Bridge and Const. Co. | Scaife, Wm. B., & Sons
Phelps, Dodge & Co | Youngsto'n Bridge Co.

Rope Wheels
Poole, R., & Son Co

Rubber Goods
New York Belting & Packing Co., Ltd.

Safety Lamps
Wm. E. Stieren

Screens
Aitcheson, R., Perf. metal Co.
Exeter Machine Works Co.
Fraser & Chalmers.
Harrington & King Perforating Co.
Hendrick Mfg. Co.
(See Machinery.)

Screen Plates
Harrington & King Perforating Co.
Hendrick Mfg. Co.

Second Hand Machinery
Cook & Co. | Toomey, Frank.
Robinson & Orr.

Separators
D'Este & Seeley Co.
Harrison Safety Boiler Works.

Shafting
Poole, R., & Son Co.

Shoes and Dies | Fraser & Chalmers.
Chrome Steel Works. | Crescent Steel Co.

Shovels (Steam)
Bucyrus Steam Shovel & Dredge Co.
Souther & Co.

Smelting and Refining Works
Balbach S. & Ref. Co. | Penna. Salt Mfg. Co.
Baltimore Cop'r Wks | Penn Smelting and Refining Works.
Donaldson, A. M., & Co. | Phosphor-Bronze Smelt. Co.
Kan. City Sm. & Ref. Co.
Mathison Smelting Co.
Orford Copper Co.

Steam Fans
Cole, Wm E.

Steel Rails, Castings, Rolls, Drill Steel | Jessop Wm., & Sons Ltd.
Abbott, Wheelock & Co. | Moore, S. L., & Sons Co
Bethlehem Iron Co. | Roberts, A. & P., & Co.
Chester Steel Cast Co. | Robinson & Orr.
Chrome Steel Works. | Whitney, A., & Sons.
Crescent Steel Co. (See Metal Dealers.)
Exeter Machine W. Co.
Garrison, A., Fdry. Co.

Tanks | Scaife, Wm. B. & Sons.
Pollock, Wm B. & Co | Williams Mfg. Co.

Tapping Machine, Gas Main, Etc.
Mueller Mfg. Co.

Telegraph Wires and Cables
Okonite Co., Ltd., The.

Testing Batteries Nassau Elec. Co.

Tin Plate Rolling Machinery
Poole, R., & Son Co.

Tools Pratt & Whitney Co.

Traps, Steam
De Este & Seeley Co.

Tubes
Pollock, Wm. B., & Co. | Williams Bros.

Tubing-Rubber
New York Belting and Packing Co., Ltd.

Turbines
James Leffel & Co., The.
Poole, Robt. & Son Co.
Stilwell-Bierce & Smith-Vaile Co.

Turbine Water-Wheels
Poole, R., & Son Co.
Stilwell-Bierce & Smith Vaile Co.

Valves
De Este & Seeley Co. | Lunkenheimer Co.
Eddy Valve Co. | Mason Regulator Co.
Jenkins Bros. | Powell, Wm., Co.

Ventilators
Bullock, M. C. Mfg. Co. | Fraser & Chalmers.

Vulcanite Emery Wheels
New York Belting and Packing Co., Ltd.

Washers ..... Milton Mfg. Co.

Water Pressure Reducers
Mueller Mfg. Co.

Water-Wheels
Leffel, James, & Co.
Midland Foundry & Machine Co,
Poole, R., & Son Co.
Stilwell-Bierce & Smith-Vaile Co.

Well Drilling Machinery
Bostelmann, L. F. | Williams Bros.
Sullivan Machinery Co. | Sheffield Car Co.

Wheels, Car

White Lead Machinery
Poole, R., & Son Co.

Wire Cloth
Aitcheson, R., Perf. Metal Co.
Harrington & King Perforating Co.

Wire Rope & Wire
Abbott, Wheelock & Co. | Leschen, A., & Sons Rope Co.
Broderick & Bascom Rope Co. | Phelps, Dodge & Co.
California Wire Wks | Ryb'ling, J. A. Sons & Co.
Carp'ter, Geo. B., & Co. | Ropeways Synd., Ltd.
Cooper, Hewitt & Co. | Trenton Iron Co.
Hunt, C. W., Co. | Williamsport Wire Rope Co.

Wire Rope Tramway
Brown Hoist. & Conv. Machine Co. | Hunt, C. W., Co.
California Wire Wks. | Roebling, J. A., Sons & Co.
Colorado Iron Works. | Ropeways Synd., Ltd.
Cooper, Hewitt & Co. | Trenton Iron Co.
Fraser & Chalmers. | Vulcan Iron Works.

FREE ADVERTISING.

Inquiries from employers in want of Superintendents Engineers, Metallurgists, Chemists, Mine or Furnace Foremen, or other assistance of this character, will be inserted in this column WITHOUT CHARGE, whether subscribers or not.

The labor and expense involved in ascertaining what positions are open, in gratuitously advertising them and in attending to the correspondence of applicants, are incurred in the interest and for the *exclusive* benefit of *subscribers* to the ENGINEERING AND MINING JOURNAL.

Applicants should inclose the necessary postage to insure the forwarding of their letters.

Positions Vacant.

1363 WANTED—A MAN WHO UNDERstands the smelting and refining of jewelers' sweeps. Address "SMELTER," ENGINEERING AND MINING JOURNAL.

1364 WANTED—A PRACTICAL FOREman fully qualified to take charge of a gold and silver property, developed and situated in Southern Nevada. References required. Address SOUTH NEVADA.

1365 WANTED—SUPERINTENDENT IN New York City—A bright, energetic, all round man; must be familiar with fixing buildings for gas, water, etc., and capable of handling men, pay rolls, etc. A permanent position to the right sort of man. Address C. J. W., ENGINEERING AND MINING JOURNAL.

1366 WANTED — FIRST-CLASS MINE superintendent experienced in drawing up plans, making estimates and designs for new plant for extensive metal mining interests. Must understand thoroughly how to extend the development of mines, etc., and be able to mine as cheaply as at the large mines in the Lake Superior district, the conditions being equal. Must be capable to lay out work in advance, and advise as to all new plants, etc. Address N. S., ENGINEERING AND MINING JOURNAL.

1367 WANTED—AN ASSAYER HAVING had experience with low-grade lead-silver ores, for a mine and concentrating mill in the Northwest. State age, experience and salary expected. Address SIDERITE, ENGINEERING AND MINING JOURNAL.

1368 WANTED—A MAN THOROUGHLY experienced in erecting and operating amalgamators. Preference given to one having had practical supervision of Bennett or Bucyrus apparatus. Permanent position assured a first-class man. Address, in fullest confidence, stating experience, PLACER, ENGINEERING AND MINING JOURNAL.

1369 WANTED—FOREMAN TO TAKE charge of yardmen and look after blast furnace during day, also a night foreman for blast furnace. German preferred and one who has had experience with 200-ton blast furnace Address NEW YORK, ENGINEERING AND MINING JOURNAL.

Situations Wanted.

Advertisements for SITUATIONS WANTED will be Charged only 10 cents a line.

WANTED.—A METALLURGICAL CHEMist of 13 years' experience desires a position as superintendent or assistant with copper or lead and silver reduction works. Best of references furnished. Address H. S., ENGINEERING AND MINING JOURNAL. No. 17,017, Dec. 29.

A GRADUATE OF THE COLUMBIA COLlege School of Mines would like position as assistant to superintendent in charge of mines or reduction works. Address MINING, ENGINEERING AND MINING JOURNAL. No. 17,033. Dec. 29.

A GOLD MINING SUPERINTENDENT DEsires position. Has had large experience in mining, milling and assaying, and has employed almost every variety of labor. Address GOLD, ENGINEERING AND MINING JOURNAL. No. 17,035. Dec. 1.

A CIVIL AND MINING ENGINEER FROM the Royal Military College of Canada, and of six years' practical experience in railroad, city and mining work, would like to get any kind of position that would pay decently. Mexico or Central America preferred. Address M., ENGINEERING AND MINING JOURNAL. No. 17,037, tf.

CHEMIST WANTS POSITION EITHER IN charge or as assistant in a laboratory. University training and six years' experience. References furnished. Moderate salary. Address CHEMIST, No. 1068 Fulton Street, Brooklyn. No. 17,038, Nov. 24.

SITUATION BY A PRACTICAL CONCENtrator Superintendent and Millwright. Has had six years' experience in the building and operation of concentrating works; also experienced with roasting, matteing and lead smelting furnaces; is an assayer, and understands handling electric machinery; speaks English and Spanish; has first-class recommendations, and will go anywhere. Address CONCENTRATOR, ENGINEERING AND MINING JOURNAL. No. 17,028. Dec. 1.

MINING ENGINEER AND SUPERINTENdent, 20 years' experience in gold, silver, copper and coal, is open to engagement. Address INTEGRITY, ENGINEERING AND MINING JOURNAL. No. 17,026 tf.

METALLURGIST AND CHEMIST, WITH eight years' practical experience in designing, constructing and operating works for the treatment of copper, lead, gold and silver ores, will be at liberty January 1st, and seeks new engagement for the ensuing year. Plans furnished for copper, lead and pyritic smelting plants, copper, lead and silver refineries, bessemerizing and electrolytic works, concentration works, gold mills, etc. Correspondence solicited with company requiring scientific help in working out ore propositions and in need of capable assistance in planning and erecting new works. Address METALLURGICAL, care ENGINEERING AND MINING JOURNAL. No. 17,031-tf.

AN EXPERIENCED MINING ENGINEER and manager open to engagement to develop coal lands or manage coal mine in any section. Experience in hard and soft coal and coke. Address V. ENGINEERING AND MINING JOURNAL. No. 17,039, Nov. 24.

Contracts Open.

DREDGING.—U. S. Engineer Office, Galveston, Tex.—Sealed proposals for dredging and removal of obstructions in Buffalo Bayou, Tex., will be received here until November 27th, 1894, and then publicly opened. All information furnished on application. A. M. MILLER, Major Engineers.

DREDGING.—U. S. Engineer Office, Galveston, Tex.—Sealed proposals for dredging ship channel in Galveston Bay, Tex., will be received here until November 27th, 1894, and then publicly opened. All information furnished on application. A. M. MILLER, Major Engineers.

DREDGING.—U. S. ENGINEERS OFFICE, Galveston, Tex.—Sealed proposals for dredging in West Galveston Bay, Tex., will be received here until Nov. 27, 1894, and then publicly opened. All information furnished on application. A. M. MILLER, Major Engineers.

WATER WORKS.—Monroe, Mich.—Sealed proposals are wanted for furnishing water for public purposes for year commencing January 1st, 1895. Bids to be opened November 26th. Security required from successful bidder. Address JOHN STEINER, City Clerk.

BRIDGE.—Houston, Tex.—Sealed proposals, addressed to the city secretary, will be received up to November 26th for the proposed bridge across Buffalo Bayou at the foot of Factory street. Said bridge to be built in accordance with plans and specifications on file with the city engineer. Each bid must be accompanied with a certified check for $5,000 to secure the execution of the contract, and bond will be required in the sum of $10,000, with local sureties for the fulfillment of the contract. JOHN T. BROWNE, Mayor.

MINERAL OIL.—Army Building, Whitehall street, New York City—Sealed proposals, in triplicate will be received here until December 3d, 1894, and then opened for supplying about 22,000 gallons of mineral oil as per specifications and schedule, which will be furnished on application to the undersigned. Preference will be given to articles of domestic production or manufacture, conditions of quality and price (including in the price of foreign productions or manufactures the duty thereon) being equal. The Government reserves the right to reject any or all proposals. Envelopes containing proposals should be marked "Proposals for Mineral Oil," and addressed to JAMES MOORE, D. Q. M. General, U. S. Army.

IRON LATHING AND AREA GRATINGS.—Office of Building for Library of Congress, 145 East Capitol street, Washington, D. C.—Separate sealed proposals for furnishing, delivering and putting in place complete the iron furling and lathing required for the ceilings, partitions, etc., in the first, second and attic stories and for the iron grating and the lights required for the areas of the Building for Library of Congress, in the city, will be received at this office until November 27th, 1894, and opened immediately thereafter in presence of bidders. Specifications, general instructions and conditions and blank forms of proposals may be obtained on application to this office. BERNARD R. GREEN, Superintendent and Engineer.

STONE.—U. S. Engineer's Office, Nashville, Tenn.—Sealed proposals for supplying stone for building lock No. 5, Cumberland River, will be received here until December 5th, 1894, and then publicly opened. All information furnished on application. JOHN BIDDLE, Captain of Engineers.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., November 21st, 1894.—Sealed proposals will be received at this office until 2 o'clock p. m. on the 20th day of December, 1894, and opened immediately thereafter for all the labor and materials required to furnish and erect complete one passenger elevator in the U. S. Court House, Custom House and Post Office building at Duluth, Minn., in accordance with drawings and specification, copies of which may be had at this office or at the office of the superintendent at Duluth, Minn. Each bid must be accompanied by a certified check for a sum not less than 2% of the amount of the proposal. The right is reserved to reject any and all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. Proposals must be inclosed in envelopes, sealed and marked "Proposals for One Passenger Elevator in the U. S. Court House, Custom House and Post Office Building at Duluth, Minn.," and addressed to CHARLES E. KEMPER, Acting Supervising Architect. Orig.

PUMPING-ENGINES. — PITTSBURG, PA.—Bids will be received up to November 28th for three 12,000,000-gall. vertical compound condensing high duty pumping-engines. Address SUPERVISING ENGINEER SWAN for particulars.

WATER-WORKS. — SEALED PROPOSALS will be received by the Water Commissioners of the town of Newton, N. J., until December 3d, 1894, for furnishing materials, and until December 18th, 1894, for the construction of water-works. Summary of work: Wrought iron intake tower, 3½ ft. diameter by 38 ft. height; 2,000 ft. 12-in. wrought iron pipe for laying under water; eight miles 10-in. cast iron delivery main; six miles 4 to 10-in. cast iron distribute mains, with valves, boxes, specials and hydrants; erection of a masonry dam, clearing lands to be overflowed, excavation of one-half mile of small canal, etc. Bids will be received for different portions of the work. A certified check must be sent with each bid. Bonds and sureties will be required of those to whom contracts are awarded. All bids must be upon forms to be obtained from the commission, sealed and indorsed "Proposals for Materials" or "Proposals for Construction," and addressed to Alex Craig, Secretary Board of Water Commissioners, Newton, N. J. Plans and specifications can be seen after November 16, 1894, at the office of the commission in Newton or at the office of the chief engineer, 81 Warren street, New York. LOUIS L. TRIBUS, Chief Engineer; HIRAM C. CLARK, President; H. J. VAN BLARCOM, Treasurer; ALEXANDER CRAIG, Secretary, Commissioners.

U. S. ENGINEER OFFICE, Nashville, Tenn.—Sealed proposals for supplying stone for building Lock No. 5, Cumberland River, will be received here until December 5th, 1894, and then publicly opened. All information furnished on application. JOHN BIDDLE, Captain Engineers.

U. S. ENGINEER OFFICE, 905½ EAST MAIN Street, Richmond, Va.—Sealed proposals for deepening and widening channel of James River, Virginia, and for revetment of dykes and wing dams will be received here until November 30th, 1894, and then opened. For information apply to Mr. H. D. Whitcomb, at above office. WM. P. CRAIGHILL, Colonel Engineers.

OFFICE SUPERVISING ARCHITECT, WASHington, D. C., October 27th, 1894.—Sealed proposals will be received at this office until the 27th day of November, 1894, and opened immediately thereafter, for all the labor and materials required for the erection and completion of the U. S. Post Office building at Camden, Ark., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Camden, Ark. Each bid must be accompanied by a certified check for a sum not less than 2½ of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid, should it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be inclosed in envelopes, sealed and marked, "Proposal for the Erection and Completion of the U. S. Post Office at Camden, Ark.," and addressed to CHAS. E KEMPER, Acting Supervising Architect.

TREASURY DEPARTMENT, OFFICE SUPERvising Architect, Washington, D. C.—Sealed proposals will be received at this office until the 30th day of November, 1894, and opened immediately thereafter, for all the labor and materials required for the interior finish, plumbing and approaches for the U. S. Custom House and Post Office Building at St. Albans, Vt., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at St. Albans, Vt. Each bid must be accompanied by a certified check for a sum not less than 2% of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders. Proposals must be inclosed in envelopes, sealed and marked "Proposal for Interior Finish, Plumbing, Etc., for the U. S. Custom House and Post Office Building at St. Albans, Vt.," and addressed to CHAS. E. KEMPER, Acting Supervising Architect.

U. S. ENGINEER OFFICE, 121 FRANKLIN street, Buffalo, N. Y.—Sealed proposals for extension of breakwater at Dunkirk Harbor, N. Y., will be received here until December 10th, 1894, and then publicly opened. Information furnished on application to MAJOR E. H. RUFFNER, Engineers.

TREASURY DEPARTMENT.—Office of the Supervising Architect, Washington, D. C., November 21st, 1894.—Sealed proposals will be received at this office until 2 o'clock p. m. on the 11th day of December, 1894, and opened immediately thereafter, for all the labor and materials required for covering steam pipes, etc., in the U. S. Government buildings at Brooklyn, N. Y.; Bay City, Mich.; Denver, Colo.; Hoboken, N. J.; Kalamazoo, Mich.; Louisville, Ky.; New Bedford, Mass; and Rochester, N. Y., in accordance with the specifications, copies of which may be had at this office or the office of the Custodian. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid, should it be deemed in the interest of the Government to do so. All proposals received after the time stated for opening will be returned to the bidders. Proposals must be inclosed in envelopes, sealed and marked "Proposal for Covering Steam Pipes, Etc., in the U. S Government building at Brooklyn, N. Y.; Bay City, Mich.; Denver, Colo.; Hoboken, N. J.; Kalamazoo, Mich.; Louisville, Ky.; New Bedford, Mass.; and Rochester, N. Y." (as the case may be), and addressed to CHAS. E. KEMPER, Acting Supervising Architect. Orig.

PIER WORK.—U. S. Engineer Office, Duluth, Minn.—Sealed proposals for repair of pier at Superior, Wis., will be received here until December 10th, 1894, and then publicly opened. Further information given on application. CLINTON B. SEARS, Major Engrs.

MISCELLANEOUS WANTS.

DIVIDENDS.

MOLLIE GIBSON CONSOLIDATED MINING AND MILLING COMPANY,
COLORADO SPRINGS, Colo., November 16th, 1894.
DIVIDEND NO. 42.

A dividend of five cents per share ($50,000) has been declared, payable December 5th, 1894, to stockholders of record on November 26th. Transfer books close November 26th and reopen December 6th, 1894.
PERCY HAGERMAN, Sec'y-Treas.

THE ENGINEERING AND MINING JOURNAL

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	24	2	5	14	38	66	89	113
	27	2 1/4	6	16	42	72	98	125
	30	2 1/2	.....	17	46	79	108	137
1/4 Column.	33	2 3/4	7	19	50	86	117	149
	36	3	8	20	54	93	126	161
	39	3 1/4	.....	21	58	99	135	172
	42	3 1/2	9	23	61	106	143	183
	45	3 3/4	.....	24	65	112	151	194
	48	4	10	25	69	118	160	204
	54	4 1/2	11	28	75	129	175	224
1/3 Column.	60	5	12	30	81	141	190	243
	66	5 1/2	13	32	87	151	205	261
	72	6	14	35	93	161	219	279
	78	6 1/2	15	37	99	171	232	296
	84	7	16	39	105	181	242	313
	90	7 1/2	17	41	109	190	258	329
1/2 Page....	96	8	.....	43	115	200	271	346
	102	8 1/2	18	45	121	209	284	362
	108	9	19	47	126	219	296	378
	114	9 1/2	20	49	132	228	309	395
	120	10	.....	51	137	238	322	411
	126	10 1/2	21	53	143	248	336	428
2/3 Page...	135	11 1/4	22	55	149	258	349	446
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MACHINERY AND SUPPLIES FOR SALE.

Contracts Open.
Continued from page 18.

LIGHTING.—The City of Millville, N. J., will entertain sealed proposals until December 10th, 1894, for lighting the city with electricity for a period of five years. Address L. H. HOGATE, City Recorder.

BRIDGE.—Houston, Tex.—Proposals are wanted until November 26th for constructing a bridge across Buffalo Bayou, at Factory.

BRIDGE.—Rome, N. Y.—Proposals are wanted until December 3d for the construction of a swing bridge over the Black River Canal on Garden street, this city. Address K. S. PUTNAM, Chamberlain.

ENGINE, PUMP, Etc.—Key West, Fla.—Proposals are wanted until December 20th for furnishing scow, vertical engine, iron pumps, boiler, piping and repairing tank at Key West Quarantine for the use of the Marine Hospital. Address H. R. CARTER, Surgeon, M. H. S., in command of station at Key West Quarantine, Dry Tortugas, Fla.

PIPE COVERINGS.—TREASURY DEPARTment, Office of the Supervising Architect, Washington, D. C.—Sealed proposals will be received at this office until the 11th day of December, 1894, and opened immediately thereafter, for all the labor and material required for covering steam pipes, etc., in the U. S. Government buildings at Brooklyn, N. Y., Bay City, Mich., Denver, Colo., Hoboken, N. J., Kalamazoo, Mich., Louisville, Ky., New Bedford, Mass., and Rochester, N. Y., in accordance with the specifications, copies of which may be had at this office or the office of the custodian. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The right is reserved to reject any or all bids and to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. Proposals must be inclosed in envelopes, sealed and marked "Proposals for Covering Steam Pipes, Etc., in the U. S Government Building at Brooklyn, N. Y., Bay City, Mich., Denver, Colo., Hoboken, N. J., Kalamazoo, Mich., Louisville, Ky., New Bedford, Mass., and Rochester, N. Y. (as the case may be), and addressed to CHARLES E. KEMPER, Acting Supervising Architect.

SURVEY.—Sealed proposals will be received by the trustees of the village of Flemington, N. J., until December 15th, 1894, for a survey of about five miles of streets of said village, and the superintendence of the placing of monuments thereon for the purpose of establishing a street grade and curb line. Specifications supplied on application. The right to reject any and all bids reserved. S. M. COOLEY, Village Clerk.

WATER-WORKS.—Sealed proposals will be received until December 13th, 1894, by the Water Commissioners of the village of Monroe, Orange County, N. Y., for furnishing material and performing the labor necessary to construct complete, according to the plan and specification, the village water-works. The work includes the furnishing of 630 tons of cast iron pipe, 16 in. to 4 in. diam.; 7 tons of special castings; 5,600 ft. of terra cotta pipe, 15 in. diam.; 40 fire hydrants and 40 valves and valve boxes, and a 10-in. water meter; also the laying of 5,600 ft. terra cotta pipe, 15 in diam.; 36,360 ft. of cast iron pipe and setting necessary hydrants and valves. Also the construction of Gate House and intake. Bids shall be received separately for material and construction. A certified check for 3 per cent. of the amount of bid must accompany each proposal. Plans can be seen and specifications secured on and after December 1st at the office of the Water Commissioners or the offices of the engineers, 127 Broadway, New York, or 700 and 701 Lewis Block, Pittsburg. POTTER & FOLWELL, Engineers. GILBERT CARPENTER, Pres., GEORGE R. CONKIN, Secy., Board of Water Comm.

BRIDGE.—Scranton, Pa.—Proposals are wanted until December 13th for constructing the superstructure for Spruce street bridge over the Roaring Brook. Address M. T. LAVELLE, City Clerk.

BRIDGE.—Scranton, Pa.—Proposals are wanted until December 6th, for constructing the superstructure of the Linden street bridge over the Lackawanna River. Address M. T. LAVELLE, City Clerk.

BOILER-HOUSE, ETC.—Phillipsburg, Pa.—Proposals are wanted until December 4th, for furnishing all material and erecting a boiler-house, engine-house, car barn, and office building at this place. Address JOHN G. PLATT, Engineer Clearfield Traction Company.

BRIDGE.—Warren, O.—Proposals are wanted until December 10th, for superstructure of a steel girder bridge across the Mohoning River. Address ALBERT E. ANDREWS, City Clerk.