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CONTENTS.

In our issue of August 22d we referred to the excellent report of the Alaska Treadwell Gold Mining Company, and to the omission there to give any assay values of the ore milled. We are now informed that the tailings from the mill average about 50c. per ton, which, added to the average of $3.05 per ton obtained last year, would give a total of $3.55 per ton. In this case the saving was about 86 per cent. of the total value, which would be a very high return. In treating the concentrates by chlorination about 92 per cent. of the assay value is saved, and this could be increased to 95 per cent., but as there is a good deal of lime in the sulphurets, it is thought to be more economical to extract the smaller percentage only, the management wisely concluding that the best practice is the practice that pays best.

It is understood that many purchases of mining property in California have recently been made in a quiet way, and that other mines are being investigated in the same way, with a view to purchase. Most of these are partially developed claims, of which there are still a great many in the State, notwithstanding the length of time during which gold mining has been carried on there. Some of the shrewder class of investors are realizing that after all California presents advantages over many of the newer and apparently more attractive gold mining regions in this and other countries. Quite a number of the purchases referred to have been on foreign account, and among others it is believed that Cecil Rhodes and his friends so prominent in South Africa are largely concerned in these California purchases. If this be the case, a California revival on the London stock market may be expected in due course of time.

The diversion of such experienced and well-advised mining investors from South Africa to the United States is very important and is a very large straw showing the direction of the current.

A meeting has been called for this week to which all the manufacturers of wrought-iron and steel pipes and tubes have been invited. The object is the usual one, to do away with "undue competition," to regulate and maintain prices and, for that purpose, to restrict production when necessary. It is claimed that there has been so much competition in the trade that prices have fallen to a point which leaves the makers no profit: further, that the quotations have been very irregular, and that some people in the trade have been making all sorts of cuts to secure the business. At the present time the result of the meeting has not been ascertained, but it seems probable that some kind of a combination will be formed.

This is only another one of the attempts to regulate trade by combinations which have so notably injured the iron market during the present year, and which have materially aided in checking and depressing business. The nail combination has been a striking instance of this, and the proposed pipe combine will approach that association more nearly in its relations to the trade than any other. The combination policy, to speak of it in the best way possible, is a most mistaken one, and whatever temporary advantage may seem to be secured, the final result is always injurious to trade.

The growth of the tin-plate industry in the United States is illustrated by the fact that the exports of tin from the Straits direct to this country for the seven months ending with July this year reached a total of 9,048 long tons, or more than twice the quantity noted for the corresponding period last year. This year the United States took 29·7 per cent. of the total shipments from the Straits, against 15·1 per cent. last year. This statement includes only the direct shipments and makes no mention of the metal which reaches us by way of England and Holland.

While the total tin imports into the United States for the earlier months of this year showed a gain, the business depression affected them later in the year, and the total reported by the Treasury Department for the seven months elapsed has been 10,586 long tons, against 14,416 tons last year. Nearly all this decrease was in the months of June and July. From the Treasury returns we also find that the imports of tin plates decreased from 294,848,812 pounds in the seven months of 1895, to 179,386,938 pounds this year, showing a decrease of 39·2 per cent., which further illustrates the extent to which the demand is now supplied from our own works. It is to be regretted that we have not yet opened tin mines which give any reasonable hope of providing our works with domestic metal.

The manufacture of basic Bessemer steel, which is comparatively a new industry in this country, has been begun on a considerable scale by the Troy Iron and Steel Company, whose plant at Troy, N. Y., is now in full operation. The converters at these works have so far been running on basic pig iron made from Old Bed ores from the Lake Champlain district mixed with Hudson River ores, the iron running about 2·1 per cent. phosphorus. The work has been very successful so far, and the steel turned out is of excellent quality, carrying very little phosphorus, sulphur or

silicon. We are informed that the dolomite linings of the converters have lasted well, showing very little injury after a large number of blows.

The basic steel industry, which has hitherto been confined in this country to open-hearth plants, is a rapidly growing one, and will certainly continue to increase. The much wider range of ores adapted for the making of pig iron suitable for conversion into open-hearth steel is largely in its favor, and also permits the establishment of smaller works with the prospect of ultimate success. The limited supply of strict Bessemer ores will always have a tendency to keep up their price and so differentiate in favor of the rival process. It is a significant fact that some of the Alabama furnaces are running steadily on iron suitable for basic steel making, and have already made more than 50,000 tons of such pig iron.

The Transvaal Gold Mines.

The recovery from the depression caused by the political troubles in the Transvaal has progressed so far that the August output of gold reported by the Witwatersrand mines is the largest yet made in one month, amounting to 212,428 crude ounces. For the year the production is still behind that of 1895, the total for the eight months ending August 31st having been 1,470,803 crude ounces this year against 1,516,573 crude ounces last year, and 1,316,396 ounces in 1894. At the usual valuation of Witwatersrand crude bullion, this year's total is equivalent to 1,200,175 fine ounces, or $24,807,617. The prospect seems to be that production will keep up to the August level, at least; and in that case the total for 1896 will be about $39,300,000, or but slightly above that of 1895.

Somewhat better conditions now prevail on the Witwatersrand than for some time past. The supply of native labor is better, so much so, in fact, that the Chamber of Mines has been considering the question of a general reduction in wages. The average paid natives at present is 2s. 6d., or 60 cents a day. It is proposed to reduce this to 50 cents, with some further provisions as to food and allowances, which will bring the saving to the companies up to 15 or 20 cents a day per man, or per "boy," as the African laborers are generally called. Much is also expected from the new prohibitory law, since it is said that the average number of men daily unable to work on account of drink was one-eighth of the whole number. Of course there are the possibilities of illicit liquor-selling; and also the possibility that lower wages and difficulty in getting drunk may deter the natives from coming to work as freely as they have done. In any event the supply must be constantly renewed, since the African will not keep steadily at work for any considerable time.

It is no secret that the gradual decrease in the the average yield per ton at many of the mines is a source of anxiety to the managers, and that they are generally considering the best way of reducing costs. The cutting of wages is one step in this direction if it can be carried out; others are looked for in the cost of water-supply and of fuel, but it will be some time before these can be realized. The larger number of the mines have never had ore running above $12 or $13 per ton, and, in a number of cases, the value is falling with depth to $10 or below.

A new source of production is found in the reports for July. In addition to the gold from mill and tailings, the Robinson reports some return from slimes. These have been hitherto rejected from the tailings which were sent to the cyanide vat, but are now being treated by a new process, which is said to promise a paying return.

The Leadville Situation.

The Leadville strike, as the account in another column shows, reached a crisis on Monday of this week, when an attempt was made to destroy the works at the Coronado mine by fire and dynamite. The attack was repelled by the men at the mine, aided by citizens and the fire department, though not without serious damage done; six men were also killed or fatally hurt, including an officer of the fire department. The local authorities took prompt action as far as was in their power, and also called upon the State for aid. In answer to the call a force of 1,000 militia was sent, and the town and mines are still under protection of these troops. The Coronado is one of the mines owned by the Small Hopes Consolidation, which had secured some men willing to work at the lower wages, and this was the motive for the attack.

The latest report is that several of the mines will join the Small Hopes people in resuming work with such men as they can get, under protection of the troops. How long this will have to be continued it is difficult to say. Local accounts are somewhat conflicting, as many people believe that the outbreak was a final attempt on the part of the turbulent element in the Miners' Union, and that a large proportion of the men realize that there is no hope of the success of the strike, and are ready to give in. On the other hand there is a strong element ready to make trouble, and they may be able to keep up the agitation and to renew the attacks on the mines, should the State troops be withdrawn.

The outbreak of violence, thought it was not unexpected, is very much to be regretted. Whatever the claims of the miners may be, they have by this action put themselves beyond the possibility of further negotiation or compromise, and have forced a situation where the first necessity is to establish the supremacy of law and order. The Colorado authorities have recognized this, and it is to their credit that prompt action was taken in the matter.

It is altogether probable that, as in many similar cases, the majority of the miners have been really in favor of a settlement of the strike, but have allowed themselves to be directed by an aggressive and violent minority. It is no secret that among those who have led in the strike and in the final outbreak are men who were concerned in the Cœur d'Alene troubles of five years ago, and men who had their training in the Butte Miners' Union. In this case they have encountered a most determined opposition, the Leadville mine-owners generally being in a position where they could fight the matter out, and realizing that it must be done now, if at all. There is no probability that they will recede now, and the factor of uncertainty is now on the other side. Whether the majority will finally rule and accept the mine owners' terms, or whether trouble will continue, is still to be decided, with the probabilities in favor of a settlement.

The latest despatches, however, give reports that men are gathering in Leadville from other camps, and that the purpose of the Union is to collect a force sufficient to overpower the militia and make another attack on the mines. The situation is a threatening one if this is correct.

A Possible Market for American Iron Ores.

In Germany, as in Great Britain, there has been for several years past a good deal of study and discussion over the future supplies of iron ore for the blast furnaces. The iron industry has been growing there, not so rapidly as our own perhaps, but with fewer fluctuations and with more steadiness and regularity than that of any other country. Thus the German production of pig iron, which in 1890 was 4,658,451 metric tons, had advanced in 1894 to 5,559,322 tons, and in 1895 to 5,788,798 tons, while the rate of increase so far during the present year has been such that the output of 1896 promises to reach 6,000,000 tons.

The native iron ores were found sufficient for all requirements up to quite a recent date; but for several years past there has been a constant increase of imports. It cannot be said that the German ore deposits are becoming exhausted, but their exploitation has hardly kept pace with the demands of the trade, and in several of the districts the cost of mining is increasing with the depth and extent of the work carried on, and the time is approaching when new supplies must be had. In Upper Silesia, in the Harz and in the Dill-Lahn district it is probable that the maximum supply has been reached, and the output of ores must in the future rather decrease than increase. With characteristic national prudence the German ironmasters do not wait until an emergency comes, but are already investigating the quarters from which the supply of native ores can be supplemented in the future.

In 1894 the total amount of iron ore mined in Germany was 12,392,065 metric tons. The exports were 1,900,000 tons, but nearly all of these were of the minette ores of Elsass-Lothringen, which were shipped to the French furnaces just across the border, most of which were established when the minette ore district was mainly on French territory, and which still continue to use those ores. The imports of ore for the same year were 2,093,007 tons, of which 694,326 tons came from Spain, 572,289 tons from Sweden, 98,144 tons from Algiers, 98,275 tons from Greece, and the remainder from other countries, which include Belgium, Bohemia, France and Russian Poland. The Spanish ores, though they forme, one-third of the imports, do not find especial favor in Germany, and it is not probable that their use will increase; especially as their price has been increasing, owing to the large demand for them in Great Britain, and also to the fact that some of the Spanish sierras are approaching the period of exhaustion of the more accessible and easily worked deposits. The Swedish ores are better liked, and a considerable quantity, chiefly from the Gellivara mines, is now going to Germany; but here again the growing British demand is intervening to raise the prices. Moreover, the exporting mines of Sweden are in the far North, where working and shipment are possible for only half the year, thus increasing the cost and limiting the product. The Greek and Algerian ores are taken only in limited quantities, and these are not increasing.

It is not remarkable under the circumstances that some attention should be directed to America as a possible source of supply. Some time ago, a shipment of Lake Champlain ores was made to Germany, with results which were satisfactory to the buyers. Recently a German gentleman connected with the iron trade has spent some time in this country looking for iron ores suitable for export. Through the assistance of the *Engineering and Mining Journal* he has been able to arrange for a considerable quantity of ore from Cuba for present use; but the question of future supply is still open, and it is not impossible that a regular trade in ores may be developed hereafter.

The German demand is not for a Bessemer ore. The production of Bessemer metal is comparatively small, fully seven-eighths of the steel

produced being made by the basic process. The minette ores, which supply a large part of the burden of the furnaces of Luxembourg, Lothringen and the Rhenish-Westphalian district, with an average of from 35 to 40 per cent. iron, carry from 0·75 per cent. upward in phosphorus. Thomas pig—that is, iron made for conversion by the basic process—constitutes about 50 per cent. of all the iron made in Germany.

It would be, of course, necessary that mines furnishing iron ore for export should be so located as to obtain a low freight rate to tidewater, the ability to place the ores on shipboard at a moderate cost being the next element to be considered after the quality of the ores themselves. Although the freights on the regular Atlantic lines are now rather too high for ore shipments, there would be very little difficulty in obtaining low ocean rates if a considerable trade should be developed, since there is always abundance of ship tonnage to be had, and the competition of sea carriers is usually sharp.

As to the mines which could furnish the ores, there are certainly some in New Jersey which could meet the conditions, and probably some in Eastern Pennsylvania also. The Lake Champlain district and the Hudson River ores have the advantage of cheap water carriage to the port of New York. Most of the New Jersey mines have only a short rail haul. It is quite possible that an export demand may enable some of those in Morris, Sussex and Warren counties, now closed, to reopen, and to work at a profit. The Lake Superior ores would be out of the question, owing to the cost of transportation to the seaboard, as would probably be any ores further distant from the coast than Eastern Pennsylvania. Some of the Southern ores also might fill the requirements. In this connection also it is worth while, perhaps, to inquire whether some market for Alabama basic pig could not be found among the German steel-makers.

This question of possible iron ore exports has never before, we believe, been brought up in this country. It is, however, in view of the facts we have stated, worth investigation, since there is at least a probability that such a trade could be established, and once begun it would be likely to continue.

NEW PUBLICATIONS.

THE MINERAL INDUSTRY; ITS STATISTICS, TECHNOLOGY AND TRADE IN THE UNITED STATES AND OTHER COUNTRIES TO THE END OF 1895. VOLUME IV. Edited by Richard P. Rothwell, New York and London; the Scientific Publishing Company. Pages 880; illustrated. Price, $5.

Volume IV of "The Mineral Industry," giving the commercial statistics for 1895, together with a large amount of technical, critical and historical matter, relative to the progress of mining and metallurgy throughout the world, maintains, if indeed it does not surpass, the high standard set by its predecessors in this remarkable series. It would be difficult to conceive a more comprehensively useful summary within the compass of a single volume. I find nothing in it which could well be omitted; and any addition which might occur to me as desirable is, therefore, not practicable without the creation of another volume. But the annual production of a single book of this magnitude and value is so remarkable an achievement that to ask for more would be calling for a miracle.

The peculiar importance of such a publication is greater now than ever before. The need which it has supplied is part of the great modern phenomenon of accelerated progress in applied science, entailing rapid changes in commercial and industrial conditions. With all deference to the opinions of my friends in both parties, I venture to say that, in my judgment, this cause has been more potent in its effect upon civilized countries than all others—tariffs, coinages, currencies, banks, taxes and political systems—put together. And one of its effects is, that no one engaged in manufacture or trade can any longer afford to be ignorant of the state and the progress of his particular branch. This is especially true of the mining and metallurgical business, which is the index of civilization everywhere.

The prompt information thus called for is not to be had in text-books. They cannot possibly keep up with the times. I have recently been engaged in preparing, for a supplemental volume of one of the leading cyclopædias, an account of the changes which have taken place in a single industry since 1880, the date of the article devoted to that subject in the last edition of the work; and I have been amazed to find, not only how much that is new, and even revolutionary, has arisen, but also how much that was deemed permanently valuable has been discarded during the last 16 years. Even the professors in our technical schools find it difficult to keep abreast with the progress of the arts they teach; and, in every department, students and practitioners alike must seek in innumerable publications the descriptions of profoundly important improvements. The same is true as to current statistics. Government publications are inevitably slow in appearing, however valuable for future reference; and few readers are so situated that they can collate the returns from various countries, while fewer still would do it if they could.

A book like *The Mineral Industry* is therefore a treasure. I have found it so in my own work; and I do not see how any one could come to a different conclusion.

As an extended review of this volume has already appeared in the columns of the *Engineering and Mining Journal*, I will not here enumerate its varied and valuable contents; but I desire to put on record my high estimate of it, and my admiration for the energy and skill which it exhibits.

R. W. RAYMOND.

GEOLOGICAL SURVEY OF ALABAMA: BULLETIN NO 5. PRELIMINARY REPORT ON THE MINERAL RESOURCES OF THE UPPER GOLD BELT. Eugene A. Smith, State Geologist, Montgomery, Ala. State Printer. Pages 198. Illustrated.

The present volume consists of three parts, a preliminary report on the region, by Mr. William M. Brewer; notes on the metamorphic and crystalline rocks of Alabama, by Dr. Smith, and supplementary notes on the same rocks, by G. W. Howes, J. M. Clements and A. H. Brooks. The latter are more geological and scientific in their nature, while Mr. Brewer's report, which occupies nearly half the book, relates chiefly to the more practical side of the subject; the work done on the gold belt, the results secured at different times and the prospects for mining in the future. The Lower Gold Belt had been previously examined and reported on by Dr. W. B. Phillips, and the present report has been confined to the Upper Gold Belt, the division between the two being the boundary line between the counties of Talladega, Clay and Randolph on the north and Coosa, Tallapoosa and Chambers on the south. In the course of an extended personal examination Mr. Brewer has collected a great deal of information about the gold-bearing deposits, their probable extent and value, and also about the operations heretofore carried on in different parts of the belt and those now in progress.

Gold mining is no new matter in Alabama. Placer mining was carried on 50 years ago, though never to the same extent as in Georgia and North Carolina, and the production has never reached a large amount. Later, vein mining was begun and carried on with varying success for many years. In the last two or three years several attempts have been made to re-open old mines and to open new ones, and some of these operations present prospects of moderate success. No placer work is at present being carried on. The history of gold mining in this State is very similar to its record in Georgia, except that it has been less successful. The mining carried on has been generally on a small scale, with very small capital and with very primitive appliances. In some cases where attempts were made to operate more extensively, failure has resulted from lack of skill or injudicious choice of processes for treating the ore. Nowhere has deep mining been carried on; as a rule the exploitation has been confined to the decomposed ores near the surface, and the mines have been abandoned when the water level was reached, either because they would not support the expense of pumping, or because below that level the pyritic nature of the ores would not permit the extraction of their values by the simple processes of stamp milling and amalgamation. Generally also the veins opened have been either too small or too uncertain and pockety in their nature to warrant the erection of expensive plants for the treatment of the ores. Mr. Brewer has given us some historical facts concerning the older mines, and a variety about the later openings.

Dr. Smith says that gold-bearing quartz veins occur in Alabama in connection with talcoid slates as at Talladega Mountain and in the Turkey Heaven district; in connection with gneiss and diorite, as at Pinetucky, and with the green schists, as at Arbacoochee. The report is a valuable one, and while it does not indicate any probability that gold mining will ever become a great industry, like iron mining, in Alabama, it shows that there are possibilities of its development in the future which ought not to be neglected.

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.

Proudhon and his "Bank of the People." By Charles A. Dana. New York; Benjamin R. Tucker. Pages, 67.

Dollars or What? A Little Common Sense Applied to Silver as Money. By W. B. Mitchell. Chattanooga, Tenn.; H. C. Adler. Pages, 96.

Report of the Commissioner of Education for the Year 1893-94. *Volume I.; Part I.* Washington, D. C.; Government Printing Office. Pages, 1,061.

Queensland: Annual Report of the Under Secretary for Mines for the Year 1895. Brisbane, Queensland; Government Printer. Pages, 191; with maps.

Japanese Metallurgy: Pa t I.—Gold and Silver and their Alloys. By W. Gowland. London, Eng.; Eyre & Spottiswoode. Pamphlet; pages, 16; illustrated.

Reports, Letters and Certificates on the Caney Creek Cannel Coal Field, Morgan County, Ky. New York; American Coal Company. Pamphlet; pages, 30.

Ohio Society of Surveyors and Civil Engineers; Seventeenth Annual Report, 1896. Columbus, O.; published by the Society. Pages, 164; with diagram and illustrations. Price, 50 cents.

Victoria: Annual Report of the Secretary for Mines and Water Supply for the Year 1895. Melbourne, Victoria; Government Printer. Pages, 86; with diagrams. Price, in New York, $1.75.

The Conditions which cause Wrought Iron to be Fibrous and Steel Low in Carbon to be Crystalline. By W. F. Durfee. Philadelphia, Pa; Published by the Franklin Institute. Pamphlet; pages, 39.

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.

The Determination of Sulphur in Roasted Zinc Ores.

Sir: In his article on "The Determination of Sulphur in Roasted Zinc Ores" in your issue of August 22d, Mr. J. George Heid states, in effect, that the sulphur present as sulphide is alone the index of roasting, the remaining portion of sulphur being present as sulphate of lime and magnesium.

There is also always present some sulphate of zinc. This can be determined by boiling 30 to 40 g. of the ore with water, filtering, evaporating solution to 200 c. c., acidifying with hydrochloric acid, adding ammonium chloride, and titrating with ferro-cyanide of potassium. Two averages of many estimations showed as follows: A, zinc sulphide, 1·289 %; zinc sulphate, 0·710%; sulphate of lime, 2·267%; B, zinc sulphide, 0·818%; zinc sulphate, 0·452%; sulphate of lime, 1·800%.

PERU, Ill., Aug. 31, 1896. P. A. MACKAY.

Gold Mining in the South.

Sir: Referring to the communication of M. F. in your issue of September 12th, the annual report of the director of the mint contains facts as regards locality of gold production. Georgia, Alabama and North Carolina have State geologists whose reports can be obtained. Information as to Virginia and South Carolina may doubtless be secured by addressing the State Geological departments at Richmond and Columbia. Mining centers are Dahlonega in Georgia, Salisbury and Charlotte in North Carolina. Properly conducted investigations by persons able to act on results will pay at any of the points named and at other points. As to features it is difficult to generalize over five States. Immense bodies of low-grade stuff are found, as well as narrow seams running high in value. At other places b odies 3 to 14 ft. wide have been followed for some disdance, and large nuggets found and sold at the assay office in Charlotte. Hydraulic work is carried on near Salisbury, at Dysartville, N. C., and at Dahlonega, Ga. Natural conditions and prices of labor, etc.; are favorable throughout the field. Except in isolated cases ores have been treated for free gold contents alone. Arrastras and Chilean mills are still found in these States, as elsewhere, although stamps now crush most of the rock. The percentage of extraction has been generally low, but expenses were and may be below those of other fields. As a rule, workings are less than 100 ft. deep.

Glowing pictures of Southern gold mining cannot truthfully be painted, yet it is a fact that employment of ordinary business sagacity would have averted many of the losses of the past. Chlorination has been practised for about eight years at the Haile mine, South Carolina, for two years at Creighton, Ga., and for several months at the Royal mine in Alabama. Systematic work will, doubtless, develop other paying properties. Typical ores are iron pyrites, more or less oxidized near surface. Quartz and slate, copper and lead are also associated with gold, but the production of this class of ores has been trivial.

CHARLOTTE, N. C., Sept. 15, 1896. F. W. CARNAHAN.

The Siemens & Halske Process of Gold Recovery.

Sir: Some time ago I noticed a short article in the *Engineering and Mining Journal* stating that the Siemens & Halske cyanide process had been thrown out at the Metropolitan mine in Johannesburg, and also thrown out at the George Goch mine, the reason given being that the process was not a success. I have not replied to this before, because as a political prisoner in the Transvaal, and with other occupations, I have not had the leisure yet to bring this most interesting process and the results that we had obtained before your notice. We have been treating for the past two years 3,000 tons a month at the Worcester mine. We have treated at this property about 70,000 tons of material, and the works are a complete success. This success was followed up by the introduction of the process into several other properties. We have been treating about 25,000 tons a month for several months past with most satisfactory results. There will be under treatment on the Witwatersrand by this process about the beginning of next year 100,000 tons a month of tailings and slimes. We have been treating at the Robinson mine 6,000 tons of slimes per month, handling 800 tons of cyanide liquor per day, containing in the liquor to be precipitated from 4 dwts. a ton down to 15 and 18 grains, and this liquor is precipitated from 4 dwts. down to 8 or 9 grs., and from 18 grs. down to 3 or 4 grs. It is immaterial whether the solution contains any cyanide or not, it makes no difference whether it is acid or alkaline, and the constitution of the liquid is independent of everything except organic matter. I hope to be able to give you absolute data in reference to the process, but in the meantime I may say that I consider the Siemens & Halske process as now introduced and perfected by the Rand Central Ore Reduction Company the most perfect cyanide process in the world. It is a process that has come to stay along with other electro-metallurgical processes. I feel that it is my duty to make this statement now, because even so well informed a man as Professor Christy of the University, California, has, I hear, made the remark that he understood that the cyanide process that we have introduced was not a success. I always feel that it makes little difference about a metallurgical process whether it is written and talked about or not. If it is good, it stands on its own bottom, and if it is no good all the expert opinion in the world will not make anything of it. I hope to introduce this process into the United States in the coming year. CHARLES BUTTERS.

LONDON, England, Sept. 5, 1896.

Zinc in Slags.

Sir: In response to your article in the *Journal* of August 29th upon ZnO in lead-smelting slags, I send you the analysis of some remarkable slags which I made in the winter of 1891 at Thomasville, N. C. The works had a plant designed for treating the zinc-lead ores (25 oz. Ag, 25% to 30% Zn, 8% to 15% Pb) of the Silver Valley mine by the West process for the extraction and recovery of the zinc. There was an accumulation of the roasted zinc ores (almost a dead roast, 1% to 1½% sulphur) prepared for treatment by the process, but as we were unable to procure a supply of pyritic concentrates necessary for producing the sulphurous acid gas for the process, I proposed smelting the ores without extracting the zinc.

The furnace at my disposal was a small water-jacket cupola 3 ft. in diameter and without any bosh. The crucible consisted of a shallow pump with a tap at the back of the furnace for tapping the lead.

I give below the analyses of the slags from eight charges which were run in the order given.

	1.	2.	3.	4.	5.	6.	7.	8.
SiO_2	27·9	30·0	26·0	27·0	24·5	26·0	27·0	26·4
FeO	33·9	29·0	33·4	31·5	29·4	32·1	26·5	22·7
CaO	14·8	14·0	14·4	19·0	24.5	19·0	24·3	24·8
ZnO	16·6	15·5	19·8	15·0	14·5	15·0	14·1	21·0

With charge No. 1 I used 14% fuel (coke) and with the others 18 to 20%. I would also state that the CaO was partly derived from fluorspar, though I ran a charge following the No. 8 without any spar, with analysis SiO_2 30, FeO 24.5, CaO 22.8, ZnO 17.7, which ran well. I believe, however, that the spar assisted the fusion. In addition to the CaO, there was in these slags 1 or 2% of magnesia, a little alumina and barium making up the balance. These slags and those which followed (on which, by the way, there was no spar), and were over 20 CaO and 16 to 17 ZnO are examples of high-lime slags with high zinc.

The noticeable feature of the slags is the very high CaO in conjunction with so high a ZnO and such a very low SiO_2. With the exception of charge No. 1 these slags were very free from silver or lead (less than 1 oz. Ag and 1% Pb), had a good black color and ran well.

I do not think with a matte charge that the matte would have separated, but the very small quantity of matte made was tapped out with the lead, the lead being tapped as soon as matte showed at the slag top. The lead per cent. on the charge was low, from 8% down to 5·5%.

Considerable zinc crust formed above, occasional charges of iron borings being fed around the sides of the shaft. As would be imagined from the type of the slag, an iron crust formed below the tuyeres, but was at no time sufficient to bother the working of the furnace. Little bubbles crusted with oxide of zinc formed on the slag, and the zinc flame in tapping was most pronounced.

Just how great was the volatilization of silver with zinc I do not know, but the result of the campaign, in both silver and lead lost, as shown by the balance sheet of material smelted and produced, was much less than I anticipated, and was indeed quite satisfactory. A. C. CANBY.

EL PASO, Tex., Sept. 3, 1895.

COLORADO MEETING OF THE AMERICAN INSTITUTE OF MINING ENGINEERS.

Specially Reported for the Engineering and Mining Journal.

The seventy-first meeting of the American Institute of Mining Engineers opened at Denver, Colo., on Monday, September 21st. The programme for the meeting was outlined in our last number. The local arrangements were under charge of an executive committee composed of Messrs. Richard Pearce, H. Van F. Furman, J. A. Porter, T. A. Rickard, B. B. Lawrence, H. V. Pearce, T. B. Stearns and P. H. Van Diest. The general committee was aided by local committees at the various points to be visited, the following gentlemen heading these sub-committees: Denver, Mr. J. B. Grant; Cripple Creek, Mr. C. J. Moore; Victor, Mr. E. L. White; Colorado Springs, Mr. R. J. Bolles; Florence, Mr. Philip Argall; Pueblo, Mr. A. S. Dwight; Central City, Mr. John Best; Golden, Prof. Regis Chauvenet.

No less than 48 papers were prepared and presented for this meeting. Of these the following were in the hands of members in printed form before the meeting began.

1. The Smuggler-Union Mines, Telluride, Colo., by J. A. Porter, Denver, Colo.
2. Sketch of a portion of the Gunnison gold belt, including the Vulcan and Mammoth Chimney mines, by Arthur Lakes. Denver, Colo.
3. Gold in Granite and Plutonic Rocks, by W. P. Blake. Tucson, Ariz.
4. The Occurrence and Behavior of Tellurium in Gold Ores, more Particularly with Reference to the Potsdam Ores of the Black Hills, South Dakota, by Frank C. Smith, Rapid City, S. Dak.
5. Further Notes on the Alabama and Georgia Gold Fields, W. M. Brewer. Atlanta, Ga.
6. Gold in the Guianas, by Henry G. Granger, Buenaventura, Colombia, South America.
7. Electric Mining in the Rocky Mountain Region, by Irving Hale, Denver, Colo.
8. Additions to the Power Plant of the Standard Consolidated Mining Company, by Robert G. Brown, Bodie, Cal.
9. Note on a Shaft Fire and its Lesson, by Robert G. Brown, Bodie, Cal.
10. The Concentration of Ores in the Butte District, Montana, by Charles W. Goodale. Butte, Mont.
11. Middle-Product Jig, by E. C. Tuttle, Newark, N. J.
12. Eccentric Jig, with Adjustable and Automatic Lower Discharge Arranged for the Full Width of the Bed and for One or More Compartments, by E. C. Tuttle, Newark, N. J.
13. Laboratory Tests in Connection with the Extraction of Gold from Ores by the Cyanide Process, by Howard Van F. Furman, Denver, Colo.
14. The Cyanide Process in the United States, by George A. Packard, Boston, Mass.
15. A Modern Silver-Lead Smelting Plant, by L. S. Austin, Denver, Colo.
16. The Sulphuric Acid Process of Treating Lixiviation Sulphides, by F. P. Dewey, Washington, D. C.
17. Silver Losses in Cupellation, by L. D. Godshall, Everett, Wash.
18. Discussion of Mr. Bayliss' paper (read at the Pittsburg meeting) on The Accumulation of Amalgam on Copper Plates, by Frank Owen, Marble Bar, Western Australia.
19. Action of Blast-Furnace Gases Upon Various Iron Ores, by O. O. Laudig, Buffalo, N. Y.
20. The Microstructure of Steel and the Current Theories of Hardening, by Albert Sauveur, Chicago, Ill.
21. The Actual Accuracy of Chemical Analysis, by F. P. Dewey, Washington, D. C.
22. Rapid Section Work in Horizontal Rocks, by M. R. Campbell, Washington, D. C.
23. Laboratory Note on the Heat Conductivity, Expansion and Fusibility of Fire Brick, by J. D. Pennock, Syracuse, N. Y.
24. The Bertrand-Thiel Open-Hearth Process, by Joseph Hartshorne, Philadelphia, Pa.
25. Discussion of Mr. Thackray's paper (read at the Atlanta meeting) on The Determination of Phosphorus in Steel, by E. K. Landis, Philadelphia, Pa.
26. Note on Copper in Iron and Steel, by R. W. Raymond, New York City.
27. Faulting and Accompanying Features Observed in Glacial Gravel and Sand in Southern Michigan, by Carl Henrich, Noble, Ill.
28. Biographical Notice of Charles A. Stetefeldt, by R. W. Raymond, New York City.

The following papers, not yet printed, were presented in proof or manuscript or in oral abstract at the meeting:

29. A Map of the Colorado Mining Regions, with Explanations, by T. A. Rickard, State Geologist, Denver, Colo.

30. Old Spanish Reduction Works at Coneto, by G. E. Kedzie, Ouray, Colo.
31. Patio Process in Mexico, by Carlos F. de Landero, Pachuca, Mexico.
32. The Enterprise Mine, Rico, Colo., by T. A. Rickard, Denver, Colo.
33. Traces of Organic Remains from the Huronian(?) Series at Iron Mountain, Michigan, etc., by W. S. Gresley, Erie, Pa.
34. Discussion of Mr. Laudig's paper on The Action of Blast Furnace Gases Upon Various Iron Ores, by F. E. Bachman, Buffalo, N. Y.
35. Discussion of Mr. Schmitz's paper (read at the Pittsburg meeting) on The Copper Ores in the Permian of Texas, by Henry Louis, Newcastle-upon-Tyne, England.
36. Discussion of Mr. Rickard's paper (read at the Pittsburg meeting), on Vein Walls, by Robert G. Brown, Bodie, Cal.
37. Discussion of Mr. Henrich's paper on The Faulting and Accompanying Features Observed in Glacial Gravel and Sand in Southern Michigan, by W. S. Gresley, Erie, Pa.
38. An Improved Assay Muffle, by A. D. Dwight, Pueblo, Colo.

The following were read by title, and announced for subsequent publication:

37. Magnetic Observation in Geological Mapping, by H. L. Smyth, Cambridge, Mass.
39. Ore Deposits of Cripple Creek, Colorado, by Edward Skewes, Cripple Creek, Col.
40. Mining Developments in Texas, by William Noves, Shafter, Tex.
41. Mechanical Roasting, by H. A. Keller, Butte, Mont.
42. Manufacture of Cement from Blast-Furnace Slag, by Jasper Whiting, Chicago, Ill.
43. Chlorination of Cripple Creek Ores, by E. N. Hawkins, Gillett, Colo.
44. Rolloville Zinc Works, by Courtenay Dekalb, Rollo, Mo.
45. Mining in South Africa, by Thomas Rickard, Pilgrim's Rest, South African Republic.
46. Phosphate Deposits of Arkansas, by John C. Branner, Stanford University, Cal.
47. Mechanical Roasting of Ores, etc., by Horace F. Brown, Chicago, Ill.
48. The Use of the Tremain Steam Stamp in Amalgamation, by Edwin A. Sperry, Gunnison, Colo.

About 125 members attended the meeting and took part in the proceedings.

THE MEETING.

The opening session of the Institute convened at 2:30 p. m., Monday, in the ordinary of the Brown Palace Hotel. The meeting was called to order by Dr. Richard Pearce, chairman of the local committee, who welcomed the members to Colorado in the absence of Governor McIntyre, who was prevented from being present by the strike at Leadville. Secretary Raymond replied, expressing the thanks of the Institute. Dr. Pearce was called upon to preside at the meeting. The Institute then proceeded to business and the reading of papers was in order. The first was: "The Development of Colorado's Mining Industry," by T. A. Rickard. Mr. J. B. Grant and Dr. Raymond discussed the paper. The paper of N. C. Smith on the "Occurrence and Behavior of Tellurium in Gold Ores," was read by title and discussed by Messrs. W. P. Jenny and H. Van F. Furman. The next paper on "Electric Mining in the Rocky Mountain Region," was read in abstract by Irving Hale, and at 4:30 the meeting adjourned to participate in a reception at the residence of Dr. Pearce.

Tuesday forenoon was occupied in visits to the works of the Boston & Colorado and the Omaha & Grant smelting companies. The afternoon was devoted to an excursion to Fort Logan, where the members witnessed a very entertaining drill by the United States troops.

The evening session at the Brown Hotel was devoted to a discussion of Mr. Hale's paper and the reading of R. G. Brown's paper on "Recent Improvements in the Power Plant of the Standard Consolidated Mining Company at Bodie, Cal." The discussion was participated in by Messrs. Hale and Keller. Mr. L. D. Godshall's paper on "Silver Losses in Cupellation" was read by title and discussed by A. S. Dwight, who submitted a sketch of an improved assay muffle. The last paper of this session was on the "Gunnison Gold Belt," by Arthur Lakes.

Wednesday morning about 100 members left Denver on the special Cripple Creek excursion. The third session was to be held at Cripple Creek.

We give below abstracts of some of the papers presented at the meeting. Abstracts of others were given in our last issue.

SKETCH OF THE GUNNISON GOLD BELT, COLORADO.

BY ARTHUR LAKES.

In this paper the author gives the results of an examination of the section of Gunnison County, Colorado, from the Cebolla River to the Sawatch Range. The geology of the region is irregular, the rocks prevailing being granite in one portion, gneiss and schists in another, with occasional lava overflows, and, in the granite, bodies of porphyry. Numerous ore veins have been found in this region, some being very large veins which can be traced for a considerable distance, while others are small lenticular bodies. A number of mines have been located, but few of them have passed beyond the prospect stage. The Vulcan and the Mammoth Chimney are the most important, and both of these are described in the paper.

LABORATORY TESTS IN CONNECTION WITH THE CYANIDE PROCESS.

BY H. VAN F. FURMAN.

The writer is of the opinion that, had simple tests been better understood, many of the failures in applying the cyanide process would not have occurred, and we should probably have a larger number of successful plants in operation. While the process is not simple, but requires a high degree of chemical and engineering skill, the determination of the adaptability of an ore to the method is generally not difficult. While the laboratory-results will not always coincide with the actual results obtained in the mill, they will serve as a guide and control on the working of the mill, and will generally suffice to determine if the ore can be economically treated by the process. Objection may reasonably be made that in small tests conditions different from those which occur on a larger scale are introduced. However, tests made on 25 to 100 lbs. of ore should be closely duplicated in the mill. Tests on a smaller scale will serve to show what may be expected in the mill.

The tests given include simple methods for determining acidity; testing the consumption of cyanide; testing percentage of extraction; determining causes of cyanide consumption; determining causes of non-extraction; determining free cyanide in solution; determining free hydrocyanic acid in solution; determining simple and compound cyanides in solution; determining zinc and lime, and finally the gold and silver in solution.

ELECTRIC MINING IN THE ROCKY MOUNTAINS.

BY IRVING HALE.

This paper is rather general in its terms, treating of the advantages of electric transmission of power and of the general principles governing electric power plants, with very little description of particular plants. A large table is given with a list of electric plants in the Rocky Mountain region. The different applications of electricity are discussed, and the paper says, in conclusion, that during the past eight years, and principally in the last four years, 52 distinct companies in the Rocky Mountain district alone have installed electric-power machinery for mining and ore-reducing purposes, comprising 62 generators, aggregating 7,988 kilowatts, and 135 motors, aggregating 4,816 H. P., operating every variety of mining and milling machinery. Electric apparatus, formerly regarded as delicate and peculiarly subject to breakdowns, has been brought to such a degree of perfection that depreciation and repairs may be considered as less on this than on almost any other kind of machinery. The multiphase high-voltage system has brought nearly every mining district within economical reach of water-power. The induction-motor, without commutator, collector or brushes, is both simple and durable. Electro-metallurgical operations are increasing and give promise of success. Under these conditions it may be safely predicted that during the next five years much greater progress will be made, and the application of electricity will become one of the most attractive and important features of mining economy.

NOTE ON COPPER IN IRON AND STEEL.

BY DR. R. W. RAYMOND.

In this note the author replies to some inquiries by saying that the practice approved by Dr. Dudley of omitting any mention of copper in specifications for steel rails has been universally followed, and the latest specifications of Mr. Hunt are silent as to both sulphur and copper. The underlying reason evidently is that the conditions of manufacture practically guarantee the amount of copper to be too small to injure the rail. What is the actual limit thus established is a matter of some doubt. It was formerly assumed that at about 0·4% of copper wrought-iron would begin to be red-short; and in 1862 Eggertz declared the influence of copper on steel to be still greater, so that a steel containing 0·5% of copper was worthless, while a low-carbon iron would only show, at that percentage, traces of red-shortness. But Wasum showed, in 1882, that 0·20 to 0·30 carbon steel could carry 0·059% of sulphur and 0·452% of copper without red-shortness; and that with 0·06 sulphur and 0·862 copper, or 0·107 sulphur and 0·849 copper, it was "good," giving but slight indications of red-shortness. Choubley, working with steels containing 0·2 phosphorus, 0·50 to 0·60 carbon, 0·05 to 0·07 sulphur, and 0·36 to 0·54 manganese, found that 0·36 to 0·48 of copper left them entirely weldable at temperatures at and above red heat. And Mr. Howe cites Choubley for the opinion that steel may contain as much as 0·96% of copper without serious red-shortness. Mr. Howe gives also an interesting account of the "copper-steel" exhibit by Holtzer at the Paris Exposition of 1889. This material contained copper up to 3 or 4%; was reported to be red-short when copper had reached 1%; exhibited in bars a high tensile strength and elastic limit, with considerable elongation. The data furnished concerning it are both incomplete and lacking in precision. But the general conclusion which they indicate is unfavorable to the notion that anything is to be gained in quality by the addition of copper to steel.

THE SULPHURIC ACID PROCESS OF TREATING LIXIVIATION SULPHIDES.

BY F. P. DEWEY.

This paper contains a very full discription of the process employed by the Dewey-Walter Refining Company for refining the Daly sulphides at the Marsac Mill, Park City, Utah.

Broadly speaking, the process consists of six main operations:

1. Boiling the sulphides with strong sulphuric acid in an iron pot. 2. Dissolving out the sulphate of copper and silver in a lead lined tank, leaving a residue containing the gold and lead of the sulphides, and also rich in silver. 3. Precipitating the silver out of the filtered solution by copper plates. 4. Sweetening, drying, pressing, and melting the cement-silver. 5. Treatment of the solutions after the removal of the silver to crystallize the sulphate of copper, and recover the excess of acid for reuse. 6. Treatment of the gold-bearing residues.

The 1894 run of the Marsac leacher produced 116,519·5 lbs. of regular sulphides which were treated by this process. These sulphides contained 572,544 oz. of silver, and the silver returned was divided as follows:

PRODUCT RETURNED.

	Fine silver, oz.	Total silver, per cent
Fine bullion, free from gold	551,330	96·29
Residue	15,773	2·76
Cleanings	5,329	0·93
On hand	2,191	0·38
Total	574,623	100.36
Plus clean-up	2,079	0.36

As to the recovery of the gold, the figures are not satisfactory. The actual return of gold for the year was 606·9 oz., the original assays of the Daly Mining Company called for 654·8 oz., but their reassay on some of the samples reduced this to 646·1 oz. This left an apparent shortage in the returns of 39·2 oz. After the close of the year's business, a general sample was prepared by taking proportionate weights of each of the check

samples, and the Daly Company's assay of this sample called for 605·9 oz., and showed a plus clean-up of 1 oz. There are special difficulties in determining such small quantities of gold in the presence of so much silver.

MIDDLE-PRODUCT AND ECCENTRIC JIGS, WITH ADJUSTABLE DISCHARGES.

BY E. G. TUTTLE.

The paper describes a jig arranged for separating the middle product or middlings obtained in the concentration of certain ores, minerals, coal, etc. In the preparation for sizing, prior to jigging, of ore-bearing minerals, coal, etc., with their impurities, it is generally desirable to avoid reducing them to unnecessarily small sizes. Where the impurities adhere to the mineral particles or are disseminated through its mass, it is generally necessary to crush to such a fineness as will unlock the minerals from the gangue. If a considerable proportion of the material consists of mixtures of the minerals and gangue, each in large size, and a lesser proportion consists of a mixture of the two, in smaller sizes of various dimensions, it is not always desirable to reduce the whole to such size as would be required to liberate completely the pieces of ore and gangue in the finest mixtures. In such a case it is preferable to reduce all the material to such an average size as will completely unlock from the gangue a larger percentage of grains of ore, leaving a proportion of grains composed of part ore and part gangue, not too large to be readily treated and obtained as a middle product from the jig. When the proportion of such middlings becomes too large, a somewhat finer reduction of the material at the start is required. An output reduced as above and then separated in sizes is ready for treatment, each size separately, on a middle product jig. What percentage of middle product will result in the various sizes, from the largest down, will depend considerably upon the material and the extent of reduction and sizing. The construction and operation of the jig used for this purpose is similiar to that of other jigs with the exception of the arrangement of the discharging at overflows and gates and the method of gathering the products. The devices used appear to be well adapted for the purpose, but the full description would hardly be intelligible without the engravings.

Another paper by the same author describes the arrangement of a two-compartment eccentric jig fitted with adjustable and automatic discharges for drawing off the lower product obtained in jigging minerals, ores, coal, etc., which is designed to remove or separate more effectively the materials treated, as they travel over the jig from the receiving to the discharge points. The discharge-box is constructed to extend across the width of the jig at right angles to the direction of the movement of the material over the jig-sieve, and to intercept at suitable points the path of the material and remove such of the lower product as has become separated, allowing the remaining material to continue on its passage to the next, and so on to the final overflow or discharge-end. Thus the discharges are more directly presented to the lower product, for receiving and removing it, than in the case of small discharge-boxes located at the center or side of the bed, or at the middle of the overflow-end, which arrangements require the lower product to follow a circuitous path before arriving at the discharge, thus consuming more time to effect a separation and lessening the capacity of the jig, or else permitting the material to pass beyond the discharges and out at the overflow without being separated from the upper product. With jigs of a single compartment the wide lower discharge-box can be readily placed directly below the point where the upper product overflows from the jig; but in jigs of two or more compartments, the arrangement is usually a small discharge-box 3 in. square, more or less, or of other shape, located at the sides or in other positions of each compartment.

THE SMUGGLER UNION MINES, TELLURIDE, COLO.

BY J. A. PORTER.

After describing briefly the geological features of the Telluride region, this paper says that the Smuggler vein is remarkable for its continuity and regularity. It crosses the water-shed of Canyon Creek, a tributary of the Uncompahgre, and Marshall Creek, which runs into the San Miguel at Pandora, at an altitude of 13,200 ft., at which point the thickness of the rocks of igneous origin might be roughly estimated at 3,500 ft. The vein is plainly visible upon the surface, where it crosses the divide, and cuts through the rhyolite and augite-andesite down into the andesite breccia to within only a few hundred feet above the conglomerate, as it crosses Marshall Creek. What the character of the vein may be after passing into the conglomerate and sandstone is not yet determined. The vein-crop runs through the Smuggler Union property for a distance of one mile, and continues south across the Savage fork of the San Miguel, and is plainly visible at the outcrop for over a mile farther in that direction. On the north side of the divide the vein is worked for two claims (3,000 ft. in length) quite extensively and can be traced at intervals on the surface for over two miles. The total distance more or less exposed by mining work is more than four miles. The course is about N. 20° W. and the dip is westerly at an angle of 75°. The strike throughout the entire workings is very uniform. Only two cross-faults occur in the entire length exposed by the underground workings. The first is at a point near the south end of the property and is caused by a large quartz vein, the Pandora, containing gold, but little or no silver. It dips 45° to the south. The plane of fault is nearly at right angles to the course of the Smuggler vein and the movement of this fault is about 50 ft. The second fault of only a few feet is made by the Revenue vein, which crosses the Smuggler vein at an angle of about 15°, and is well defined as the latter. This vein is now being developed and is very easily worked, owing to the decomposed state of the ores it contains. It carries less gold and more lead than the main vein. The deep tunnel follows this vein for some distance, as a matter of economy in reaching the shaft.

The Smuggler vein is probably a fault-fissure. Both the hanging and the foot-wall show large polished surfaces. Striation is very frequent, and gangue-matter, several inches in thickness, occurs in places upon the hanging- as well as the foot-wall. Yet, although this is largely the case, long distances occur where the quartz, which almost exclusively forms the filling of the vein, shows no parting whatever from the country-rock. To use a miner's expression, it is frozen to the walls. The average thickness of the vein is about 5 ft., seldom narrowing to less than 2 ft., and rarely widening to as much as 10 ft. Enclosures of country-rock are frequent, sometimes as fragments, and more frequently in continuous masses between bands of the lode. Cavities are rare. In the Mendota claim, a mass of andesite several hundred feet in length and 30 or 40 ft. in thickness divides the vein. This is the only point in the workings where such an occurrence is met with, except on an exceedingly small scale, when a stringer leaves the vein for a few feet only. Associated with quartz, rhodocrosite occurs in places and imparts a pinkish color to certain bands in the vein, which are sometimes nearly a foot in thickness and very regular for many yards. When this mineral is present in sufficient quantity to color the vein, that portion is seldom rich in the precious metals. Very small quantities of calcite, brown-spar and heavy spar also occur.

The minerals occurring are pyrite, chalcopyrite, galenite, sphalerite and the arsenical silver-minerals. Proustite and polybasite have been determined, and probably nearly all of the arsenical silver-minerals occur. No specimens of tetrahedrite have been recognized. Metallic silver is very rarely encountered. Metallic gold is more frequent, although unusual. The remarkable feature of the vein is the regular and continuous distribution of the ore, which generally lies near the foot-wall. The usual occurrence is a few inches of richer ore (so-called "shipping ore") and a foot or two of banded structure, more available for concentrating, which goes to the mill. So constant is the occurrence that over a mile has been worked along the vein on various levels without meeting any part where the ore is not present in sufficient quantity for continuous stoping. One remarkable feature is the constant increase of gold-value toward the south, throughout the entire workings, and the corresponding decrease in silver-value in same direction. Where the vein crosses the divide, at the extreme north end of the property, the gold-value is hardly one-quarter that of the silver. The transition from silver to gold is almost constant, until, a mile south, the vein practically becomes a gold-lode. This change does not correspond to depth gained by slope of mountain toward the south end of the property; for on the north side, at a corresponding altitude, the vein contains gold to the extent of only a few per cent. of its total value.

The levels on the vein have been run heretofore 100 ft. apart, and are timbered with stulls, upon which lagging, to support the waste produced in stoping, is placed. The stull-timbers are set into foot and hanging-wall at right angles to the dip, and are about 14 ft. long and as many inches in diamater. The work of exploitation is carried on by stripping in country rock on the hanging wall to some 7 ft. in height, and then shooting down the vein in mass, to be broken and passed into chutes with little or no sorting. An important change has recently been introduced in the construction of these chutes, which has made it possible to use them in spite of the passage of heavy and sharp rock, until a height of even 250 ft. has been attained; thus saving the great expense of running and timbering drifts at every hundred feet. The levels will in future be 200 ft. and more apart. The change in construction is locally a new departure, and consists in simply placing the timbers used in building the chutes (mills) so that the end will be cut into, instead of the sides, which are soon cut out. The old "mills" were built like a log house; the new are constructed of short mill-timbers, and for the first 100 ft. are built with ends presented to the falling rock.

From the chutes ore is hauled by mules to the shaft in cars containing about 1 ton each. From the collar of the shaft, which starts on the third level, the distance down to the tunnel is 700 ft.; and all ore is lowered to that level. From the bottom of the shaft a train of 12 cars is hauled to the storing-house at the head of the tramway. A very rough hand-sorting here takes place while the ore is being filled out of the chutes over aprons into cars, which load into tram-bins. About 10 to 15% of high-grade ore is thus selected for shipping, and goes over the tram direct to the railroad and then to the smelter. From the sorting house the lower-grade ore is transported over a Bleichert tramway, at a cost of about 25c. per ton, to the mill. The tramway is one mile in length; the alignment being straight and the inclination about 20°. Fourteen towers support the standing cable, the longest span of which is 1,200 ft. The traction-cable is ⅞-in. and the standing-cable 1¼ in. in diameter. The buckets used are 38 in number and contain 500 lbs. each. The monthly capacity of the mill is 5,000 tons; and this amount the tramway delivers in 10 hours daily. The total cost of the wire tramway was $30,000.

Upon arrival at the mill, the ore is broken to a suitable size through a Blake crusher, and is thence carried by automatic feeder to stamps, which crush to 14-mesh. This entire product is passed over Triumph and Frue tables, producing about 15% of concentrates, which contain an excess of silica. No farther method of concentration, is used, except that a rough sizing of the tailings from the vanners is made; the coarser part, which will not pass through a 40-mesh screen, being reground in a Huntington mill, and then retreated on a second series of vanners. The stamps and mortars used are of similar construction to those in general use for gold-milling on the Pacific Coast. The stamps are 800 lbs. in weight, and drop 8 in., with 95 drops to the minute. The 50-stamps crush 150 tons daily.

The above seems to be a very crude process of concentration; and the resulting loss is startling, being nearly 20% of the gold and fully 40% of the silver contained. The average contents of the milling-ore for the past year has been slightly over ½ oz. gold and 12 oz. silver per ton. The minerals associated with the precious metals are so disseminated in the gangue that, unless very fine crushing is resorted to, little concentrating material is liberated. Preliminary experiments have been made with a view to reducing the ore to proper size by rolls, thus avoiding an excessive quantity of finely divided material. A crushing to wheat-size permitted a concentration in jigs, showing very rich headings; but even with crushing to this size, only a small percentage of the precious metals was obtained by jigs. It was found necessary to recrush the resulting tailings and middlings very fine in order to liberate the minutest particles of ore contained.

During the past few years, transportation by pack-train has given place to the tramway, thus saving many dollars per ton. The ore is delivered from the mouth of the tunnel, opened far below the deepest working. Operations in the mines are conducted on a large and economical scale; but the startling loss by concentration still goes on, and over 30% of the precious metals goes daily down the San Miguel River. No important progress is being made in this direction, to correspond with the great saving effected in other branches of the business.

THE ENGELHARDT BROMINE GOLD EXTRACTION PROCESS IN OPERATION.

Written for the Engineering and Mining Journal by D. C. Pret and H. Trachsler.

The so-called "refractory ores" of the La Plata Mountains, which, when treated by amalgamation, yield an extremely low extraction, are found to vary in character to a great extent. Up to the present time, only a small amount of development work has been performed in these mountains and consequently the camp has not as yet gained a very wide reputation as a gold-producing district. During the last year four mines have been opened up and become regular shippers. Their product, principally tellurium ores, has since been successfully treated at the bromination works of Pret, Trachsler & Company, at La Plata, Colo., and the mines have produced enough ore to keep this plant in continuous operation. The process used in these works had been subjected to most severe tests during a two-months' trial run and the results obtained during this period have, we believe, proved its merits and commercial success.

As already mentioned, the ores in question are principally tellurium ores similar to those of Cripple Creek. The gold is combined with tellurium as sylvanite and petzite; in some veins as hessite, the greater part of the gold being replaced by silver. The ore bodies closer to the surface, being naturally more decomposed, contain also a small amount of free gold, which fact has induced mine-owners to erect stamp mills, but the results obtained by this simple and otherwise most economical process were so unsatisfactory that operations were suspended. After a close investigation upon the most suitable treatment of these ores, we came to the conclusion that we had to select one of the three known wet processes: Cyanide, chlorination, or bromination. The idea of treating our ores by cyanide of potassium was abandoned for the reason that we found these ores had to be roasted, and it would require a long time for the extraction of the gold with a large consumption of chemicals and too fine crushing. This large consumption of cyanide of potassium is due to the presence of copper. In addition to this metal some of the ores contain arsenical iron pyrites, zinc blende and galena and small quantities of chromic and titanic iron, so that in our opinion the cyanide process would surely become too complicated and expensive for ores of such chemical composition. On that account we decided to adopt either chlorination or bromination. Having been familiar with the merits of the former process, we concluded to make thorough tests by the latter process at the experimental plant of its inventor, Mr. E. C. Engelhardt, at Denver, Colo. Laboratory tests were made on a small scale at first, followed by a few mill tests on 1,000-lb. lots, all experiments being conducted in our presence. The extraction obtained by the different tests varied from 90 to 96%, so that the average extraction was 93%, a result which may probably be obtained by chlorination through careful work but with larger consumption of chemicals. Finally, we concluded to adopt bromination in preference to the latter treatment, guided by the following important facts: First, the solvent power of muriatic acid solution of bromine, in the barrel especially, with the addition of soda ash or any other cheap carbonic acid-producing alkali or alkaline earth, is greater than that of chlorine solutions, the action being also more uniform and quicker, and therefore the extraction of gold generally higher. Second, owing to the small amount of bromine used per ton of ore the freight and cost of transportation on chemicals, especially where mills are not located near a railroad point, are considerably less than the cost of chemicals used in chlorination. Third, the way of applying the bromine solutions in the barrel takes less time, and the charging of the same is less injurious to the operator. Another decided advantage in favor of bromination will be spoken of later on.

THE PRET-TRACHSLER REDUCTION WORKS, LA PLATA COUNTY, COLORADO.

The principal ore bodies so far uncovered occur in diorite and judging from the geological formation of the La Plata Mountains, we believe that all those veins now mineralized with gold will be continuous with increasing depth. The amount of silver being so limited in most of the ores we are treating at the present time, that its recovery can be omitted is another point which we had fully considered when selecting the above process in preference to any other.

At the beginning of this season we treated the most refractory ores from different veins and had ample opportunity to confirm our calculations as to the size and value of ore bodies, and furthermore our belief that we had selected the most suitable method of treatment. The works originally intended for the treatment of custom ores have for the last two months been running continuously on ore from one of our own mines, and we have demonstrated that the character of the ore has not changed The development work on this property consists of a shaft 125 ft. deep with 400 ft. of drifts. At this depth the gold and silver values correspond with those of the ores mined close to the surface. We made exactly the same observations on all those veins of the La Plata Monntains where the mineralized, eruptive portions consist of diorite. Sometimes the chemical analysis shows a slight variation as to the percentage of silica and iron (75 to 85%), but the whole composition of the ore we are treating now is quite uniform. The analysis of an average sample, taken from 100 tons of ore, gave the following results: Silica, 80·5%; iron sesqui-oxide, 10·0%; lime, 1·05%; magnesia, none; alumina, 3·7%; sulphur, 2·80%; total, 98·05%. The remainder of 1·95% is covered by small quantities of copper, arsenic, chromium, titanium and tellurium, which are found and easily detected in solutions after treatment. The values in silver and gold of different shipments were found to be from 1·25 oz. to 2 oz. in gold and from 0·5 oz. to 1 oz. in silver per ton. As already stated a small portion of the gold is found to be in a metallic state, though the largest portion is combined with tellurium and probably as sulphide of gold in the arsenical iron pyrites.

Like any other chemical process, this bromine-process requires careful attention, and the services of a man who is familiar with the principles of chemistry, should be procured for its management. With this knowledge and some practical experience in milling, no difficulty will be encountered in introducing this process with success. Although our roasting facilities are not of the latest pattern (we are using the Bruckner furnace) we succeed in getting a perfect dead roast in 8 hours, including time for charging and discharging the furnace. The roasted ore is elevated from the cooling floor and charged into a lead-lined, revolving barrel with water and the necessary amount of chemicals. The strength of solution employed is on an average 0·25%, but we found that a 0·15% solution, equal to 1½ lbs. of bromine per ton of ore, can be used to advantage. The extraction of the gold takes place in 2 to 3 hours. Generally 1 to 1½ hours is sufficient time to obtain a high extraction, but owing to the presence of free gold in our ores we prefer to have the bromine solutions long enough in contact with this more or less coarse gold. The leaching from the barrel takes place in 35 to 45 minutes, even on slimy charges containing, for instance, large quantities of flue-dust. The solutions being free of slimes and perfectly clear do not require any settling. We may state here that this is in our opinion an important advantage over the use of barrel chlorination where the slimes of sulphate of lime produced by chloride of lime and sulphuric acid require from 12 to 24 hours settling. It is evident that in consequence much time can be saved and the capacity of the works materially increased.

The small amount of bromine which is still present in the gold solutions—but so small that its recovery can be dispensed with—is easily eliminated by sulphurous acid. This gas is produced in a generator by burning sulphur and introduced into the tanks with the aid of compressed air, which at the same time supports the burning of the sulphur. The gold (bromide of gold) is then precipitated by means of sulphuretted hydrogen as sulphide of gold. This gas is introduced in the same manner as sulphurous acid, being produced in a lead-lined generator from iron matte and sulphuric acid. The elimination of the free bromine and precipitation of the gold takes from 15 to 25 minutes per tank holding 3,500 gals. of gold solution. The precipitates are allowed to settle in the tanks for about 2 to 3 hours and the supernatant liquor drawn off, running through a Johnson filter press. The main bulk of the gold precipitates is left accumulating in the bottom of the tanks until a clean-up is made and then run through the press from which it is taken to the refining process. This being the same operation as used for the product of barrel chlorination it is not necessary to go into details. The average extraction on ores pulverized to 16-mesh varied from 93 to 96%; in some instances even a higher percentage was saved, all depending upon character of ore and occurrence of gold.

As to cost of treatment per ton of ore we are not yet in a position to give correct figures, but we are so far convinced that this process handles our ores more cheaply than could be done by any other method. In conclusion we wish to say that the process has been patented in the United States, Mexico, Australia and South Africa.

Graphite in Bulgaria.—The Bulgarian Government has lately granted a concession for the opening up and working of some graphite deposits at Bistritza.

OHIO MINES IN 1895.

Hon. R. M. Haseltine, Chief Inspector of Mines of Ohio, has filed with the Governor his annual report for the year 1895. The industrial portion of the report is subdivided into 30 subjects, each of which is treated in detail. This is followed by the reports of the inspectors. Then follows lists of mines and quarries, mine owners, their post-office addresses, etc., making in all 45 subdivisions of the work performed by the department during the year. Numerous tables have been prepared with a view of making the subjects more ready of comprehension.

From the statistical portion of the report the year's production of coal is given as 13,683,879 tons, an increase over the preceding year of 1,773,660 tons. By comparing the footings of the table with those of the preceding year it is found that the increase in lump coal is 1,349,231 tons; in nut coal 113,755, and in pea and slack 310,674 tons. The unusual percentage of gain in lump coal is ascribed to the increased use of mining machines and the adoption of improved methods in mining.

In point of production the four leading counties are Jackson: 2,072,939 tons; Perry, 1,789,109 tons; Athens, 1.435,744 tons; Hocking. 1,432,741 tons. They occur in the same order as in the report for 1894. The counties of Athens, Hocking and Perry, which compose the Hocking Valley coal field, produced 4,657,594 tons, an increase over 1894 of 285,793 tons, and 34% of the whole output of the State. This is a decrease of 2·1% as compared with the preceding year, of 3·7% as compared with 1893, and of 4·4% from 1892.

Mr. Haseltine's corrected statement differs slightly from that given in *The Mineral Industry*, Vol. IV., which was based on the returns made by the mine inspectors also. The output of the State was there given at 13,926,133 tons, or 242,254 tons more than the present figures. The difference, of 1·8% only, is due probably to later corrections of the returns. It will be noted also that of the mines in operation last year no less than 715 are small mines employing less than 10 men each; from these mines it is usually difficult to obtain exact figures, so that in any case absolute correctness in stating the output cannot be secured.

On the year's production 3,120,456 tons were mined by machinery, an increase of 564.990 tons as compared with 1894. This output is the greatest in the State's history, and the gain has been exceeded but once since a record has been kept of the product arising from this source. Coal-mining by machinery is confined to seven counties, a decrease of two—Muskingum and Summit having dropped from the list of the previous year. The greatest production was in Hocking, which is given at 1,302,398 tons, followed by Athens with 838,708 tons, and Perry, which is given at 768,779 tons. These counties produced 93% of the machine-mined coal, as compared with 96% during 1894. Of the remainder 58·5% was produced in Guernsey County. The average time worked is given as 156 days as against 132 days during the preceding year. In all 447 hands were employed in operating the machines and 3,374 hands in blasting down and loading the coal after it has been undermined by the machines. Installations were made at the Bessie mine in Athens County, and at Mine No. 15 and Snake Hollow in Hocking County. There are 31 mines in the State equipped with machines, in which 82 machines are operated by electricity and a like number by compressed air.

There are 1,187 mines in the State; 424 employ 10 men and upward, and 763 employ a less number. Of the entire number 1,097 were in operation during the year; of these 382 are large mines and 715 employ less than 10 men each, and are classed as small mines. A total of 28,998 persons found employment in and about the mines during the year. Of this number 22,416 were miners and 6,582 were day hands, as against 25,163 miners and 6,330 day hands during the year 1894. In reviewing the summaries of the tables it is found that after deducting from the whole number of miners employed those who were engaged in operating mining machines that there were 18,645 miners employed as pick-miners, a decrease of 3,863 as compared with 1894.

It is also found by deducting from the total output of the State the amount of machine-mined coal that 10,563,423 tons were produced by pick-mining, an increase as compared with the previous year of 1.208,670 tons. This makes an average yearly production of 566·55 tons of run-of-mine coal to the individual, a gain of 131·61 tons as compared with 1894, and a loss of 63 tons when compared with 1893.

The year opened with the scale rate of mining at 60c. per ton, which continued until May 1st, when a general suspension occurred. On June 1st the mines resumed on a 51c. basis, which continued until October 1st, when the scale rate advanced to 55c., where it remained during the balance of the year. The report shows that each miner averaged 168 days work, from which it will be seen that each miner made a daily average production of 3·37 tons, against 2·58 tons in 1894, and compared with 3·9 tons during the year of 1893. This calculation is based upon run-of-mine coal. If two-sevenths of the product be regarded as fine coal, then at 55c. per ton, the average price for the year, the average daily wages will be found to be $1.32 during the time that the miners worked, or a total of $221.15 for the year's labor. This gives an average of $18.48 per month, upon which each miner must support himself and family.

During the year 1895 new mines were opened, 90 remained suspended and 57 were exhausted and abandoned. There were 1,953 inspections made by members of the department and 284 permanent improvements were made. In all 96 sets of scales were tested, 31 of which were found to be inaccurate; 50% of the latter were found to favor the operators. In all 271 accidents occurred in and around the mines during the year. Of this number 52 were fatal, an increase of 7 as compared with the preceding year; 152 were serious in their nature, an increase of 36 over 1894. The minor accidents amounted to 67, a decrease of 29 as compared with the preceding year.

There was one accident for each 50,494 tons mined, 263,132 tons mined for each life lost and 90,626 tons for each person seriously injured. Of the accidents 39·8% were due to falls of roof; 17% to falls of coal, and 24·7% to contact with the mine cars; to premature explosions of powder, 9·6%; and shots blowing through the ribs 1·5%. When it is known that in order to produce 11,190,119 tons of the year's production of coal there was exploded 193,097 kegs, equaling 4,827,425 lbs. of powder, the percentage of accidents occurring from this source will be seen to be exceedingly small. Firedamp is generated in 38 mines. These are distributed over nine counties. But one accident, minor in its character, was attributed to this source.

The iron-ore production was confined to Jackson, Lawrence and Scioto counties, in which there were mined 93,051 tons of hematite ore, a loss of 2,263 tons as compared with 1894.

The production of fire-clay is given at 844,832 tons, a loss of 97,081 tons as compared with 1894. There was an increase of 277 miners and 702 underhands employed. In the production of limestone the returns show a gain in eight of the nine classifications into which the product is subdivided for the market. There was an increase of 1,345 in the number of men employed. In time worked there was an average loss of 12 days. In the responses as to the condition of trade during the year about one-third reported it worse than during 1894, a like number about the same as during the previous year and the remainder entertained a more hopeful view of the business.

The report contains many tables illustrating in detail the salient features of the mining industry. These are placed under appropriate headings and arranged in such a manner as to be convenient for ready reference.

MINING IN BRITISH INDIA.

According to the recently issued report of Mr. James Grundy, chief inspector of mines for British India, for the year ending June 30th, 1895, the total number of mines inspected was 367, of which 174 are coal mines, 66 mica mines, 35 limestone mines and 46 stone mines. Other substances mined include salt, fire-clay, slate, plumbago, manganese, gold, ruby, sapphire, spinel, soapstone, fullers' earth and borax. The total number of persons employed during the year at the coal mines is stated to have been 25,768, but returns were not received in every case. Of this number 5,919 males and 3,113 females were employed above ground, and 13,485 males and 3,251 females below ground. The total output of coal during the year was 2,559,967 tons.

The total number of deaths from mine accidents was 75, of which 27 were caused by falls of rock, 18 by accidents in shafts, 14 by gas, 5 by explosives and 9 by miscellaneous causes. There were 10 deaths from surface accidents, chiefly on tramways or railroads connected with the mines.

In 1878 there were only 46 collieries in all India, of which 44 were in Bengal and 2 in the Central Provinces. In that year the total output was a little over 1,000.000 tons, of which Bengal raised 956,000 tons. In 1890 there were 82 collieries in all India, of which 73 were in Bengal, 1 in Punjab, 2 in the Central Provinces, 3 in Assam, 1 in Central India, 1 in Hyderabad (Deccan), and 1 in Beluchistan. The output of that year was more than 2,000,000 tons, to which Bengal contributed 1,626,000 tons. Mines have also lately been opened in Burma; in 1893 the output from these amounted to 9,938 tons. Of the total output of coal for 1894–95 the return for Bengal gives 1,770,888 tons, or an increase for Bengal of 144,888 tons over the output of 1890.

The greatly increased production has not lowered the prices nor flooded the market with coal; on the other hand, Mr. Grundy believes that in 1894 and the beginning of 1895 the ruling prices for coal of fair quality were good; as compared with working costs they might, he thinks, be described as high, and even poor coals could be sold at a fair price. Coal and coke appear to be displacing timber for private and public cooking purposes in various parts of India. It is stated to be not unusual to work out coal at an all-round cost of not more than 2 rupees a ton; that good coal has sold at the pit as high as 5 to 6 rupees a ton; and that a profit of 2 rupees a ton was not thought to be excessive. (The rupee is worth at present about 28c.) One of the natural consequences of the progress and good times in the coal trade is that there are quite a number of very small mines, and owners with very small capital who hurried into the trade in a way that they could only do when the trade is very flourishing. The system of sub-letting is very common in small mines.

It is stated that at present the large mine owners are unable to raise as much coal from their mines as they can sell. The small mine owner saves himself some trouble, and suffers a little in his selling prices by selling all the coal he can raise to a larger mine owner with a Calcutta agent. Several of the largest European mines have been adding to their own ouput by buying up all the coal raised at some of the small native mines, the demand of their customers being greater than their own supply.

A MODERN POWER PLANT IN MEXICO.

The Pelton Water-Wheel Company, of San Francisco, Cal., some time ago sent a power plant to Mexico which has some features of unusual interest. The plant embraces two 67-in. three-nozzle Pelton wheels having a capacity of 700 H. P. running under a head of 100 ft. This station operates a jute factory located at Barrio Nuevo, in the State of Orizaba. These wheels are connected to four electric generators, and the power transmitted to the factory 1¼ miles distant. No line or counter-shafts are used, but every machine is run by a separate motor varying from 1 to 20 H. P. as required. Pelton regulators are attached to the wheels, which give a uniform speed under all variations of load. This is the first factory in the world on a large scale to be run exclusively by electricity with an entire absence of shafts and belt connections. When it is considered that some 30% of the power in any plant of this character is absorbed by shafting and belts and that constant expense is necessary in maintenance, the advantages of such a direct connection, where electricity is the means of power, are most apparent.

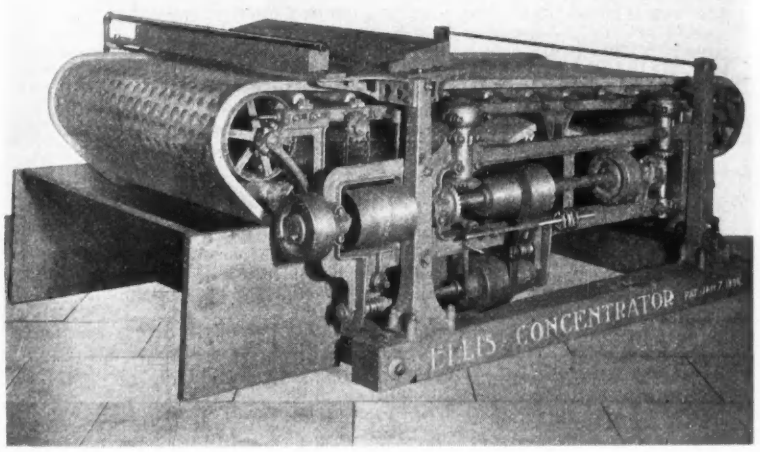
Australian Mint Returns.—While the receipts of the Australian mints do not cover the full production of gold by any means, they are of interest as indicating the general course of the output. The reports for the six months ending June 30th give these receipts as follows:

	1895.	1896.	Changes.
Melbourne Mint	537,944 oz.	557,000 oz.	In. 19,056 oz.
Sydney Mint	370,619 "	348,325 "	Dec. 22,294 "
Total	908,563 oz.	905,325 oz.	Dec. 3,238 oz.

The Melbourne Mint supplies come chiefly from Victoria, South Australia, West Australia and Tasmania; those of the Sydney Mint from New South Wales and Queensland.

THE ELLIS CONCENTRATOR.

This concentrator, while in general form and appearance it resembles the ordinary traveling-belt machine, differs from all other concentrators of that class in one point. The rubber belt upon which the pulp is conveyed from the battery or other pulverizing device, is a traveling one as used on many other concentrators, the point of difference being that it is filled with small batea or pan-like depressions, and when the machine is in operation a gyratory or circular motion is imparted to the traveling belt, and to each one of the many bateas, so that the motion and the result produced is like that imparted to the batea or miner's pan by the most skilful hand. It is claimed that if during the operation any of the heavier metal-bearing portions of the pulp or concentrates escape from one of the bateas, it will certainly be caught up by some of the many others, and be separated from the gangue or lighter portions before it reaches the upper end of the traveling-belt to be deposited in the receptacle attached to the machine for that purpose. The concentrator works very rapidly, and the practical working tests, the 4-ft belt machine, has handled from 15 to 20 tons of ordinary pulp in 24 hours, and the 6-ft. belt machine double that quantity of like pulp in the same time. Moreover, gold and amalgam which may escape from the amalgamating plates of the mill will be caught upon the belt of the machine and deposited with the sulphurets. It is also claimed that the machine is not only a very rapid but a very close worker, and the values saved, as shown by various tests upon ores difficult to concentrate, were upwards of 90%. An apparently difficult test of pulp carrying 30% of zinc and 10% lead, from a Utah mine, was made upon this machine, and the galena was thoroughly separated from the zinc and cleanly deposited in the sulphuret box.



THE ELLIS CONCENTRATOR.

The machine is solidly built, with iron frame, the only timber required being the sills upon which it rests. It is the invention of Mr. Henry Rives Ellis, of San Francisco, and is shown in the accompanying illustration.

Sault Ste Marie Canal Traffic.—The total movement of freight through the Sault Ste. Marie canal for the season up to September 1st was: To Lake Superior, 2,228,829 tons; from Lake Superior, 8,450,130 tons; total 10,678,859 tons, against 8,858,148 tons for the corresponding period last year, 6,886,824 tons in 1894, and 6,693,288 tons in 1893. Of the freight passed through the canal this year coal formed a total of 1,953,959 tons, an increase of 693,845 tons over last year; iron ore was 5,826,100 tons, or 341,948 tons more than last year.

Bids for New Battle-ships.—The bids for the construction of three new battle-ships for the United States navy were opened at the Navy Department in Washington, September 14th. There were five bids received, as follows:

John H. Dialogue & Sons, Camden, N. J., one battle-ship for $2,661,000.
Bath Iron Works, Bath, Me., one battle-ship for $2,680,000.
Newport News Shipbuilding and Dry Dock Company, Newport News, Va., one battle-ship for 2,595,000.
Union Iron Works, San Francisco, one battle-ship for $2,674,950.
William Cramp & Sons' Ship & Engine Company, Philadelphia, one battle-ship for $2,650,000; two battle-ships for $2,650,000 each.

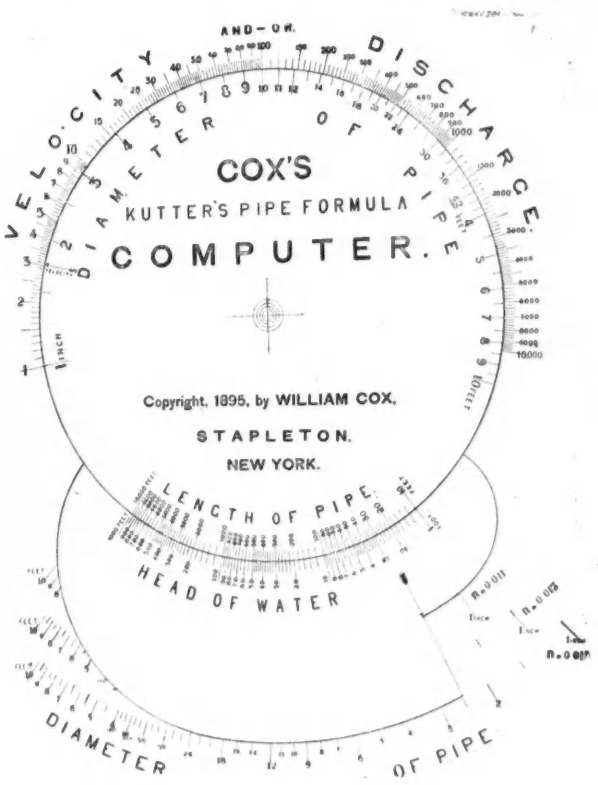
The bid of the Union Iron Works was really lower than it seemed, since a difference in favor of Pacific coast builders has always been allowed on account of the cost of transporting materials across the continent and to offset the long voyage Atlantic-built ships must make for duty on the Pacific. This has been fixed at 4%, which, for purposes of comparison, brings the San Francisco bid down to $2,598,952, or within $3,952 of the lowest bid, and considerably under that of the Cramps. The contracts have not been awarded, but it is understood that one ship each will be awarded to the Newport News Company, the Cramps and the Union Iron Works.

THE COX COMPUTERS.

The use of the slide-rule in solving problems relating to pumps and water-powers has been at different times referred to in our columns. Mr. William Cox, who treated this subject and who has made a very thorough study of the slide-rule and its uses, has recently devoted much time to designing and preparing what he calls computers, which may be defined as compound circular slide-rules. These are of several different forms, each intended to give at once the solution of a special formula, more or less complicated, and to save the time involved in more or less intricate calculations.

These computers consist of two or three parts—a foundation plate, an inner revolving disc and, when the formula consists of more than four factors, a revolving segment, upon each one of which scales are carefully laid off, corresponding to the various factors of the formula. These are so combined that by turning the disc and segment round and bringing the values of the different known quantities opposite each other, the values of the unknown are immediately found. By this most simple operation more or less complicated problems are solved, not only rapidly and surely, but also without mental effort. The computers are designed on strictly mathematical principles, so as to make them valuable and reliable instruments, of use to those engaged as mechanical, electrical, civil, hydraulic, mining engineers and others.

Mr. Cox has made computers to solve the formulas for the strength of



THE COX COMPUTER.

leather belts, shafting, rectangular and I-beams, the horse power of boilers, steam engines, pumps, falls of water, water wheels, and many others. Two of his most recent ones, and which we think are of value to mining engineers, are his "universal fluid-flow computer," and "Kutter's pipe formula computer." By means of the former, problems relating to the flow of compressed air, steam, gas and any other fluid in pipes are at once solved. This is the first time that an attempt has been made to simplify the tedious calculations which have to be gone through in order to ascertain the size of pipe required to transmit any desired volume of compressed air, any distance, with any initial pressure and any loss of pressure, and as this method of solution is easy and reliable, it must commend itself to all those engaged in such work. As the formula upon which this computer is based takes into account the density of the fluid, the solution of problems relating to compressed air and steam by its means is more accurate than when obtained by some of the other formulas employed for the same purpose. It has also the further advantage that it can be used for any other fluid, such as oil, water, gas, with equally reliable results.

The Kutter's pipe formula computer solves immediately this excellent but tedious formula in its application to pipes, open channels, circular and egg-shaped sewers, and should be of great value to all hydraulic and city engineers, as it enables them to at once determine the size of pipe to be used to discharge a given volume of water, at any desired rate or velocity of flow, as well as the head lost to produce such velocity and discharge. It solves, in fact, in the simplest manner possible Kutter's formula with co-efficients of cleanliness $n = 0.011$, 0.013 and 0.015, and slopes of 1 in 1 to 1 in 10,000. Engineers who have had experience in working out problems by this formula will most fully appreciate the convenience of the computer.

The accompanying illustration is a reproduction of the face of a Kutter pipe formula computer, one-fourth of the actual size. In use it is found to be most convenient to mount it on a board, 14 × 12 in. being the dimensions needed.

RAILROAD ABSORPTION OF MINERAL LANDS IN CALIFORNIA.

By A. H. Ricketts, of the California Miners' Association.

It is difficult to conceive a more bold and persistent illegal absorption of mineral lands than that which has been perpetrated in California by the Southern Pacific Railroad Company, a Kentucky corporation, and its associates, although its principal owners are, and always have been, residents of San Francisco. To understand the situation thoroughly it is necessary to go back to the early history of the Central Pacific Railroad, the parent incorporation of the numerous companies now grouped under the Southern Pacific.

In July, 1862, Congress passed an act with the intention of helping the construction of the Central Pacific road, granting to this company five alternate sections of land per mile on each side of the road, excepting, however, all mineral lands from the grant. The land subsidy was subsequently increased by act of July, 1864, to 10 sections instead of five, with the same provision that no mineral lands should be considered included in the grant. While this act was under discussion, the national government was threatened with danger on all sides, which strengthened the hands of the railroad advocates for an enlarged subsidy, who urged the necessity for the construction of a road to the Pacific coast, which, it was claimed, lay subject to capture and occupation. The argument was a powerful one at the time and the nation's needs were taken advantage of by the clique building this road to increase their prospective profits, although in 1866, three years after the first tie was laid, only 80 miles of road east of Sacramento had been completed.

North and south the ramifications of this old system have spread, carrying this grant of public land with an additional five sections added on each side of the road, to the Southern Pacific, originally a rival road to the Central Pacific, which has suffered severely in loss of traffic since its competing line was opened.

Although in all cases mineral lands were exempted from the grant, the railroad company has been quietly absorbing the same, without let or hindrance from the authorities at Washington. The most valuable mining lands in California lie along the roadway of the Central Pacific, and its branch through the State of Oregon.

The California Miners' Association was the first to put a check on the wholesale absorption of mineral lands, thousands of acres of which had been patented as "agricultural" prior to the action taken by this representative body. By the oversight of the Federal officials, at least 2,700,000 acres of land had been, up to July 30th, 1894, thus acquired by the Central Pacific Company, and at least 2,000,000 acres by the Southern Pacific of California, fully one-third of which is estimated to be mineral ground.

And still the nefarious work goes on, notwithstanding the most urgent protests from the committee for the "protection of the mineral lands" of the California Miners' Association. As chairman of this important committee for many years, I have labored assiduously to stop the patenting of this land under false descriptions. List after list filed for patent as agricultural selections has been carefully scrutinized, and proof of their mineral character has been submitted to the Land Office officials, but invariably the railroad has carried its point on some technicality.

It is plain that Congress assumed, when making grants of lands to the transcontinental railroads, that the already established machinery of the government was sufficient to carry out the terms of the grants; that the Land Department of the United States had the power and would conscientiously determine the character of its lands lying within the limits of the railroad grants so that the exclusion of the mineral lands therefrom would mean just what it said. This is apparent because no specific procedure to determine the character of these lands was provided in any of the granting acts. It was not until the States of Idaho and Montana made concerted action and vigorous and persistent demands upon Congress that any measure was adopted to curb the power of the Interior Department in divesting the government of its title to vast areas of mineral land.

The ease and rapidity with which these railroads were acquiring the lands which Congress had expressly said they should not have has alarmed the people of all the mining States, but none has yet succeeded in obtaining the relief which has been afforded to the States of Idaho and Montana. California nearly succeeded in procuring the passage of a bill at the last session of Congress, built upon somewhat similar lines to that of the Idaho-Montana act. This bill passed both houses of Congress, but an amendment was tacked on to it in the Senate to include Oregon in its provisions. This necessitated its return to the House of Representatives, in which it originated, and its reconsideration there was defeated. It is intended to bring this matter before the House at its coming short session.

The present rules of the Land Department in the matter of the selections of land by railroad companies are the direct antithesis of the Idaho-Montana Act. Instead of an examination and classification of such lands by disinterested commissioners the railroad files an affidavit based upon hearsay, that its selections are non-mineral in character. After the coming in of such a list the Land Department makes a perfunctory examination of its records to see if any of the selections lie within six miles of some patented mining claim. If so, the lands lying within such concentrical circle must be advertised for 60 days, and an invitation is extended to any person to protest against the selections during that time. If the protest is very specific the protestant is given a hearing in the local land office; if not, it is dismissed, although the purpose of the protest may be merely to call the government's attention to the wrong about to be done to it. All selections not within the said radius of six miles are presumed (by the department) to be non-mineral and patent issues without notice to anyone.

By such proceeding, possessory rights are ignored and the miner may awaken any morning to find that his claim, actively worked and producing large quantities of bullion, has been patented to some railroad company as non-mineral land.

If a hearing is had upon a protest it will generally be found that the benefit of the doubt is always given to the agricultural claimant. The test as to the character of the ground is not is it "valuable for mineral," but that it is "more valuable for mineral than for agricultural purposes." This distinction is not warranted by any act of Congress. The result of all this is that while the Land Department is not presumed to *grant* land it does, in fact, grant land to the railroads by the wholesale, fully one-third of which is estimated to be mineral land. The only fear that the miner and prospector now have is that all the lands which are within the limits of the railroad grants will be patented before Congress can act and that the courts will insist that all cases brought to annul patents shall be tried under the present rules of evidence casting the burden of proof upon the contesting party.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

ASSIGNEE OF LEASE BOUND TO PAY RENT.—The assignee of the lease of oil lands is bound by his acceptance of the lease to make good the covenant contained in same to pay rent and royalties on oil taken from the land, without reference to any express obligation assumed by him in the contract of assignment whether he makes actual entry on the premises or not. Where there is provision of forfeiture for failure to do work, etc., and forfeiture is declared by owner, the surrender satisfies only future rent, and not what was due at time of surrender.—Edmunds vs. Mounsey (44 Northeastern Reporter). Appellate Court of Indiana.

CONTRACT FOR SALE OF COAL.—A contract of sale of coal, "f. o. b. cash, 30 days," to be shipped, a barge-load immediately, the balance in equal monthly proportions before February, is an entire, not a severable contract; and the purchaser having failed to take the proportions for the months preceding December and shown no waiver by the seller of his right to insist on cancellation of the contract for such failure and no legal excuse therefor, cannot recover for the seller's refusal to make December and January shipments.—Providence Coal Company vs. Cox (35 Atlantic Reporter, 210), Supreme Court of Rhode Island.

MINING CLAIM.—Under the laws of the United States (Sec. 2324), which provides that the location of a mining claim "must be distinctly marked on the ground, so that the boundaries can be easily traced," there is a sufficient identification of a lode claim where a stake or monument is placed at each corner and at the center of each end, with one or more notices of location. It is immaterial that the lines and monuments of an official survey of a mining claim are not identical with those of the original location, the location being void only so far as it exceed the statutory requirements.—Howeth vs. Sullenger (45 Pacific Reporter, 840), Supreme Court of California.

German Railroads.—A recent report on German railways states that in 11 years (1885–1895) the Empire has seen its railways increased from 22,704 miles to 27,445 miles—an increase of 4,741 miles. In 1885, 18,915 miles belonged to through or main lines, with 3,789 miles branch lines; while in 1895, 19,658 miles were on main lines, with 7,787 miles on branch lines. The total length of rails in 1895 was 48,155 miles, as increase of 10,626 miles over 1885, and 967 miles over 1894. There were last year 9,457 miles of double-track lines, and 17,988 miles of single-track lines—a ratio of 1·9 to 1 main of the single track lines. In 1885, the ratio was 2·4 to 1. There are 66 miles with three tracks, and 41 miles with four.

American Shot and Armor.—The *Journal* of the United States Artillery for July and August gives an account of the test of 12-in. and 8-in. Wheeler-Sterling and Carpenter armor-piercing projectiles against some Harveyized 12-in. and 8-in. plates, which had been rejected on account of defects, but which apparently had not suffered in their resisting powers. A 12-in. Wheeler-Sterling shell, striking with 1,800 velocity, broke off a corner of a plate, but broke into fragments itself; some portions of the projectile got through the plate, which, however, was imperfectly supported. Both Wheeler-Sterling and Carpenter 8-in. projectiles entered to a sufficient depth to produce a back bulge; both broke up.

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.

WEEK ENDING SEPTEMBER 15TH, 1896.

567,612. PROCESS OF TINNING OR GALVANIZING METALS. Alexander S. Ramage, Cleveland, O. Assignor to Joseph C. Gilchrist, same place. The process consists in immersing the metal in a suitable electrolyte, making the metal the anode of the electrolytic cell, removing the scale and depositing the pure metal contained therein on the cathode by electrolysis, reversing the polarity of the electrodes and redepositing pure metal upon the metal being treated, and finally tinning or galvanizing the prepared metal.

567,757. METHOD OF PRODUCING ALLOYS OF IRON AND CHROMIUM.—Roger W. Wallace, London, England. Assignor to the Electro-Metallurgical Company, Limited, same place. The improvements in the treatment of iron and steel with pure chromium or similar metals, such as molybdenum or tungsten in order to obtain alloys of these metals, consist in deoxidizing the molten mass of iron or steel almost completely by the addition to the iron or steel bath of such a quantity of aluminium as may be completely transformede into oxid, the deoxidation of the mass being finished when the chromium or like metal is introduced into the bath by the transformation of a small part of the chromium or like metal into oxide of chromium or like metal, the rest of such metal alloying itself with the iron or steel under treatment.

567,889. MINER'S LANTERN.—Hattie Delzell, Jackson, Cal. A lantern comprising a conico-cylindrical body, in combination with a rim or case arranged at one end and connected thereto, but spaced so as to leave an intervening space between the adjacent edges of the parts, the rim being also of conico-cylindrical form and having its larger end arranged opposite the larger end of the body of the lantern so that the outer surfaces of the parts slope in reverse directions and a glass fitted in the rim and closing the same at its smaller end.

PERSONAL.

MR. A. F. SCHNEIDER has resigned his position as superintendent of the Guggenheim Smelting and Refining Works, at Perth Amboy, N. J.

MR. D. L. S. BARKER resigned his office as superintendent of the Montana Mining Company (Benton group) on September 1st, which he had held for a period of nine years.

MR. C. T. MIXER, of the firm of Mixer & DuBois, Ishpeming, Mich., recently returned from a two weeks' trip of inspection of gold and silver properties in Idaho, for local parties.

MR. H. F. COLLINS is in charge of the branch business at Bathurst, New South Wales, established there by Messrs. J. H. Collins & Sons, mining and metallurgical engineers, of London.

MR. W. E. C. KOCH, who for 15 years has been engaged in mining at Aspen, Colo., has gone to British Columbia, where he will make an examination of property with a view of making an investment and locating there permanently.

M. HENRI MOISSAN, the distinguished French chemist, arrived in New York September 21st. He came as a representative of the University of Paris to take part in the sesquicentennial of Princeton University at Princeton, N. J., and expects to remain for some time in this country.

CAPTAIN THOMAS MEIN, who arrived in New York from South Africa last week, will look after the mining interests of the Exploration Company of London, on the Pacific Coast. He has been in the service of this company for years, having had charge of the Treadwell mine in Alaska before he went to the Transvaal.

MR. EDWARD M. KNIGHT, of Kankakee, Ill., and MR. J. H. JOHNSON, of Chicago, both of whom are professors of mineralogy in the Chicago University, accompanied by MR. W. H. SUTWELL and MR. HENRY H. GRAVES, mineralogists of the Ann Arbor (Mich.) University, arrived in New York this week. They are on their way to Africa, where they expect to make a practical and scientific investigation of the gold and diamond fields in the southern part of the continent. Professor Knight, who is at the head of the expedition, has already done some prospecting in South Africa.

OBITUARY.

JAMES WRIGHT died recently at Mooresburg, Tenn., at the age of 84 years. He was vice-president of the East Tennessee Stone and Marble Company, at Knoxville, and owned the controlling interest in the marble quarries of Hawkins County.

W. S. TRIMBLE died recently at Morganville, Ga. He was prominently known in the phosphate business in Florida, and for about four years was president of the Standard Phosphate Company, at Ocala, Fla., and director of the Imperial Company.

MILES BENJAMIN DODGE died suddenly from heart failure at his residence in San Francisco, Cal., on September 3d. By his death California has lost one of her most esteemed citizens and the mining machinery industry one whose inventions have reflected credit on the State. Mr. Dodge was born at Wheatland, N. Y., April 12th, 1829. Early in life he developed those traits as an inventor which have since made his name known throughout the United States. At the age of 15 he removed with his parents to Wisconsin, and in 1850 went to California and engaged in placer mining in Amador County, where he met with success. Three years later he returned to Wisconsin and remained there until 1860, when he visited Blackhawk and Central City, Colo., where he engaged largely in mining. There he was fortunate in his operations, and eventually disposed of his holdings for a large amount to New York capitalists.

In 1871 Mr. Dodge again visited California, being sent by Mark Brummigen, a well-known New York attorney, to take charge of the Mariposa Estate mines in Bear Valley, Mariposa County, and to erect a Dodge mill on the property. He managed the mine with credit to himself and profit to the owners for two years, when he went to San Francisco, and commenced the manufacture of his mills, first at the establishment of Savage & Company and afterwards at the Vulcan Iron Works, which firm still continues to make them.

Since 1855 Mr. Dodge invented no less than sixteen different machines, most of which have contributed largely to successful mining operations. Among his inventions of mining machinery the following may be mentioned: The Giant Rock breaker, amalgamator, distributor, separator, jig concentrator, sluice concentrator, dry jig, pulverizing mill, gravel mill and continuous and charge roasting furnace.

Mr. Dodge was a clear-headed business man, whose private character was such as to attract a host of friends. He leaves a wife and two children, M. M. and A. C. Dodge, to mourn with his many friends his untimely death.

SOCIETIES AND TECHNICAL SCHOOLS.

AMERICAN SOCIETY OF IRRIGATION ENGINEERS.—Notice is given that the annual meeting of this society will be held in Denver, December 11th and 12th, closing in time to reach Phœnix for the opening of the International Irrigation Congress, on December 15th. At the Denver meeting State Engineer Mead, of Wyoming, will present a paper on "Land Laws for the Arid Region." "Pipes vs. Flumes" will be another principal subject. These papers will be printed and distributed in advance for discussion. Circulars will shortly be issued giving full particulars. Mr. John S. Titcomb is secretary of the society, which has its office in the Jacobson Building, Denver, Colo.

INDUSTRIAL NOTES.

The Bristol, Va., iron furnace, which has been idle for four years because of complicated litigation, will be sold November 14th.

The Edgar Thomson Steel Works, at Braddock, Pa., have resumed operations in all departments, giving employment to 3,000 men.

The Lebanon, Pa., Rolling Mills and the Pennsylvania Bolt and Nut Works have resumed, giving employment to nearly 1,000 men.

The Wheeling Steel and Iron Company's steel plant at Benwood, W. Va., resumed operations recently, after having been idle for about a month.

The Gibson Iron Works, of Gibson City, Ia., have been leased to Messrs. C. W. Story and C. M. Converse, of Chicago. The works are to be put in active operation in a short time.

The Shenango Valley Steel Company, New Castle, Pa., has resumed operations in its steel plant, after an idleness of several months. The wire and wire nail mills at the same place will also resume in the near future.

The Union Rolling Mill Company's Etna mills at Cleveland, O., have started up with a force of hands, numbering several hundred men. The mills were shut down about three weeks on account of a scarcity of orders.

The Hainsworth Steel Company's plant, Pittsburg, Pa., which has been closed for some time, started up a few days ago making steel billets and blooms. The works have a capacity of 500 tons of steel every 24 hours, and give employment to about 300 men.

It is announced that the Illinois Steel Company will stop taking ore on account of the crowded condition of its docks, and that five of its furnaces will go out of blast at once, the accumulation of pig iron in the company's yards being sufficient to meet the requirements of its mills for a considerable time at the present rate of consumption.

City Engineer Jackson, of Chicago, has completed the plans and specifications for the six pumps which will be used in the pumping stations for the new northwest water tunnel. Bids will be advertised for to be opened on November 14th. The specifications call for six pumps with a capacity of 20,000,000 gals. in 24 hours.

The Troy Steel Company, Troy, N. Y., will begin to operate the plant in full in a few days. Considerable progress has been made during the past month, and now all is completed except the converters in the basic steel department. The entire plant, from the blast furnaces to the final process in the rolling department, will be running.

The Vulcan Iron Works, San Francisco, Cal., are now busy upon the following orders: Vulcan ropeway, 2,000 ft. long, for Montana; one No. 1 Dodge Pulverizer, also one No. 2 Dodge Pulverizer for foreign shipment; one 8 in. by 10 in. Giant rock breaker a Vulcan ice and refrigerating plant for Phœnx., Ariz.; a No. 2 class A Vulcan ice-making plant for Acapulco, Mexico.

The Virginia Coal and Iron Company is doing an extensive business in Wise County. This company put 50 coke ovens in blast at Stonega, near Big Stone Gap, some time ago. Later they completed 100 more, and have 150 coke ovens in blast. From this plant large quantities of coke are being shipped daily. It was the original plan of the company to build 300 ovens, and it will eventually reach that number.

The Eureka Ammonia Works, of Chicago, Ill., made an assignment on September 21st to the Equitable Trust Company. Its assets were placed at $200,000 and its liabilities at $55,000. The corporation was organized five months ago for the manufacture of ammonia. The officers are Bernhard Zwillinger, president; David J. Sachsel, secretary. The assets of the concern consist principally of patent interests.

The plant of Potts Brothers' Iron Company, at Pottstown, Pa., resumed work September 22d, after a prolonged idleness. The employees of the upper mill and the universal mill of the Pottstown Iron Company have been notified to go to work at once. The receivers of the iron company, who expected to return the works to the company on September 1st, now look for a termination of the receivership about October 1st.

The Murray Iron Works Company, of Burlington, Ia., has completed and put in operation the new shops, built for the manufacture of Corliss engines. Last spring this company bought out the plant of the Sioux City Engine Works, and moved their machinery, patterns, drawings, etc., to Burlington. The new shops are now turning out the Sioux City Corliss engines under the supervision of the same engineering force that produced them at Sioux City.

The Mahoning Valley Iron Company's directors, Youngstown, O., have completed the reorganization of the company, which was inaugurated two months ago by the election of Col. George D. Wick as president to succeed the late C. D. Arms, E. L. Brown was elected vice-president, Harry Bonnell treasurer. An executive committee was chosen, consisting of H. M. Robinson and E. L. Brown, of Youngstown, and Martyn Bonnell, of Cleveland. It was given out authoritatively that $50,000 more will be expended for improvements. One of the new additions to the plant will be a modern hoop mill.

In the present torpedo boats of the navy, the equipment of Blake steam pumps, as well as the main engines, will be run without the use of oil in the steam cylinders. While this is not a new idea, so far as vertical steam engines are concerned, it has never been the practice to run steam pumps without oil. The pumps furnished by the George F. Blake Manufacturing Company were arranged without any oil holes whatever, so that it is impossible to get oil into the steam cylinders. These pumps were given an exhaustive test for several days at their works and they operated with entire satisfaction and without using a drop of oil. The doing away with the use of oil in the steam cylinders of a vessel is a matter of considerable importance, as there is no necessity of carrying feed-water filters, and no anxiety about oil injuring the boilers.

The Dearborn Drug and Chemical Company, of Chicago, has about completed a new laboratory that is among the very finest in this country. The company has taken in a half dozen extra rooms and now have altogether eight large office rooms in the Rialto Building. Four of these rooms are used for the laboratory, and every recent appliance of real merit is found therein for the analysis of all materials. At present the company is handling waters and oils, but with the completion of the new laboratory everything needing analysis will be handled, including ores of every kind, phosphates, clays, etc. The boiler compound of this company has now been on the market seven years, and such has been the progress in sales that they are now building a large addition to the works, capable of turning out a hundred barrels of compound per day. The boiler compound is used by a great many mines in the West and in mines outside of this country. Mr. William H. Edgar is now in entire charge of the business, Mr. F. E. Mariner being in San Francisco, Cal.

TRADE CATALOGUES.

The General Electric Company, Schenectady, N. Y., in a small catalogue recently issued, sets forth the merits of an arc lamp which has a long life, requires practically no attention, and is cheap to maintain. The lamps are 100-hour and 150-hour burners, for use on direct current incandescent circuits.

The Taylor Iron and Steel Company, High Bridge, N. J., has issued another catalogue on the subject of manganese steel, devoting its pages more particularly to showing the advantages of this metal when used in the construction of crushers, etc. The metal is a specialty of the Taylor Company, which has the sole right to manufacture in the United States, under the Hadfield system and patents. Among uses for which the metal is peculiarly adapted are (1) the wearing parts of crushing and grinding machinery; (2), rings for polishing granite; (3), pins, bushings, bucket knives or nose-pieces, picks, hawse-pipes, etc., for dredges; (4), mine car and skip wheels. It has also been used more or less extensively for sheaves, road scrapers, plows and picks; for electric motor wheels and motor pinions, and many other purposes where toughness and hardness combined are required; also for rheostats and other parts of electrical machines, where its special electrical characteristics give it a value.

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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.

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GENERAL MINING NEWS.

ALABAMA.

JEFFERSON COUNTY.

AMERICA.—The trouble at these coal mines has been settled, the men accepting a 2½c. reduction.

PIONEER MINING AND MANUFACTURING COMPANY.—This company made the first shipment of iron ore from its new mines last week. The ore is of good quality.

ALASKA.

JULIAN MINING COMPANY.—This company reports that it has milled over 400 tons of $10 ore since their new mill began operations. Between 300 and 400 tons yet remain on the dump. The company is making preparations to run all winter, and will use steam should the water either freeze or give out.

LAST CHANCE.—The cross-cut tunnel being driven by T. D. McManus, on this mine at Sheep Creek, has struck the ledge in a distance of 70 ft., which gives a depth of 50 ft.

LUCERNE.—This mine, at Sheep Creek, is making a good showing. A shaft has been sunk upon the ledge for about 30 ft., and ore running well silver is said to have been taken out. The ledge is about 3 ft. wide and the quartz also carries a little gold.

NORTHERN BELLE.—Miners are now at work driving tunnels, stopes and cross-cuts on this mine preparatory to opening up the mine for steady operation. A well defined ledge from 6 to 8 ft. in width carrying free gold will furnish sufficient ore to run the mill at its full capacity. Considerable ore has already been taken out.

(From Our Special Correspondent.)

CORDWOOD JIM.—These mines, adjoining the Treadwell property on Douglass Island, have been bonded to Judge H. G. Bond, of Seattle, Wash., for $130,000.

ARIZONA.

COCHISE COUNTY.

HERMIT.—A force of men is to sink a shaft 100 ft. on this copper mine at Slate Creek. There are 5 ft. of good ore exposed.

JOHNSON.—At this mine, on Rich Hill, ore is being taken from a vein 3 ft. wide, which is said to assay high in gold.

SILVER WAVE.—The shaft in this mine, 25 miles south of Wilcox, is down 260 ft. At the depth of 50 ft. a level is run west and east. The ore is now coming from the first level. About five cars of ore are shipped daily. The ore is principally gold, carrying enough silver to almost pay expenses for handling.

GILA COUNTY.

ROSALIA GROUP.—Work has commenced on this group of mines, and it shows rich carbonates of copper and some cuprite ores. The Rosalia is situated six miles north of Globe City, in Globe District, and it belongs to Mrs. Alfred Kinney.

PINAL COUNTY.

BULL DOG.—A new and rich body of ore has been uncovered in this mine, and a large force of men have been put to work developing it.

CALIFORNIA.

AMADOR COUNTY.

(From Our Special Correspondent.)

POTAZABA MINING COMPANY.—This company has been organized at Sutter Creek, with a capital of $100,000. Directors are T. T. Lane, J. Nicols, E. S. Barney, E. C. Voorhies and W. J. McGee.

BUTTE COUNTY.

(From Our Special Correspondent.)

NAPA & SOLANO MINING COMPANY.—This company is running a tunnel on its property, five miles from Lovelock, on the Magalia Ridge, in search of the old channel. The tunnel is now in over 800 ft., and it is confidently expected that 200 ft. more will bring them to pay dirt.

CALAVERAS COUNTY.

CALIFORNIA EXPLORATION COMPANY.—The Garibaldi mine, bonded by this company, is coming up fully to expectations. One ore ledge has been traversed and a second has been encountered.

MELONES.—It is reported that this mine, on Carson Hill, is to be worked again under a purchase bond of nearly $300,000, running for one year from October 1st. The property, which consists of six claims, has recently been carefully prospected by Ralston & Grayson. In crosscutting to the footwall in the old tunnel of the Stanislaus claim they opened up a chute of good ore 3 ft. in width.

SOCIETE ANONYME DES MINES DE GOLDEN RIVER.—Good results are being obtained by this company at the Red Point gravel mine, 14 miles above Forest Hill. The tunnel has been extended a distance of 1¾ miles. For the last year and until May the gold had been becoming coarser, and a number of nuggets, running from $2 to $16 were taken out. Since then another drift has been run into, composed of scale gold, as formerly. For the last eight years the average value of the gravel has been $2.20 a carload, but for six months it is reported to have run up to $4.

(From Our Special Correspondent.)

MELONES.—This mine, on Carson Hill, has been bonded by San Francisco parties who intend to commence development work on a large scale. In crosscutting to the footwall in the old tunnel of the Stanislaus claim, a short time since, an ore chute was opened up 3 ft. in width, assays showing the rock to run several hundred dollars per ton.

EL DORADO COUNTY.

ESPERANZA.—It is reported that a deal has been consummated by which Judge D. C. Morrison and W. H. Shinn negotiated their two-thirds interest in this mine for $100,000 and one-fourth of the capital stock. The purchasers are said to be an English syndicate representing some of the largest London financiers. The syndicate will at once commence to equip the mine with the latest machinery and intend to sink to the 800-ft. level. It is estimated that over $850,000 pay ore is now in sight.

(From Our Special Correspondent.)

COUSIN JACK.—This mine, 5 miles southwest of Grizzly Flat, has been purchased by ex-Judge Henry Schaefer, of Los Angeles, who has let a contract and will develop the mine at once. There are now three tunnels on the property, 200, 378 and 500 ft. respectively, one below the other. The lower one is to be continued. The vein is from 8 in. to 30 in. in width and some of the ore is rich.

LOS ANGELES COUNTY.

MAIER & ZOBELEIN.—A new well in Los Angeles City, bored by these parties, struck oil sand at a depth of 900 ft., and when the tubing was put in the gas pressure forced a small stream of 30° gravity oil, light green in color, above the floor of the derrick. Oil is quoted at $1 to $1.10 at the wells.

MONO COUNTY.

The following are extracts from the latest weekly reports of the mine superintendents:

BODIE CONSOLIDATED MINING COMPANY.—Two hundred-foot level—Have drifted south 15 ft. from the top of the main Gildea raise, on 10 in. of good ore. Three hundred foot level—Are stoping north and south on 10 in. good grade ore from Gildea raise on 200 level; north on Burgess pillar above 300-ft. level, and north on the old Fortuna fillings on the 400-ft. level. Extracted during the week the following amounts of ore: From 200-ft. level (Gildea ledge), 18·5 tons; car sample assay, $35 per ton; from 300-ft. level (Burgess ledge), 4 tons; assay, $24.50; and from 400-ft. level (Fortuna ledge), 1·5 tons; assay, $10; total amount extracted, 24 tons; average assay value, $25 per ton.

BULWER CONSOLIDATED MINING COMPANY.—Two-hundred-foot level—Stopes 10 and 11 are yielding ore of about the same quantity and value as heretofore. Tunnel level—Are still stoping fair rock from No. 1 raise, the pay extending further south than any of the stopes lower down. The south drift from crosscut No. 3 was advanced 3 ft. on a small seam of low grade ore. Raise above the old stope over intermediate drift from crosscut No. 2 was advanced 2 ft. on a small seam of fair ore. During the week the following amounts of ore were extracted: From 200-ft. level, nine tons; car-sample assay, $43 per ton; from tunnel level, raise No. 1, 1·9 tons; assay, $26.50; raise No. 2, 6 tons; assay, $33.50; intermediate 0·7 tons; assay, $30. Total amount of ore extracted, 12·2 tons. Average assay, $40 per ton. Hauled to Standard mill during the week, 157½ tons of ore for reduction.

STANDARD MILL STATEMENT.—Ore crushed for the week, 165 tons for the Standard Consolidated mine and 157½ tons for the Bulwer Consolidated mine. Average daily crushing, 46 tons. Average assay vanner tailings, $6.25. Total tons concentrates produced, 1½. Assay value, $51.53. Plate amalgum produced, 513½ oz. Tailings, plant No. 1 treated 388½ tons tailings for the week; plant No. 2 treated 418·5 tons tailings.

NEVADA COUNTY.

ALLISON RANCH.—Superintendent Tierney is making good progress at this mine. More machinery is to be set up at once.

METROPOLITAN MINING AND MILLING COMPANY.—Godfrey Fisher has bought Abraham's quartz mine, a mile from Moore's Flat, and has organized this company and proceeded to prospect the old tunnels. A No. 2 Worrall revolving mill, equivalent to 8 stamps, started last week.

SOUTH IDAHO.—This mine has been purchased by parties in Buffalo, N. Y. The mine has a 20-ft. vein developed in a 100-ft. shaft.

W. Y. O. D. MINING COMPANY.—At the annual meeting of this company, held in Grass Valley, September 15th, the following directors were elected: J. R. K. Nuttall, Joseph Weissbein, L. B. Parrott and B. F. Simonds. Officers were elected as follows: President, J. R. K. Nuttall; vice-president and general manager, Joseph Weissbein; secretary, Jacob Weissbein; superintendent, T. H. Simmonds. The company is in good financial condition and is about to let a contract to sink 200 ft. of a new shaft on the Parr ledge, which lies parallel to the W. Y. O. D. ledge.

PLUMAS COUNTY.

BUNKER HILL & NIAGARA.—These gold gravel mines have been sold to an Eastern syndicate. The purchase price is said to be $100,000.

SANTA BARBARA COUNTY.

CONSOLIDATED ASPHALT COMPANY.—This company has subleased, for $100,000, the right to mine for asphalt upon the Guadaloupe ranch for a term of years.

(From Our Special Correspondent.)

SAN RAFAEL MOUNTAINS.—Peter Montenero has located a 16-ft. ledge of gold-bearing quartz in the mountains, about nine miles from Los Olivos. Claims have been filed on all the adjoining ground.

SHASTA COUNTY.

KESWICK SMELTING WORKS.—For several months past an investigation has been carried on at these works, near Redding, to solve the problem of economically treating the Iron Mountain mine sulphides so as to obtain a 40% copper matte from a single operation. It has been found best to substitute a combination process in place of pyritic work. Suitable kilns and blast furnace have accordingly been designed and erected, which daily turn out from 20 to 30 tons of 40% to 45% matte.

SISKIYOU COUNTY.

(From Our Special Correspondent.)

BALL.—This mine, on the Salmon River, which has been closed down for some time, is soon to start up the 20-stamp mill.

TRINITY COUNTY.

(From Our Special Correspondent.)

ALTOONA QUICKSILVER MINE.—Eighty flasks of quicksilver, valued at $2,800, were shipped from the mine last week to Redding.

COLORADO.

CLEAR CREEK COUNTY.

(From Our Special Correspondent.)

BALD EAGLE.—Arthur W. Perry has leased this mine, owned by the Belmont Mining Company, at Idaho Springs. The Bald Eagle is an old property with considerable development, having a 320-ft. tunnel, a 100-ft. shaft and several smaller shafts along the strike of the vein. In the breast of the tunnel there is a 10-in. vein of galena and iron which carries gold also. Mr. Perry will commence work on the tunnel with two shifts as soon as his tools are on the ground. He expects to put in one or more Dixon hand drills and push developments as rapidly as possible.

COLORADO CENTRAL.—This mine, once a large and steady producer, has apparently been ruined by the long and costly litigation which it has undergone; and its new owners, on taking possession, have a white elephant on their hands, in the shape of a neglected and worked-out mine. The output is practically nil, and there is no sign of the raising of capital to reopen the property, so that it will probably be added to the list of abandoned mines in this district.

DIVES-PELICAN.—This mine has for some years past been the largest producer in the Georgetown district, the ore being low in silver, but generally rich in lead. The output is now stated to be falling off very materially; but as the owners have recently acquired the neighboring Seven-Thirty mine, another famous silver producer, it is hoped that any deficiency will be more than made up from this source.

DORIC GOLD MINES, LIMITED.—This English company has recently started work with a great flourish of trumpets, the London financial papers giving glowing accounts of its prospects. The property is situated about a mile below Georgetown, in a district which has long since been thoroughly well tested and known to contain a few very small and hitherto worthless veins. Work so far has been in the main confined to buying new territory and erecting machinery; and though phenomenally rich assays, both in gold and silver, are frequently reported, no shipments are being made—all the output apparently going to the assay office.

MENDOTA.—This mine is being worked vigorously by its owner, Mr. R. Old. A good compressor and drill plant has recently been put in, the cage shaft being sunk on the Mendota vein, and the cross-cut tunnel extended to reach the extension of the Terrible vein. This has now been cut and tested, with very satisfactory results, and a prosperous future for the mine is expected.

EAGLE COUNTY.

HOLY CROSS MINING AND MILLING COMPANY.—Three carloads of new machinery have arrived, including a compressor and a 300-light dynamo. Plans have been made by the F. M. Davis Iron Works Company, in Denver, for tanks and machinery for a 100-ton cyanide mill. The company already has a concentrating mill in operation, including rollers, crushers and screens, all the machinery being operated by three 80-H. P. boilers.

The Mollie shaft has been sunk to the tunnel level, 500 ft. from its mouth. It is 225 ft. deep and the ore body is 30 ft. wide from the collar of the shaft to the tunnel. The mines are located on French mountain, about 33 miles from Leadville.

EL PASO COUNTY.—CRIPPLE CREEK DISTRICT.

(From Our Special Correspondent.)

ALICE.—This fractional claim on Raven Hill is being developed. The shaft has been sunk 190 ft. and at 200 ft. drifts will be extended. Above the 100-ft. level two cars of ore were sold.

BLUE BIRD.—The Bartlett & Frey lease, on this property on Bull Hill, shows improvement with depth. The bottom level is now yielding rich sylvanite ore from a 12-in. streak assaying fully 12 oz. Extra miners have been put to work.

CALEDONIA.—This shaft has been sunk 250 ft. on an incline, and rich quantities of ore are being taken out from the development alone.

GARFIELD-GROUSE.—This mine is doing well. The property is situated on Bull Hill, and is being worked under lease. The lessees are eight in number, and give employment to 30 miners. The shaft is being sunk to the fourth or 320-ft. level. The output which a few months ago was only about 30 tons a month now averages over 80 tons a month. The lease expires about May 1st, 1897. The lessees are earning good wages.

GILLETTE.—The chlorination plant is always at work, treating from 45 to 50 tons of ore a day, and

the mill has generally a supply of 1,000 tons of ore in stock.

GOLD CRATER.—This property, on Gold Hill, is being worked by five sets of lessees, on the section of the claim formerly known under the old management as "The Farm," all of whom are taking out mineral enough to earn good wages. The ore assays as high as $200 per ton. The shafts are not yet 50 ft. deep.

GOLD DOLLAR.—The tunnel has pierced Beacon Hill 905 ft. in a direction N. 20° E. The course of the tunnel was changed recently, the drifting being now west, and is under the Prince Albert ground. The formation is granite. On the Gold Dollar ground a raise has been made of over 100 ft. This tunnel exposed some well-defined veins.

JEFFERSON MINING COMPANY.—The Mattie L., owned by this company, has shipped this year $120,000 of ore, and the amount paid as royalties has been $20,000. The shaft has been sunk 500 ft., but of late the vein in the shaft has not yielded much ore. The lessees are still shipping.

KING OF DIAMONDS.—On this property, north of the town of Cripple Creek, a shaft has been sunk 160 ft. and at that point a crosscut is being driven to strike the vein. At present the development is not being pushed.

KITTIE M.—This mine, on Gold Hill, has a splendid showing, the vein first carrying values at a depth of 102 ft. and at 114 ft. the vein is fully 7 ft. wide and assays $70 per ton. Gold Hill is doing well. This claim is worked under lease.

LA-BELLE.—This claim, one of those owned by the Golden Cycle Mining and Milling Company, is shipping about two narrow-gauge cars a day. The new compressor, steam hoist and pump will be at work in a few days, and the output will then be doubled. The shaft is 212 ft. deep.

LAST DOLLAR.—This mine, on Bull Hill, owned by Messrs. Eilers, Dickson & Codman, gives employment to 70 men. The Dickson, the north or main working shaft, has been sunk 450 ft., and sinking will be carried on until 500 ft. is reached. The other two shafts yield steadily increasing output of ore.

LINCOLN.—The shaft has been sunk 200 ft. and, contrary to a pre-arranged plan, at that point, two crosscuts will be driven to intersect the vein. It was the intention to sink 300 ft. before crosscutting. At the depth of 160 ft. a 12-ft. porphyry dyke came in the shaft and faulted the vein. The vein on the top of the dyke yielded the richest ore mined from the property. The dyke is almost flat, having 12° dip to the west. The water flows on the top of the dyke.

LINCOLN-GIBBONS.—The shaft on this property has been sunk 100 ft. and sinking is still being carried on in the granite. The vein has not been found. The pump is not yet at work.

MOON-ANCHOR.—This mine ships from 75 to 100 tons per week of 3 to 4-oz. ore. A new vein recently intersected at the 400 ft. level bids fair to increase the value of the mine twofold.

MOOSE. — This mine, which for the past few months has not been such a prolific shipper as formerly, now bids fair to rank again as one of the best. The shaft was sunk through 340 ft. of barren rock, and now it is in ore again. Twenty assays, taken promiscuously from the shaft in two days' sinking, yielded from 2 to 28 oz. of gold per ton. The station pump is fixed at the 650-ft. level. The diamond drill at the fourth level has also revealed good ore 12 ft. wide, and still the drill is kept at work.

RAVEN.—At this mine the sinking of the main or working shaft by three shifts has been resumed below 150 ft. This shaft will be pushed continuously to 800-ft. depth, when connection will be made with the lowest tunnel, which has already penetrated Raven Hill from the north 1,120 ft. The mine is yielding its usual quota of ore.

THERESA.—This claim, on the south slope of Bull Hill, is likely to be one of the big mines of the camp. The shaft has been sunk 100 ft. and a new shaft is being sunk, which will be regarded as one of the big and permanent shafts of the camp. The second grade ore samples about 2 oz.; the first grade from 5 to 6 oz. and the quantity is great. There are three sets of lessees on the claim.

UNION COMPANY.—These properties are showing well. The Woolf shaft has been sunk 450 ft., and the vein of $20 ore is 8 ft. wide. The west vein is also improving.

X-10-U-8.—This claim, on Battle Mountain, is being actively developed by lessees, who are erecting a steam hoist. The claim is in good territory.

GILPIN COUNTY.

(From Our Special Correspondent.)

COLUMBUS.—Mr. G. W. Middleton, of the Terror Mine, has taken a lease and bond on this property, and states that vigorous work will be commenced within a few weeks.

CORYDON.—It is reported that a good discovery of high-grade ore has been made in the bottom of the shaft.

GILPIN GOLD, LIMITED.—In your issue of September 5th your London correspondent asks for information respecting the present position of the property owned by this company. Briefly, it is this: The mine and mill are closed down, with no immediate prospect of reopening, and some at least of the local creditors are out of their money. As I have previously written, the mine is well known, and has been worked off and on for many years without success. The main vein, the Cashier, is large and strong, but the ore is of excessively low grade. There were no large bodies of pay ore in sight when the company took hold, and none have been discovered since. The small lots of ore taken out and sent to the custom mills did not, as a rule, pay for hauling and crushing, and the better class of mills began to refuse the ore unless the milling bill was paid beforehand. These results were explained on the theory that the ore was not free-milling, and would give good results on concentration, but no steps were taken to prove the theory by testing some of the ore at a custom concentration mill. The fact is, that the mill necessary for the Brooklyn mine was one which would put a little more gold into the ore. The company, however, erected a small concentration mill of their own, and commenced shipping their ore down. On finding that no better results were realized, both mine and mill were shut down. The company is now left in possession of a mine which, though possibly not worthless, has never yielded any profit to those operating it, and a mill of not very practical design, not conveniently situated, and of too small capacity ever to treat ore at anything like the rates charged at the large and well-appointed custom mills, of which Black Hawk already possesses too many for the output.

NIAGARA.—Work on this property has been suspended, with the exception of hoisting water from the shaft. It is given out that the suspension is only temporary, during the absence of the manager, Mr. E. Craig, of Denver.

PACKARD-MAMMOTH.—The lower tunnel has just been connected with the old Gold-Rock shaft. At this point the vein is from 5 to 6 ft. in width of almost solid iron pyrites, which, however, assays very low. Good shipments of ore are being made from the winze workings below this tunnel, and also from a raise which is being put up from the tunnel about 60 ft. from its junction with the Gold-Rock shaft.

GUNNISON COUNTY.

SWISS BELLE.—McNichols & Ferris, well-known Aspenites, have a lease and bond on this property, and are working it with a force of men. The new lessees have shipped one car of high-grade ore, and will soon have another ready. Most of the ore being stoped is taken from the 50-ft. level. The character of the ore is a silver-lead.

TYCOON MINING AND MILLING COMPANY.—Messrs. Cass & Phillips, mine operators of Aspen, have leased and bonded the Little Tycoon mine, a silver property of this company, and will put a force of men to work. The Tycoon has produced some of the richest silver ore found in the Pitkin district.

HINSDALE COUNTY.

RED BIRD MINING COMPANY.—This company owns a valuable claim on Double Standard Mountain, west of Lake City. At present they are getting ore from a drift on a blind vein which they encountered while running a crosscut tunnel. About 10 tons of ore has been taken from the blind vein and a car will be sent to the American zinc lead smelter at Canon City. The ore values are gray copper and brittle silver. H. E. Macarey, of Denver, is president of the company.

LAKE COUNTY.

LEADVILLE MINERS' STRIKE.—The Coronado mine was the scene of a desperate engagement at 3 o'clock on the morning of September 21st, between strikers and the 20 men who were working in and living at the mine. The strikers burned the Coronado shaft house and made an attack on the men, but they were driven from their ground with three of their members mortally wounded and two seriously injured.

There were about 50 persons in the mob which attacked the Coronado mine, and they were armed with rifles and dynamite. They first blew up the boiler room of the Coronado mine, and when the fire department was called out to extinguish the flames which were consuming the shaft-house, they resisted the efforts of the firemen and shot and killed Jerry O'Keefe, one of their number. A mob gathered around the Emmett a little while after the attack was made on the Coronado, but the men at the Emmett were ready for the attack, and when the crowd appeared fired a volley at them that checked any further advance.

At the El Paso, also, the men were attacked by strikers, but they left the shaft house and sought cover under bushes close by. Here they were awaiting the attack of the strikers, but the latter did not come near the property, contenting themselves with firing about a hundred shots into the shaft house. Armed men also prowled around the R. A. M. mine at about the same time and fired several shots into the shaft house, but did not come close enough to throw dynamite bombs and fire the buildings. Sheriff Newman called for the State troops, and they were promptly sent to quell the riot. The city is under martial law, the saloons are closed, and order is temporarily restored.

(From Our Special Correspondent.)

THE PRESENT OUTPUT.—Despite the fact that the strike has been on three months, and that many of the large producers have not been operating, there has been a general production of ore, much of which came from leases which were heretofore not working. The loss of ore from the big producers naturally made a scarcity in the market, and the smelters were anxious to make contracts with the smaller leases, which they did.

A careful estimate of the present daily output is as follows: William Wallace, 50 tons; Yankee Doodle, 60 tons; Olga, 15 tons; Morning and Evening Star, 135 tons; Black Prince, 10 tons; Sedalia, 25 tons; Vinnie, 30 tons; Big Chief, 20 tons; Mikado, 25 tons; Moyer, 20 tons; Coronado, 40 tons; Catalpa, 140 tons; Jason, 30 tons; Weldon, 50 tons; Ætna, 20 tons; Aime, 20 tons; White Cap, 10 tons; Lillian, 20 tons; Matchless, 50 tons; Dunkin, 15 tons; O. K., 20 tons; Denargo, 10 tons; Miscellaneous, 75 tons. Of course, the most of this production is iron ore.

Following shows the daily output of the properties that are at present closed down on account of the strike: Mariaa, 200 tons; Union Leasing, 50 tons; Smith-Moffat, 300 tons; Sixth Street, 100 tons; Ibex, 200 tons; Turbot, 40 tons; Resurrection, 40 tons; Bison, 100 tons; Mahala, 150 tons.

JASON.—This property was only recently added to the shipping list. A good iron body has been opened up at a depth of 200 ft., and shipments now average about 30 tons a day.

MOLINE MINING COMPANY.—These people are operating the William Wallace property, and while the shaft is down nearly 900 ft., the production from the workings already opened up amounts to about 50 tons a day. It is the opinion that the extension of the Mahala ore chute will be caught by their shaft.

MONARCH.—This is a new shaft, sunk recently on the Virginius claim, which is well located in the gold belt. Contact was caught at 300 ft., and exploration work is being carried on by a number of drifts. Ore has been discovered, and it is expected that the Monarch will soon be on the shipping list.

SEDALIA.—Captain W. H. Yankee and S. S. Kennedy are putting down a shaft on this property, which is located on Little Ellen Hill, northeast of the Resurrection. Since the closing down of the latter mine, the fear has been expressed that the Sedalia may be unable to handle the water, but in case it does, it will undoubtedly develop into a rich producer.

LA PLATA COUNTY.

SHOO FLY.—A five-ton shipment made from this property recently gave an average return of 37 oz. silver and 4·10 oz. gold per ton.

LAS ANIMAS COUNTY.

AGUILAR COAL FIELDS.—Robert S. and H. C. Brodhead, of Wilkes-Barre, Pa., some time ago purchased 2,000 acres of coal land about three miles north of Aguilar in the Walsenburg district. Later on they added to this by taking up a large tract near the town of Walsenburg. The latter property is still lying idle, but since the first of this year a shaft has been sunk on the Aguilar territory and coal is now being shipped. The Aguilar shaft is down 300-ft. to a 7-ft. seam of coal. It is a fine variety of the semi bituminous coal known as cannon ball, on account of its nodular or round fracture in the seam. At present 250 tons of coal are shipped a day, giving employment to 150 men.

SAGUACHE COUNTY.

EMPRESS JOSEPHINE.—During the past season surface improvements have been made upon this mine, at Bonanza, in the shape of shaft house, engine-room, ore houses, offices, etc., to the amount of about $16,000, and a shaft sunk. Work has been suspended, however, on account of the inability of the pumps to handle the water, which makes at the rate of 120 gals. a minute, while the capacity of the pumps is but 100 gals. per minute. Mr. D. G. Weems is the manager of the property.

IDAHO.

BLAINE COUNTY.

ISABELLA.—H. W. Schultz, who has a lease on this mine, at Smoky, which has laid dormant for several years, received the returns from his first shipment of 32 tons of ore. It averaged 247 oz. silver, 30% lead and $20 gold per ton. Another shipment is in transit.

IDAHO COUNTY.

QUEEN OF THE HILLS.—Evan Evans reports one shaft on this mine down 60 ft., showing at that depth 18 in. of good ledge matter. A new shaft is down about 20 ft. with a 4-ft. ore body. The old shaft will be sunk to a depth of 75 ft. and the new one to 60 ft. The ledge is uncovered from the discovery to the west end line, a distance of 750 ft.

OWYHEE COUNTY.

OWYHEE.—Messrs. John Davis and Sam Kent have secured a lease and bond upon this mine, on War Eagle, and will proceed at once to open it up. A crosscut tunnel, now about 400 ft. in length, will be extended about 200 ft. further to cut the ledge.

SPOKANE & SOUTH MOUNTAIN MINING AND MILLING COMPANY.—This company has been incorporated, with a capital of $3,000,000, to take hold of and work the mines formerly owned by William C. Ralston in this county. It is proposed to build a railroad from Booneville to the mines.

INDIANA.

RUSH COUNTY.

CENTRAL FUEL COMPANY.—A natural gas well was struck in a hitherto unknown gas territory last week by this company, of Rushville. The well is said to have a pressure of 336 lbs. to the square inch.

IOWA.

POLK COUNTY.

EUREKA COAL COMPANY.—This company, composed of C. J. Carlson and George Judd, has sunk a shaft near Des Moines which is 7 ft. × 14 ft. and 112 ft. deep. At this point a vein of coal 5 ft. thick was struck. The coal is of good quality and free from sulphur. The roof is of excellent quality, having 34 ft. of good slate over the coal, and with very little water to contend with. The mine is being equipped with the latest improved machinery.

KANSAS.

ATCHISON, TOPEKA, & SANTA FE RAILWAY COMPANY.—C. J. Devlin, manager of the coal properties of this company, is reported to have bought all of the company's mines in this State, and will take possession October 1st. His purchase includes the Santa Fe mines in Osage, Cherokee and Crawford counties. He also owns the mines at Marceline, Mo., and Toluca, Ill., from which the Santa Fe gets a large part of its fuel. This sale to Mr. Devlin closes out all of the Santa Fe's coal properties, its mines in Colorado and New Mexico having been sold in August to the Colorado Fuel and Iron Company, which took possession of them September 1st.

MICHIGAN.

IRON—MARQUETTE RANGE.

PITTSBURG & LAKE ANGELINE MINING COMPANY.—Capt. Thomas Walters, superintendent of this company's iron mine, has received orders from the headquarters of the company to cease mining operations September 26th, and shut down the mine for an indefinite period. This will throw 500 men out of employment.

IRON—MENOMINEE RANGE.

ARAGON.—This mine, which has been working half time for several weeks, is operating a full force again. The men have accepted a cut of 10% in wages.

MINNESOTA.

(From Our Special Correspondent.)

At the docks of the Duluth & Iron Range road the number of train crews, ore handling, has been reduced in the past week from 18 to 5, and 32 crews have been laid off since August. The dock crews have been reduced by 40 night men and 30 day shovelers. On pay day a large additional reduction will be made in the number of men in the road's shops. Shipments for the last two weeks have averaged about 30,000 tons, against about 100,000 tons a week till September.

At the docks of the Duluth, Missabe & Northern road one day last week there were clearances of ore amounting to 40,100, tons, the greatest in the road's history. Of the 14 cargoes, 6 were by vessels of the Rockefeller ore fleet, and 4 of them took out 22,000 tons, while of the remaining 10, 7 carried more than 2,000 tons each, illustrating the growth in the lake ore carriers. Shipments from this road have fallen off not quite so materially as from the Duluth & Iron Range, but are much less than for any previous time this year. It is now expected that by the middle of October, unless there is a material change for the better in iron conditions, there will be almost no ore moving from either port.

THE DOWSON-MOSS SUIT.—Another contest has been settled by the courts, that of R. Dowson vs. Carrie Moss. It has been in litigation six years, when it was settled on by Miss Moss, who paid $1,000 for the explorer's location, but found Dowson had made extensive improvements. She brought suit and lost, then won before the commissioner, but the decision was finally reversed by the secretary. The land adjoins the Paulson mine, in Cook County, near the northern boundary of the State, and is valuable.

THE WARREN 80 CASE.—By the U. S. Court of Appeals final decision has been made, upholding the patent to 80 acres, being the "Warren 80" of the famous Section 30 case, in the courts for 15 years. This gives title to the 80 acres to the Minnesota Iron Company, $\frac{13}{32}$ in fee and the remainder on a 20c. lease. The company expects to improve the property at the earliest moment, and will have one of its most valuable mines there ultimately. The 80 is traversed by what is believed to be one of the richest bodies of iron ore ever discovered.

IRON—MESABI RANGE.

(From Our Special Correspondent.)

BIWABIK BESSEMER COMPANY.—This mine is employing less than 50 men at present, and is expected to close down for the winter some time the present month.

COMMODORE MINING COMPANY.—This company shipped a little ore this week from developments, and will probably continue in a small way for some time. Its developments are being made in the most substantial way.

FRANKLIN MINING COMPANY.—It is hoped to clear the stockpiles of the Franklin, Bessemer and Victoria before the close of navigation, but last week no progress was made in that direction, no ore going from the mines.

LAKE SUPERIOR IRON COMPANY.—The Consolidated Company at these mines is at work. At the Burt it has 55 men, and is hoisting 12 cars a day, all of which is shipped. The mine has a stockpile of 35,000 tons. At the Hull mine there are 110 men at work, and about 250 tons are being hoisted and shipped daily from two shafts. At the Rust mine 15 men are busy, pumping Shaft No. 1. It is expected that the Hull and Rust will keep at work all winter.

MAHONING ORE COMPANY.—About 100 men are at work here stripping, but are to be laid off on December 1st.

MESABA CHIEF IRON COMPANY.—This company has given notice of a dividend of 35c. a share to be paid after September 28th. The company has done no mining but received money on an option from intending purchasers a short time ago, about half of which is to be distributed to stockholders.

MONARCH IRON COMPANY.—This company has filed articles, with a capital of $200,000, and these incorporators: S. W. Eckman, A. Howell and T. W. Wahl. These incorporators are representatives of the men interested.

OHIO MINING COMPANY.—This company has given the Atlantic Trust Company, of New York, a trust deed to the mining property to secure a $200,000 mortgage. This loan has been in progress of negotiation for some time, and is for improvements made and to be made.

PENOBSCOT MINING COMPANY.—About 40 men are employed here sinking, and will be kept at work all winter.

SELLERS ORE COMPANY.—About 75 men are working and the daily output, 250 tons, is being shipped steadily. Work is probable for the entire winter.

IRON—VERMILION RANGE.

(From Our Special Correspondent.)

At the Minnesota mines one shaft alone is working, and 200 miners are employed. About 25,000 tons of Vermilion ore are to be shipped, and this is coming down at the rate of 100 cars a day. When it has been cleaned up nothing more will be done, unless changes are made in present calculations.

PIONEER MINING COMPANY.—The pumps at this mine are kept in operation, draining both the Pioneer and the Minnesota Company's Chandler mines so that no work at all is necessary at the latter.

MONTANA.

DEER LODGE COUNTY.

ANACONDA COPPER MINING AND SMELTING COMPANY.—A contract has been awarded by this company for the erection of a silver mill at Anaconda. The mill will be used to treat the silver slimes which come from the refinery. The building will be 146 ft. long, 75 ft. wide and 25 feet high, and will have a capacity of 500,000 oz. per month. There will be four furnaces and two dry pans, each containing ten tanks. The old mill will be torn down.

JEFFERSON COUNTY.

HELPER.—Work on the 400-ft. tunnel to tap the lead on this mine is now under full headway. Seventy ft. of the distance is already accomplished. A depth of 200 ft. will be obtained on the the lead when it is reached. The Helper lays 1,000 ft. south of the Basin townsite, and is being worked under lease and bond by Butte and Basin parties.

HIGH ORES.—After months of boring, blasting and drilling in this mine, the big vein of ore has been cut, to reach which work has been pushed since February, The vein was cut 1,100 ft. from the mouth of the tunnel and at a depth of 700 ft. There is a rich streak 20 in. wide of shipping ore in the new vein that is said to run high in silver. At a point immediately above where the vein was cut in the "break" the vein is 90 ft. wide on the surface. There are three other large veins which have been encountered while pushing the tunnel on to the big veins. The first vein was encountered 100 ft. in the tunnel at a depth of about 50 ft. The vein was 12 ft. wide, all a fair quality of concentrating ore. The second vein was cut at 500 ft. from the mouth of the tunnel. It is 8 ft. wide and contains a strip 26 in. wide of good shipping ore. The second vein was struck at a depth of 380 ft. The third vein was encountered at a depth of 475 ft. and 600 ft. from the mouth of the tunnel. The company has 3,000 ft. on all four veins.

HOPE MINING COMPANY.—This company at Basin has been reorganized, and the property has passed into the hands of Eastern capitalists with P. A. H. Franklin, of Bingham, Utah, in charge as superintendent. The Hope mine was principally owned by United States Senator Carter, but through bad management it has suffered from a series of mishaps and accidents so that the old company became heavily involved, and was indebted to the First National Bank of Helena, which failed recently, to the amount of about $75,000. It is said that none of the former owners have any interest in the new company.

LEWIS & CLARKE COUNTY.

DIAMOND HILL.—A strike is reported to have been made in this mine, near Helena, recently sold to a Scotch syndicate. In one of the new tunnels, at a depth of 110 ft., a breast of ore 8 ft. in width was encountered which samples $40 per ton in gold.

UNITED SMELTING AND REFINING COMPANY.—Additions are being made to this company's plant at East Helena, an order having been placed with the Colorado Iron Works Company, of Denver, Colo., for a 48 in. × 120 in. smelting furnace and for two double pot slag trucks. The latter have been delivered and the furnace is being rapidly pushed to completion.

MISSOULA COUNTY.

IRON MOUNTAIN MINING COMPANY.—The statement of this company for September, as sent out with the checks to stockholders for the regular monthly dividend of $5,000, is as follows: Delayed ore sales for shipments in July, $8,096; ore sales for August to date, $16,011.02; current expenses for August, $15,879.43, net profit, $8,227.71; cash on hand August 13th, $44,250.09; balance, after subtraction of dividend No. 40, $47,477.80.

PARK COUNTY.

DAISY.—The owners of this mine are pushing development work, and have opened a large body of good ore. A force of 27 men is employed driving two tunnels and two crosscuts in the upper tunnel. Preparations are being made to continue work through the winter.

SILVER BOW COUNTY.

BANNOCK MINING AND MILLING COMPANY.—The annual report of this company has just been published. It shows a capital stock of $25,000, of which $10,000 is paid in mill machinery and $750 in cash. The indebtedness of $6,000 is fully covered by gold bullion and deposits in the mint, and a note for $5,000, undue.

BOSTON & MONTANA MINING COMPANY.—Superintendent Gilbert has given the following statement to the Butte *Inter Mountain* in reference to the Atlantic shaft: "We have been running a crosscut north from the 600-ft. level and went through a 4-ft. vein last week, and have had a fairly good assay from it, but as it is not up to expectations we are continuing the crosscut to strike a larger vein, which we believe is in that vicinity. We are handling only about 60 gals. of water per minute now and the present pumping machinery is adequate for all purposes. We will not do any work on the small vein and will make no attempt to take out ore until we strike the larger vein."

NEVADA.

ELKO COUNTY.

DEXTER MINING COMPANY.—The cyanide mill recently erected by this company at Tuscarora to work the old mill tailings, is now in operation. These tailings carry $25 in gold, and the plant is said to be saving $20 per ton, at a treatment cost of $1.25.

HUMBOLDT COUNTY.

NATIONAL NICKEL COMPANY.—This company, of Cottonwood, near Lovelocks, has received four carloads of machinery, and is arranging to put in an electric plant to reduce the nickel ore. There are reported to be several thousand tons in sight.

LANDER COUNTY.

PRADIER BROS.—These parties have just shipped 13 tons of antimony from their mine at Big Creek, and will make another shipment shortly.

STOREY COUNTY.

MACKAY GOLD AND SILVER MINING COMPANY.—The shaft on this company's mine is now down to the 50-ft. level and from this point a west crosscut will be run to intersect the vein. The vein on the surface shows a breadth of between 30 and 40 ft. The east or hanging wall is syenite and porphyry with a heavy streak of clay next to the porphyry. The vein is said to be strongly mineralized throughout its entire width and shows a good assay value.

STOREY COUNTY—BRUNSWICK LODE.

The following are extracts from the latest weekly reports of the mine superintendents:

CHOLLAR.—Shaft No. 1—The station at the 400-ft. level has been completed, having been opened 36 ft. to the east of the shaft. A joint Chollar-Hale & Norcross south drift has been started from it on the footwall side, and has been extended 32 ft. The face is in soft porphyry and stringers of low-grade quartz. 300-ft. level—The south drift has been driven and timbered for a distance of 31 ft.; total length, 267 ft. The face is in hard porphyry.

OCCIDENTAL CONSOLIDATED.—550-ft level—Have discontinued all work in the Edwards shaft. The winze started in the north drift is down 109 ft.; advanced during the week 18 ft. Have milled during the week 175 tons of ore of the average assay value, as per battery samples, of $13.20 per ton, actual value.

STOREY COUNTY—COMSTOCK LODE.

The following are extracts from the latest weekly reports of the mine superintendents:

BULLION.—They have started a north drift on the footwall of the ledge at a point in the west drift on the 820 level of the Ward shaft, 2,170 ft. west of the shaft station, and it has been advanced 8 ft. The face is in quartz and porphyry yielding low assays.

CHOLLAR.—In the north stope on the 450-ft. level, above No. 2 crosscut, are working on the ninth and tenth floors, and are out 40 ft. south from the raise. At this point the fillings are of fair grade, with a 3-ft. streak of pay in place east of the old ledge. In the south stope on this level are working north and south on the sixth floor, the north end of which shows bunches of fair-grade ore; the south end is low grade. Have extracted during the week from all points 89 tons and 500 lbs. of ore, which has been shipped to the Nevada mill. The average battery sample of this ore was $23.08 per ton.

The official returns of the ore worked and bullion produced for account of the Chollar Mining Company at the Nevada mill for the month of August show that 360 tons of ore were worked, yielding bullion of the gross value of $663.75. The cost of reduction was $2,340; net proceeds in bullion, $4,323.75; assay value of the ore, $23.39 per ton: gross average per ton, $18.51, and net average, $12.01 per ton. The mill worked the ore up to 70% of its assay value.

CONSOLIDATED CALIFORNIA & VIRGINIA.—1,750

level—From 13th, 14th, 15th, 21st and 24th floors above the sill floor of this level, at north end of stope, in old ground of former workings, extracted during the week 120 tons of ore, the average assay value of which, per samples taken from cars in mine, was $37.38 per ton. From 16th floor from upraise, which connects with the 24th floor from end of east drift, are stoping upward in old ground, assaying about $30 a ton. Total extraction of ore for week amounted to 122 tons, the average assay value of which, per samples taken from cars when raised to surface, was $38.08 per ton.

WASHOE COUNTY.

(From Our Special Correspondent.)

A well-defined ledge 12 in. in width has been located four miles south of the old pyramid mining district by Hank Miller.

NEW MEXICO.

BERNALILLO COUNTY.

LITTLE PITTSBURG.—This mine, east of Albuquerque, shows 15 ft. of free milling gold quartz at a depth of 100 ft. Samples from the bottom assay $90. The mine is being developed on the co-operative system by citizens of Albuquerque.

SIERRA COUNTY.

CLIFF MINING AND SMELTING COMPANY.—This company has been organized with a capital of $2,500,000, and will operate at Chloride.

TAOS COUNTY.

The erection of a new smelter is being pushed rapidly at Red River City.

CRITERION.—Work progresses on the crosscut in this shaft at a depth of 60 ft. Eleven feet of vein matter has been passed through and no hanging wall reached. The quartz continues a sulphide, with increasing quantities of oxidized ore.

LA BELLE.—This tunnel now extends into the hill over 400 ft., giving a depth of nearly 300 ft. from surface. Several small veins have been cut, returning encouraging values.

MIDNIGHT EXTENSION MINING COMPANY.—This company is pushing work on its claims on Bitter Creek, the Memphis and Cora Gibson. On the Memphis a tunnel has been run 60 ft. along the vein. On the Cora Gibson lode a crosscut tunnel has been run 50 ft. to cut the vein, which is about 10 ft. farther. Work will be pushed until sufficient ore is blocked out to guarantee a mill.

PENNSYLVANIA.

ANTHRACITE COAL.

NEWTON COAL MINING COMPANY.—This company is preparing to sink a new shaft in Upper Pittston, from the Marcy to the Red Ash vein. The shaft was sunk to the Marcy vein several years ago, but it has never been worked. The new shaft will be used for hoisting coal and also for ventilation.

PHILADELPHIA & READING COAL AND IRON COMPANY.—The auction sale of properties of the Philadelphia & Reading Railroad Company and this company under the foreclosure of the general mortgage, as directed by the United States Circuit Court, took place September 22d in Philadelphia. The total proceeds of the sale amounted to $20,500,000. The miscellaneous assets were offered in three separate parcels. The only bidder was C. H. Coster, representing J. P. Morgan & Company, for the Reading Reorganization Committee, and he was the purchaser of the three lots for $4,500,000. Mr. Coster deposited $300,000 to bind the purchase—$100,000 on each lot. The first lot embraced the right, title and interest in the Philadelphia & Reading Company in $15,584,500 of securities pledged as collateral security for the payment of an issue of $10,000,000 collateral trust bonds. Mr. Whiteridge, on behalf of Mr. Coster, bid $3,000,000, and the assets were knocked down to him conditionally. The second parcel included $23,257,253 in stocks and bonds owned by the Railroad and the Coal and Iron companies, subject to various pledges. Mr. Coster secured this lot for $1,000,000. The third lot comprised the interest of the Railroad in bonds of the Coal and Iron Company and in certain claims against the Coal and Iron Company amounting to $68,879,336. Mr. Coster also secured this lot for $100,000. The condition upon which the separate sales were made was that they were to be finally put up as a unit. When this was done Mr. Coster, although unopposed, bid $4,500,000 for the total, an increase of $400,000, and the lots were knocked down to him at the larger figure. During the progress of the sale Robert L. Luce, attorney on behalf of Mrs. Hetty Green, of New York, a large holder of Reading securities, formally protested against the sale on the groand that it was illegal. Mr. Luce filed a bill in the United States Circuit Court the same day to this effect. After this sale had been completed the property of both companies covered by the general mortgage was sold to C. H. Coster for $16,000,000. The property was divided into three lots, and they brought respectively $7,500,000, $7,500,000 and $1,000,000. As was the case in the first sale, Mr. Coster's bids were not opposed. The first lot included the railroad itself. The second lot comprised the coal lands. The third lot comprised securities pledged as security for the general mortgage. The attorney, Mr. Luce, entered another protest on behalf of Hetty Green, on the ground of illegality. Notice was also given on behalf of the city of Philadelphia that the contract entered into between the city and the Reading Railroad for the construction of a subway would have to be carried out under the new order of things, and that the city of Philadelphia, as trustee under the will of Stephen Girard, would not consent to the immediate transfer of the coal lands that have been leased to the Reading.

SOUTH DAKOTA.

PENNINGTON COUNTY.

(From Our Special Correspondent.)

DOLCODE.—When work was suspended upon this mine last spring through a disagreement among the owners, the ores at 80 ft. were as rich as those which dazzled the discoverer. A hoist has now been placed upon the mine, and a new period of "specimen" finds and ore sacking is anticipated.

GOLDEN SLIPPER.—M. A. Dodge has completed the work of sinking 100 ft. on the vein from the 130-ft. station. Under this development lease ores which milled more than $6,000 were taken out. The lessee, therefore, realizes a good profit, while the mine preserves its record as one which has paid all cost of development from grass roots. The last mill run made upon ores from the shaft yielded $34 per ton.

NEW ELDORADO.—Work continues at this property, on Palmer Gulch. The vein has been opened by test pits for a distance of over 500 ft., and prospects throughout its length. Some very rich rock was encountered recently in the 50-ft. shaft. The Eldorado is another of the mines which is paying its own way.

ST. ELMO.—The Tremain steam stamp is now crushing ores from the mine continuously and with gratifying results. The vein has straightened up and widened in the shaft now being sunk in the tunnel. A clean-up on September 12th yielded between $800 and $1,000 from a five days' run. The stamp crushes regularly 12 tons every 24 hours.

SUNNYSIDE.—The working shaft upon this property has reached a depth of 150 ft. and a drift is now being run on the vein, to reach the ore chute, which yielded so well above the 60-ft. level. The ores below water level do not carry so large a per cent. in free gold values, but the value of the concentrates is greater. After some further development the company will probably erect a mill with concentrating appliances.

TEXAS.

BURLESON COUNTY.

BRENHAM COAL AND MANUFACTURING COMPANY.—This company has commenced preparations for the operation of a coal mine near Clay Station. The Santa Fe has put in 1,700 ft. of spur track. Derricks have been erected and the sinking of a shaft will be commenced as soon as the machinery is set up.

UTAH.

BEAVER COUNTY.

(From Our Special Correspondent.)

BLUE BIRD.—The initial shipment from this mine was made last week and gave 33 oz. silver and 8·92 oz. gold per ton. The mine is situated near Marysvale.

SALT LAKE COUNTY.

(From Our Special Correspondent.)

ANTELOPE.—This Bingham property, which is situated near the Dalton & Lark, has been bought by George W. Keel, representing a French and American syndicate known as the Butterfield Mining Company. The price is believed to be $100,000.

GERMANIA SMELTER.—The management of this smelter announces an advarce of treatment charges of low-grade lead ores from $4 to $5.50 per ton, and in some grades of ore the charges will be $6. Other bases of charges, such as silica charges and iron allowances, will remain as before.

LAST CHANCE.—This old-time Bingham producer is to start up under the management of W. J. Hodge, of Houghton, Mich., and J. Papineau, Jr., of Chicago. The property has a mill for the concentration of its low-grade ores.

WATUNKA.—A 3-ft. vein of carbonates has been opened up in the William Jennings Bryan lode, one of the Watunka group, which averages over 200 oz. silver to the ton. The discovery is in entirely new ground, near the head of Big Cottonwood Canyon, and only about 16 miles from Salt Lake. It is suspected to be on the main lode on which the old Emma and Flagstaff are located.

WINNAMUCK.—Since the reorganization of this Bingham property some splendid new ore bodies have been discovered, the first as a result of the intelligent prospecting of the Winnamuck fault. Then a pipe of high-grade silver ore was found between the 100 and 200-ft. levels, running at right angles to the vein into the foot wall, which is of quartzite. West of this point, on the vein what was supposed to be the foot wall proved to be an immense "horse," behind which was a body of galena ore running 45% lead and 25 oz. silver, which has been exposed for 2 0 ft. up and down the vein and nearly 100 ft. on its course. The main incline shaft is nearly to the 400-ft. level.

SAN JUAN COUNTY.

(From Our Special Correspondent.)

GOLD QUEEN.—A 10-stamp mill is nearing completion on this property, and will be connected with the mine by a Hallidie rope tramway 3,200 ft. long. The mine has a large vein of high-grade, free-milling gold ore, the values being contained in a decomposed granite.

TOOELE COUNTY.

(From Our Special Correspondent.)

DENVER BOY.—This prospect, in the North Tintic District, has developed a series of pockets containing a finely powdered manganese, which in some instances has assayed as high as 47 oz. gold.

VIRGINIA.

AUGUSTA COUNTY.

It is reported that E. R. Brainerd, of Chicago, Ill., has found valuable and extensive deposits of manganese on his property near Lyndhurst.

BLUE RIDGE MANGANESE AND IRON MINING COMPANY.—This company, of Staunton, lately organized, has for president: S M. Yost, of Staunton; for vice-president, Jos. A. Vandergrift, of Philadelphia, Pa., and Charles W. Atmore, of Philadelphia, Pa., secretary. The company purposes mining iron and manganese, refining same, manufacturing iron and steel, etc.

WARREN COUNTY.

MT. PLEASANT MINING COMPANY.—Captain John Anderson, representative of this company of Pennsylvania, has bought of Mr. J. T. Sealoch his copper mine, near Linden. Price paid is said to be $5,000. This company will proceed to develop the mines at once.

WASHINGTON.

SNOHOMISH COUNTY.

MARTIN CREEK GOLD AND COPPER MINING COMPANY.—This company, of Everett, was recently incorporated with a capital stock of $1,250,000, of which $250,000 is treasury stock for development purposes. The officers are: President, J. H. Durgin; secretary, Robert Thompson; directors, J. H. Durgin, Robert Thompson and Geo. Mosher. The property of the company includes four mining claims and a mill site on Martin creek, five miles from Silverton by way of the creek, and two and a half miles from the Everett & Monte Cristo railway.

MONTE CRISTO GOLD AND COPPER MINING COMPANY.—The work on these mines is at present confined to extending the tunnel on the Spokane. Through this tunnel the company expects to bring all the ore from its numerous claims. This company has already expended about $7,500 on its properties.

WISCONSIN.

IRON COUNTY.

SHORES MINING COMPANY.—The mine owned by this company, known as the Section 10 mine, operated by E. A. Shores, of Ashland, shut down last week. It was operated only to a limited extent. About 30 men were thrown out of employment.

WYOMING.

CARBON COUNTY.

Gold is reported to have been discovered four months ago 20 miles south of Saratoga, where Grand Encampment Creek flows into the Platte River, news of the discovery having become known only recently. It is said the country prospected shows the mineral belt to be 2 miles wide and 40 miles long, full of leads. The original find was at the mouth of Purgatory creek.

SWEETWATER COUNTY.

It is reported that Edward A. Green, a mining investor of New York, is having a survey made of placer property at Oregon Buttes, with a view of purchasing the property, which includes 5,000 acres, if water can be put upon it. The property is owned by Tom Sun and is valued at $150,000. Mr. Green has put up an option on the place and will determine as soon as the survey is completed whether or not he will make the purchase.

FOREIGN MINING NEWS.

BRITISH COLUMBIA.

CARIBOO DISTRICT.

BRITISH NORTHWEST GOLD MINING COMPANY.—This company has purchased from Charles F. Fishback, of the Seattle *Evening Times*, property in the Cariboo District as follows: Maude Hydraulic Mining company's property, consisting of 380 acres, the Fishback Hydraulic Gold Mining Company, 570 acres, and the Quesnelle River Gold Mining Syndicate, consisting of 20 miles of the main Quesnelle River channel. It is said that J. E. Addicks and E. F. J. Gaynor, of New York, are interested in the new company.

TRAIL CREEK DISTRICT.

(From Our Special Correspondent.)

CROWN POINT.—The controlling interest in this property has passed into the hands of a Toronto company. The Tiger mineral claim, which together with the Uncle Sam forms two of the adjoining properties of the group which has passed into Toronto hands, is in charge of Mr. Vondre and his assistant, who are at work in a tunnel under contract, and will continue to work at the contract until the arrival of the machinery for the Crown Point. Three shifts of eight men each are at work under the local management of Mr. Fitz William. A large air compressor, the necessary boilers and other machinery are said to have been ordered since the Toronto parties became interested. The buildings on the Crown Point are very ordinary structures, principally of logs, but a considerable outlay has been made on shaft and tunneling, and a wagon road was recently built to the line of the Columbia and Western Railway, a distance of about three-quarters of a mile. A considerable quantity of ore is on sight on the company's property.

MUGWUMP.—This property is situated on Red Mountain and faces the City of Spokane and the Monte Cristo claims. It is a triangular piece of ground, comprising 15 acres. The line of the Columbia and Western Railway Company runs within 100 ft. of the face of the present tunnel, which is in only a few feet. On the upper level, 200 ft. higher, a shaft of a few feet depth has been sunk. A Sullivan diamond drill is being placed in position, and it will be worked both in the shaft and in the tunnel. In the latter a 2-ft. vein of ore has been found with clearly defined walls. A similar vein was recently uncovered on the property of the City of Spokane. The president of the Mugwump Mining Company is M. D. Ballard, Seattle; L. G. Parsons, vice-president; G. C. Kilboun, general manager; W. M. Newton, treasurer, and George B. Shorey, superintendent. The Mugwump Company was only recently incorporated. A small force of men is at work night and day doing development work.

OLIVE MINING COMPANY.—This company has been organized to operate the Volcano group of five claims, located about eight miles from Grand Forks. These claims, it is said, contain the largest ore bodies in British Columbia. The original locator of these properties is Mr. R. E. Brown, who made the location 11 years ago, and who still has a controlling interest in the properties. A tunnel has been run into the mountain to a distance of 350 ft., and at a depth of 1,100 ft.

SMELTER RETURNS.—According to the official returns compiled under the direction of Mr. Carlyle, provincial mineralogist, the total number of tons of smelted ore up to July 1st in the Trail Creek District was 27,085, the number of ounces of gold was 45,231, of silver 67,795, and the number of pounds of copper was 1,265,362. The total gross value recorded by the smelters is placed at $1,007,007.

ONTARIO.

LA SEINE RIVER DISTRICT.

(From Our Special Correspondent.)

BIG BEN.—This claim is in Bad Vermilion Lake, so also is the Nova. Both claims show up well in free milling ores and both are under partial development. Among the very latest to attract attention are A L 94, 5, 6, 7 and A L 100, all belonging to Colonel Ray, banker, of Port Arthur, all of which are about being opened up systematically.

BILL WIEGAND CLAIMS.—These claims, near the Ontario Mining and Milling Company's mine (and between these and the Ferguson group), are being examined by foreign capitalists. Repeated mention of the merit and possibilities of these claims have been made in the *Engineering and Mining Journal*, and as their showing is exceedingly good a change of ownership is anticipated. The numbers are A L 103, 4, 5 and 6, all on Shoal Lake, La Seine River.

ONTARIO GOLD MINING AND MILLING COMPANY.—Work at the claims of A L 74, 5 and 6 (late Ray-Wiegund) is being vigorously prosecuted. Over 100 men are now upon the company's pay roll. Their new 20-stamp mill machinery from Frazer & Chalmers, Chicago, has been delivered at their dock upon Shoal Lake. "Shoal Lake" at this season is not a misnomer. It is an expansion of La Seine River, and its waters outside of the steamboat channel are decidedly shallow at all seasons. The working force at this mine is divided as follows: In the north shaft, 20 miners, two Ingersoll drills and a crew of hand-drillers. This north shaft has attained a depth of over 200 ft. with drifts 80 and 75 ft. north and south from first level, respectively. At 150-ft. level drifting south has reached 130 ft. and to the north 30 ft. At the 200-ft. level the hand-drillers have driven south 20 ft. and north 100 ft., while a machine is being put in position to continue sinking from the present level. As already observed, the work of sinking and drifting so far has been carried on alongside of the vein matter, which maintains its average width of 3 ft. 3 in. throughout. The lode is also conspicuous for its uniform free-milling character at the south shaft or "No. 5," now down 125 ft. From first level drifting south by machine drill has reached a distance of 130 ft., and to the north, by hand labor, 15 ft. A force of 12 men is employed in connection with this shaft. The vein in this shaft is also left standing and as the ores of both shafts are of high grade, and their fissure lodes of fair strength everywhere opened, a satisfactory result in quality and quantity will likely follow the first output. The mill site has been prepared and everything in readiness for placing the machinery. Officers and other necessary outbuildings are also under construction, while a force of Indians are engaged in cutting fuel for the mine and mill. Mr. R. Flaherty is superintendent.

During the past week the district has been visited by several experts and capitalists, including Mr. F. R. James, of Toronto. Mr. James acquired a claim here and intends operating soon.

SEINE RIVER (ONTARIO) GOLD MINES COMPANY, LIMITED.—Sinking and drifting upon four of the main veins is being carried on with gratifying results. They have also about completed their new and commodious dwelling and boarding houses as well as a cottage and assay offices, with other indispensable surface improvement. Their working force has also been increased, and pumps, etc., placed in position. Mr. W. D. Ferguson, the company's consulting engineer, arrived from Europe lately and with their superintendent, Mr. Arthur B. Whitley, is present at the mine.

SOUTH AFRICA.

TRANSVAAL.

WITWATERSRAND GOLD OUTPUT.—The production of gold reported for the Witwatersrand mines in the month of August was 212,428 oz., an increase of 8,555 oz. over July and of 8,855 oz over August, 1895. The production in August is the largest ever reported for the district in a single month. For the eight months ending August 31st the total output was 1,470,803 oz., which compares with 1,516,573 oz. reported for the corresponding period last year, 1,316,396 oz. in 1894 and 927,319 oz. in 1893. At the usual valuation of Witwatersrand gold the total in crude ounces reported for this year is equivalent to 1,200,175 fine oz., or $24,807,617, expressed in coin.

LATE NEWS.

BY TELEGRAPH.

(From our Special Correspondent.)

LEADVILLE, Colo., September 25.—Under the latest orders of Gen. Brooks this city was placed under the control of a provost guard of military police. Miners from Joplin, Mo., numbering about 100 men who will arrive here late to-day, have been engaged to work in the Marian, Small Hopes and Emmett mines, of the Small Hopes Company. The Emmett has been working right along with a small force of non-union men. The other two mines named will be started up at once under a strong guard. Edward Boyce, president of the Miners' Federation, who is now here, has declined to urge the Leadville Union to declare the strike off.

(From Our Special Correspondent.)

COLORADO SPRINGS, Colo., September 25.—The option secured by the Crosby-Ehrich syndicate on 300,000 shares of Elkton stock at $1 per share has been taken up and the first lot of 100,000 shares taken according to agreement. The remaining 200,000 shares need not be taken for two months. It is understood that the stock is to go to Paris and London chiefly. W. Bonbright & Company aided in the transactions.

COAL TRADE REVIEW.

NEW YORK, Friday Evening, Sept. 25.

Statement of shipments of anthracite coal (approximated) in tons of 2,240 lbs., for the week ending September 19 h. 1896, compared with the corresponding period last year:

	1896. Week.	1896. Year.	1895. Year.
Pennsylvania Railroad.....	76,053	2,528,903	2,661,451

PRODUCTION OF BITUMINOUS COAL, in tons of 2,000 lbs. for week ending September 19th, and for years from January 1st, 1896 and 1895:

Shipped East and North:	1896. Week.	1896. Year.	1895. Year.
Allegheny, Pa.....	43,689	1,659,558	2,353,211
Barclay, Pa.....	1,209	31,457	....
Beech Creek, Pa.....	55,534	2,126,932	2,09[illegible]421
Broad Top, Pa.....	.....	1255,964	244,352
Clearfield, Pa.....	63,004	3,314,900	3,307,817
Cumberland, Md	72,162	2,383,460	2,041,900
Kanawha, W. Va..	†58,185	2,158,246	1,991,596
Phila. & Erie	746	55,273	35,818
Pocahontas Flat Top.....	.....	‡2,421,255	1,719,084
Totals	294,529	14,410,015	13,786,139

* For year ending September 5th.
† For week ending September 14th.
‡ For year ending August 29th.

Shipped West:	1896. Week.	1896. Year.	1895. Year.
Monongahela, Pa	22,697	911,498	511,478
Pittsburg, Pa.....	32,134	1,367 417	1,180,828
Westmoreland, Pa.....	29,829	1,358,463	1,162,081
Totals.....	84,660	3,637,108	2,854,387
Grand totals.....	379,189	18,047,453	16,640,526

Production of coke on line of Pennsylvania Railroad for the week ending September 19th, 1896, and year from January 1st, 1896, in tons of 2,000 lbs.: Week, 47,107 tons; year, 2,971,168; to corresponding date in 1895, 4,083,174 tons.

Anthracite.

The condition of the anthracite coal trade shows no change during the past week. Retailers have done a better business, as was to be expected, the cool weather convincing the consumers that coal is a necessity at present prices as much as it was a year ago at lower rates. The activity of the retailers is only temporary, however and will hardly be felt by the producers. These report that trade along the line is improving, and is much better than at tidewater. It is also said that a great deal of the coal mined is still going West. A greater demand is arising for chestnut coal, but egg and stove are still the sizes most sought after. The small steam sizes are selling very slowly. The output for September, it is thought, will be about 3,750,000 tons, but the official returns after October 1st may show a shortage from those figures.

The September schedule of prices is as follows: $4 for broken, $4.25 for egg and chestnut and $4.50 for stove.

NOTES OF THE WEEK.

The existence of an alleged coal trust in New York State is being considered by Attorney-General Hancock, it is understood. No direct evidence has yet been submitted to the Attorney-General against the trust, so far as can be learned.

Bituminous.

The Atlantic seaboard soft-coal trade continues dull, though the producers seem to get enough orders to keep the mines going on a reduced tonnage. Some of the mill owners have been making threats because they have not been able to put in their supply of coal this year at last year's figures, but they must remember that the prices of last year did not, in some instances, return a new dollar for an old one, and that this year the margin of profit is not yet a fair one. The consumers, on what orders they place with producers at the present time, are striving for delivered prices, but producers do not like to make quotations in that shape.

Ocean freights are advancing somewhat, and this may bring some orders into the market, consignees striving to get the lower freight rates. The tonnages for the year are not much behind last year's business, although the long drought and other causes which brought up last year's consumption make the comparison unfair. The combination has its regular meetings, but from all that an outsider can learn there is not much done except to discuss the general market.

The placing of coal does not seem to be changed from last week. The far East, if anything, is slightly more active than the other receiving points, though the Sound ports are fighting hard to get some further cargoes in at reduced freights. New York harbor shipments are fairly regular. All-rail trade is fairly active. There seems to be some fighting in this line of trade for the last 5c. Transportation from mines to tide is quicker than usual. Car supply is excellent, all that requisitions call for being supplied to all points.

In the coastwise vessel market ships are quite scarce, and charters are difficult to make even on an advanced rate. Vessel owners seem to have the best of it just at present, as they are getting 5 and 10c. advances almost as they ask them.

We quote current rates of freight from Philadelphia as follows: To Boston, Salem, Portsmouth and Bath, 60@65c.; Portland, Providence, New Bedford and the Sound, 50@60c.; Wareham, 75@80c.; Lynn, 75@90c.; Newburyport 75@80c.; Dover, $1, alongside and towage; Saco, 85c. alongside and towage; Gardiner, 65@70c. and towage. Five and 10 cents above these rates are asked from Norfolk, Newport News and Baltimore.

The Association prices remain as follows: F. o. b. Philadelphia, Norfolk and Newport News, $2.35; Baltimore, $2.28; New York Harbor shipping ports, $2.80, alongside; New York Harbor, $3. There is a 20c. differential in favor of Clearfield and Beech Creek coals.

Buffalo. Sept. 24.

(From Our Special Correspondent.)

The anthracite coal trade continues quiet, and no change is reported in quotations. There is much speculative talk as to whether prices will be higher in a week or two. Many old orders are being filled. Bituminous coal shows little activity; sales are only for immediate requirements, and quotations nominally unchanged. Supply is ample, and assortment of varieties and sizes good. The new steamer *Rmapano* took on her first cargo, on the 20th, 3,000 net tons of hard coal for Chicago. Lake freighting of coal is very light this week with no indications of improvement. Many boats have laid up, as they cannot make expenses at going rates, 20c. a ton for coal to and 1½@1¾c for wheat from Chicago. There is a scarcity of coal for shipment to Western ports, with no prospects of free arrivals by rail.

The shipments of coal westward by lake from Buffalo, from September 13th to 19th, both days inclusive, aggregate 76,236 net tons, distributed as follows: 26,850 tons to Chicago, 16,266 tons to Milwaukee, 13,600 tons to Duluth, 2,045 tons to Toledo, 10,300 tons to West Superior, 550 tons to Sault Ste. Marie, 2,450 tons to Washburn, 1,400 tons to Gladstone, 875 tons to Bay City, 600 tons to Benton Harbor, 550 tons to Racine, and 750 tons to Lake Linden. The rates of freight were: 20c. to Chicago, Milwaukee, Duluth, Washburn, Superior, Toledo, Gladstone, Marquette, Green Bay and Fort William; 50c. to Sturgeon Bay and Benton Harbor; 25c. to Portage, Lake Linden, Bay City and Racine; 30c. to Marine City, and 35c. to Sault Ste. Marie. Closing steady and quiet.

Wind blowing at 56 miles per hour was the record in Buffalo at 5:30 p. m. last Saturday. Early in the day heavy rain prevailed. The storm was general over the lakes—especially severe on Lakes Huron and Superior. No disasters, fortunately, have been reported. The Weather Bureau did good work in sending out cautionary signals.

Chicago. Sept. 23.

(From Our Special Correspondent.)

Anthracite.—There is but little change in the anthracite coal situation in the Chicago market. The buying has increased very little, although we have had the first touch of winter in the shape of frosts. It is evident that the situation needs more than frost to start up any greatly increased business, in fact nothing short of freezing weather with a zero temperature can produce a better demand. Dealers out of the city have not as yet placed orders to any extent for coal, and it is evident that they are waiting till they are compelled to lay in larger stocks of coal than they now are carrying. The recent circular rates are surely being shaded, and in

some cases to quite a considerable extent. Circular prices are: For grate, $5.60, and egg, stove and chestnut, $5.85 f. o. b. cars Chicago. The retail prices are $6.75 and $7.

Bituminous Coal.—Tonnage increased considerably since the recent advance in prices on hard coal. Soft coal has in many instances taken the place of anthracite, as it effects a great saving to consumers, and they can put up with its disadvantages. The out-of-town trade has become quite active, for it is in the country that it is taking the place of anthracite mostly. Soft coal for manufacturing purposes is almost at a standstill, and it will remain so until the industries regain some of their former prestige.

Coke.—Trade is extremely dull, but little being sold here on account of the stagnation in manufacturing industries. Connellsville coke is quoted $4.55 for foundry and crushed; Pocahontas, $3.90.

Pittsburg. Sept. 24.

(From Our Special Correspondent.)

Coal.—The coal miners are a very curious people; they have been acting for some time past more like children than men. The Ohio coal mine operators will demand that the wages for coal mining in the State be reduced to 45c. per ton, as the result of the cut in Pennsylvania. The Pittsburg railroad miners present the curious spectacle of miners reducing their own wages to 54c. in order to meet the competition of non-union miners. Trade is improving; a number of mines that had been idle have resumed operations. Stocks for shipment are not large, the mines being fairly employed in filling orders for local wants. Retailers are doing a big business, as consumers are laying in their winter supply.

Washington and Green counties are excited over the probable sale of a large tract of land to Eastern capitalists. The reason of this is that free navigation on the Manongahela will do away with the heavy taxes formerly paid. The area is a large one, embracing 60,000 to 80,000 acres, valued at not less than $1,500,000. The whole field is underlaid with excellent Pittsburg vein coal, the seam running from 8 to 12 ft. in thickness.

Connellsville Coke.—The trade was dull; there was a further decline in production which fell off 3,572 tons. Only two plants were blown out, the Dunbar Furnace Company's Hill farm plant of 105 ovens and the Cambria Iron Company's plant at Wheeler, 103 ovens. Both these plants were closed down as a result of the shutting down of the furnaces that control them. Only about 4,590 of the 17,972 ovens in the region were in operation at the close of the week. The average number of days made throughout the region was 4·90, against 5·10 for the previous week. Indications are that the bottom notch has been reached and that many of the mills will soon resume operations. While the coke rates may be said to be $2 for furnace, $2.30 for foundry and $2.35 for crushed some of the operators are known to be selling furnace coke at $1.75; the amount being sold at this figure, however, is not large.

The weeks' shipments of coke from the region amounted to 3,099 cars against 3,141 cars the week previous. To Pittsburg and river points, 1,492 cars; to points west of Pittsburg, 1,013 cars; to points east, 494 cars; total, 3,099 cars.

Coke Freights.—The new rates of freight on coke from the Connellsville region per ton of 2,000 lbs. f. o. b. at ovens: Pittsburg, 55c.; Troy and Albany, N. Y., Cincinnati, O., Peoria, Ill., East St. Louis, Mo., and Louisville, Ky., $2.75; St. Louis, $2.90; Cairo, Ill., $3.80; Baltimore, Md., $1.95; Philadelphia, Pa., $2.15; New York, $2.94; Boston, $3.50; Mahoning and Shenango Valley, $1.10; Cleveland, O., $1.40; Buffalo, N. Y., $1.75; Detroit and Toledo, $2.10; Chicago, $2.50; Montreal, $4.22.

Shanghai, China. Aug. 14.

(Special Report of Wheelock & Co.)

Coal.—There is no demand for Japan coal, and the natives refuse to operate. Rates of freight between this place and Nagasaki have fallen to such a low state that the importation of rubbish is anticipated. Cardiff coal has declined considerably since last quotation, and a fair quantity was sold at 11 taels exgodown. Sydney Wollongong has also become cheaper, and we hear that the unsold stock, amounting to about 4,500 tons, has been settled on private terms. At present we are on a firmer basis, as with this article at 7·50 taels we are able to compete more successfully with Kaiping. The sailer *Darra* arrived August 10th with 1,350 tons, which, we believe, has been sold, but the terms are private.

We quote: Cardiff, 11 taels per ton; American anthracite, 9 taels per ton; Sydney Wollongong, 7·50 taels per ton. Japan coal is quoted at 5·75 taels for Takasima lump; 4 taels for Namazuta lump, and 3@3·25 taels per ton for other sorts.

Kerosene Oil.—The total amount of business done has been very small, and chiefly of a gambling nature. Devoes changed hands at as low as 1·61 taels, but this is for very short prompt. Sales have been made for one month's delivery at 1·63 taels per case. Russian and Langkat have been dealt in in small quantities at 1·56 taels and 1·52½ per case respectively. Three cargoes have arrived, viz., *City of Dublin* on August 6th with 25,000 cases, *Drumeltan* on August 8th with 73,000 cases and *El Capitan* on August 9th with 55,450 cases. Including these arrivals our stocks are 425,000 cases Devoes, 215,000 cases Russian, 22,000 cases Langkat. Quotations are as follows per case: American Devoe's, 1·63 taels; Russian Batoum, 1·56 taels; Russian Batoum, bulk, 1·50 taels; Langkat, 1·52½ taels; Comet, no stock.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, Sept. 25, 1896.

Pig Iron Production and Furnaces in Blast.

Fuel used.	Week ending Sept. 27, 1895. F'ces.	Tons.	Sept. 25, 1896. F'ces.	Tons.	From Jan., '95. Tons.	From Jan., '96. Tons.
Anthracite.	49	31,050	31	18,050	813,968	948,710
Coke...	149	167,700	95	108,180	5,483,194	5,811,324
Charcoal...	21	4,650	23	6,420	158,665	218,645
Totals ...	219	203,400	149	132,650	6,455,827	6,978,679

The general market is still very quiet; some increase in inquiries is reported, but so far leading to but little actual business. We hear of a number of mills and a few furnaces starting up, but as a rule they have done so on a combination of small orders and faith. If more come in, they are ready; if not—well, they will be no worse off than before.

It is reported that a good deal of discussion is going on again in the steel-billet combine, and that a reduction in prices is the subject. There may be some foundation for the rumor, but it is doubtful.

From Pittsburg we hear of a large sale—said to be 15,000 tons—of steel scrap suitable for open-hearth stock. This is a sign of progress in one direction, certainly; at least it indicates the growing importance of the open-hearth manufacture.

On the whole, we can report little actual improvement, but a better feeling and more hope for the future, though the conservative element in the trade prefers to hold back for the present and wait for actual results.

NOTES OF THE WEEK.

It is understood that Eastern Pennsylvania mills will get the contract for the material for at least one of the new battle-ships, and probably for two.

The exports of nails from this country are steadily increasing. The shipments, by fiscal years ending June 30th, have been as below for four years.

	Cut-nails. Pounds.	Wire, etc. Pounds.
1896.....	20,730,260	8,031,927
1895.....	16,895,428	4,367,267
1894.....	16,736,643	3,233,776
1893.....	15,604,347	2,300,501

It is the opinion of many in the trade that exports will continue to increase, as we can now produce nails about as cheaply as they can be made in Europe. High freight rates are the only drawback to this trade at present.

New York. Sept. 25.

The local market is not at all excited, but it is feeling better and a few orders are coming in. There is a sign of improvement in the fact that small sales are gradually increasing, though no large orders can be reported. There is some demand for bridge material for New England.

Pig Iron.—Local foundries have generally run their stocks pretty low, and any orders they receive send them into the market, at least for small lots. There is no change in prices, but they are better maintained.

We quote for Northern iron: No. 1 foundry, $12@$12.75; No. 2, $11.25@$11.75; gray forge, $10.50@11. For Southern iron we quote: No. 1 foundry, $10.75@$11.25; No. 2 foundry, $10.25@10.75; No. 1 soft, $10.25@$10.75; No. 2 soft, $10@$10.25; forge, $9.50@$10. Basic pig is quoted $10.50@$11. All prices are for tidewater delivery.

Cast-Iron Pipe.—One contract was let this week. The season for ordering pipe is nearly over and nothing large is expected just now.

Spiegeleisen and Ferro-Manganese.—No business of consequence is reported. Ferro-manganese is quoted at $46.50@$47 for imported 80%, New York.

Steel Billets and Rods.—The pool prices are $21.75, New York, for Bessemer billets, and $23.75 New York, for open-hearth billets. Very little business is noted. Rods are $28@$29, with no sales.

Merchant Iron and Steel.—A little more business is noted, chiefly in a small way. For bars we quote: Common, 1·10@1·15c.; refined, 1·20@1·45c.; soft steel bars, 1·20@1·30c. Other quotations are: Steel hoops, 1·50@1·60c.; steel axles, 1·60@1·75c.; links and pins, 1·60@1·70c.; tire steel, 1·80@1·90c.; spring steel, 1·95@2·15c. All prices are for delivery on dock, New York.

Plates.—Sales are still small. There is no change in prices. We quote for universal mill plates, 1·30@1·40c. For steel plates we quote: Tank, 1·35@1·45c.; boiler shell, 1·45@1·55c; good flange, 1·60@1·75c.; firebox, 2@2·40c. Charcoal iron plates are quoted 2·25c. for shell, 2·75c. for flange, and 3·25c. for firebox. Rivets are 2·15@2·25c. for steel and 3@3·25c. for iron.

Structural Iron and Steel.—One new contract is noted, but no change in prices. We quote for angles, 1·35@1·40c.; channels, 1·70@1·75c.; tees, 1·65@1·70c.; beams, 1·70@1·75c. for large orders, and 1·80@1·90c. for small lots.

Wrought-Iron Pipe.—There is nothing but the usual retail business. Discounts are unchanged, as follows, out of store: For black, large, 67, 10, 10, 10 and 10; 1¼ in. and smaller, 57, 10, 10, 10 and 10. For galvanized, large, 55, 10, 10, 10 and 10; for 1¼ in. and smaller, 52, 10, 10, 10 and 10.

Nails.—The pool price continues $2.55 per keg f. o. b. Pittsburg for steel wire nails, and $2.30 per keg f. o. b. Pittsburg for cut nails. Business is limited to small lots out of store to retailers.

Steel Rails and Rail Fastenings.—The combination price is still $28.75 per ton at tidewater or $28 at mill, for heavy sections. Girder rails are $29@$31, tidewater. No business is reported here.

Little is doing in rail fastenings. Angle-bars are 1·15@1·25c. and spikes 1·60@1.65c., tidewater delivery. Bolts are 1·85@1·95c. for square nuts, and 1·95@2·05c. for hexagon nuts.

Old Rails.—Old iron rails are quoted $12.50@$13.50, New York. One sale of 300 tons at $12.75 is noted. Old steel rails are quoted $10@$11.50, with a sale reported at $10.50, Jersey City. A lot of 600 tons 56-lb rails in unusually good condition is reported sold at $21.50, New York. This is an outside price and rails can be had at $20@$21, New York harbor.

Scrap Iron.—Demand is moderate and only for good lots. Prices, as usual, depend very much on size or nature of lots. We continue to quote $10@$11.50 for good machinery; $8.50@$9.50 for ordinary cast scrap; $6@$7.50 for stove-plate and mixed.

Buffalo. Sept. 23.

(Special Report of Rogers, Brown & Co.)

The market in this district has shown more life this week than for some time past. The new orders entered have been from the smaller consumers, but for immediate shipment. Many of the larger consumers have asked for quick shipment on existing contracts, which goes to show that stocks in the foundry yards are light and consumption increasing in a small way. Several sales of Lake Superior charcoal have been reported to concerns who are stocking up for their winter's consumption. We quote below on a cash basis f. o. b cars Buffalo: No. 1 strong foundry coke iron, Lake Superior ore, $12.50; No. 2 strong foundry coke iron, Lake Superior ore, $12; Ohio strong softener No. 1, $12.50; Ohio strong softener No. 2, $12; Jackson County silvery No. 1, $15.25; Southern soft No. 1, $11.40; Southern soft No. 2, $11.40; Lake Superior charcoal, $14@$14.50.

Chicago. Sept. 23.

(From Our Special Correspondent.)

Each week appears to add a little more confidence among consumers, the past week being no exception to the rule. It is proper, however, to say that much of the business that has come into the market lately has come on account of the low prices prevailing in nearly every branch of the trade. Especially is this applicable to pig iron, a large number of tons of that material having changed hands during the week. There is but little inclination on the part of dealers to accept contracts for material beyond the end of the present year. Prices are rather firmer, and in some lines it looks decidedly good for advances.

Pig Iron.—Upwards of 10,000 tons of pig iron have been sold in this market during the week just past. A number of consumers sight good times ahead, and they are now securing at a great bargain pig iron enough to carry them considerably beyond November 1st. Quotations as given are held firmly, and there are indications of an advance very soon. There has been a slight increase in prices on Southern iron due entirely to heavy buying by parties who are presumably holding it for speculative purposes. We quote: Lake Superior charcoal, $13.50@$14; local coke foundry No. 1, $11.25@$11.75; No. 2, $10.75@11.25; No. 3, $10.25@$10.75; local Scotch foundry No. 1, $11.25@$11.75; No. 2, $10.75@$11.25; Southern coke No. 1, $11.10@$11.35; No. 2, $10.85@$11.10; Southern No. 1, soft, $10.85@$11.10; No. 2, soft, $10.60@$10.85; Southern silveries No. 1, $11.35@$11.85; No. 2, $11.10@$11.35; Jackson County silveries, $14@$16; Ohio strong softeners, $14@$14.25; Alabama car-wheel, $16.25@$16.75; malleable Bessemer, $12.25@$12.50.

Bar Iron.—There has been some fair buying of bar iron in this market during the week, a number of round lots having been disposed of. Inquiry is on the increase and they show that consumers are a little more prepared to buy than heretofore. Bar iron is quoted for common 1·30c., guaranteed 1·35@1·40c.

Billets and Rods.—Some few small sales of billets and rods are coming in from week to week, but there are no signs of any immediate very increased buying. The Joliet Mills of the Illinois Steel Company have been running now for over a week, but it is hard to tell whether they will continue long without any further stoppage. Billets are quoted $21.25.

Steel Rails.—There has been a trifle heavier buying of rails, though orders are almost wholly for small quantities. The railroads are buying somewhat more, brought about presumably through an increased confidence in the general situation. Rails are quoted $29.

Structural Material.—Business has been somewhat better, there having been an increased demand for bridge material. Quotations are as follows: Beams and channels, 1·70@1·75c.; angles, 1·30@1·35c.; plates, 1·35@1·40c.; tees, 1·50@1·55c.

Old Rails and Wheels.—Little business has been

transacted during the past week. Old iron rails are quoted $11@$11.50; old wheels, $12.

Cleveland. Sept. 23.

(From Our Special Correspondent.)

Iron Ore.—An improvement in the iron market in Cleveland is quite noticeable this week, still the movements are rather light. It was reported to-day that during the past week a number of small sales had been made, the purchasers supplying present needs to keep their furnaces in operation. It was said also that some of the heavier buyers had made inquiry of the brokers, and it is not improbable that some of the big furnaces of the district which have been idle since the mid-summer shut-down may be operated again soon. The prices are undisturbed, notwitstanding the apparent improvement in the business. The quotations are: Specular Bessemers No. 1, $4.50@$4.75; No. 1, Bessemer hematites, $4@$4.25; non-Bessemer hematites. $2.25@$2.50; No. 1, Specular non-Bessemers, $2.75@$3

The indications are that there will be no change in the rate of lake freights, as a large quantity of ore is now lying on the Cleveland docks, and the remainder that will be moved will be at rates fixed early in the season.

Pig Iron.—The foundry iron market is somewhat weaker this week, which is about the only change noticeable. The quotations are: Lake Superior charcoal, $13.50; bituminous coke, No. 1 foundry iron, $12; No. 2, $11 50, Ohio Scotch No. 1, $12.25; No. 2, $11.75; Bessemer pig, $12.25.

Philadelphia. Sept. 25.

(From Our Special Correspondent.

Pig Iron.—The only noticeable difference in market conditions over a week ago is that there is more buying in a small way, buyers purchasing to cover new work. Every week brings us closer to firm grounds. There is not going to be any rush for iron yet a while, even if at all. The large stocks are not regarded as troublesome, but rather as likely to guard against the repetition of another disaster like that which befell us last year. There is a quiet, comfortable feeling, and no big lots of iron will be thrown on the market. Producers have weathered the storm so far, and prefer to hang on until the turning point is reached, satisfied that winter requirements will restore the equilibrium. Prices are: $12.50 for No. 1; $11.75@$12 for No. 2; forge iron, $10.25@$11; low phosphorus, $14.75; Bessemer, $12.50.

Steel Billets.—Several buyers have come very near closing for good stocks of billets, but something holds business back. Agents think they will have some good reports to make to their principals next week. There is not confidence in the steadiness of $21.50 when the time comes to say "yes" or "no" to buyers' offers.

Merchant Bars.—The manufacturers have been unsuccessful in catching winter deliveries. Consumers do not dispute the argument that winter prices may be a shade stronger, but they will not place orders beyond 30 or at farthest 60 days. Prices, 1·20 for iron and 1·25 for steel bars, in large lots.

Skelp.—Small orders are coming in and there is more interest manifested. Grooved, 1·25; sheared, 1·35.

Sheets.—To-day's reports are that mills will probably run more regularly from this on and let the product accumulate, in view of the stronger probability of working it off this fall. The competition on common sheet iron is very severe.

Merchant Steel.—More work is coming in and manufacturers anticipate greater regularity. Quite a number of small concerns are in the way of putting small supplies past them for emergencies.

Pipes and Tubes.—Business shapes up a little better, particularly in tubes, and small pipe is under better inquiry, though there is no pronounced demand as yet.

Plate and Tank.—The Cramps have received unofficial information of the awarding of one war ship, and arrangements are being already made at the yards for the preparatory work. The contract for material is looked for very soon. More general plate mill business is coming in. Tank, 1·40; universals, 1·45; shell, 1·55; flange, 1·65; firebox, 1·80, upward.

Structural Material.—The only thing definitely known is that the mills are doing about as much work as for the past month. Fall building is being hurried along. Brokers feel assured a good deal of winter work will be presented before long. Angles are 1·30; beams, 1·70 and upward.

Steel Rails.—Railmakers are discussing trade matters, which outsiders imagine portends lower prices; but no semi-official indorsement can be had. The small amount of work coming in makes no impression.

Old Rails.—Old rails are still quoted at $14 for iron and $12 for steel. There is no movement anywhere, but dealers know where to find large lots as soon as buyers are ready.

Scrap.—The yardmen have a great deal of stuff they would like to turn into cash. Prices are away down. The only chance to make money is on a new lot from some far off place. There is nothing to be made in scrap gathered around home.

Pittsburg. Sept. 24.

(From Our Special Correspondent.)

Raw Iron and Steel.—The inquiry for leading products is steadily improving, the largest demand being for Bessemer. Last week's sales were the largest for several months, which goes to prove that consumers are short of stock and now compelled to enter the market or close their works; they wisely chose the former. The drift of the market is certainly toward a better feeling. Rumors are current that two of the largest ore interests of the lakes and their vessel tonnage will soon be gathered into a close alliance with the largest Western steel plant and the largest Pittsburg concern; this indicates another pool in the future. Most of the Western markets report a better business and an improved feeling generally, with buyers taking hold with considerable more freedom; a good share of the transactions have been at the advance in prices. There has been speculative bids for large blocks of Bessemer in this city and other leading marts, but furnace owners, being convinced that prices are certain to advance, refused all offers.

The large sales for export and to speculators who are able to hold it has relieved the strain on the trade materially and has caused a more hopeful feeling. The actual consumption has not been large, but new orders are coming in and there is considerable confidence felt in the future. Many steel mills that had been shut down for one reason or another have resumed operations in a quiet way. One thing is universally admitted, and that is the deferred orders for iron and steel are very large, and when once financial conditions are straightened out the productive capacity of the country will be taxed to fill them.

Latest.—The market is firm; the demand is slowly but steadily increasing; there is no further talk of concession. Sales of Bessemer show up well, with prices fairly maintained. For billets demand is light; pool prices in most instances maintained. Still sales are made at lower prices. The demand for sheet bars and steel wire rods is increasing. On the whole the outlook is improving.

COKE, SMELTED, LAKE AND NATIVE ORE.

Tons.		Cash.
3,500	Bessemer, Sept., Oct., Pitts	$11.75
3,000	Bessemer, Sept., Oct., Valley	10.75
2,000	Bessemer, Sept., Oct., Pitts	11.85
2,000	Bessemer, Oct., Pitts	11.75
1,550	Bessemer, Sept., Pitts	11.50
1,500	Bessemer, Sept., Oct., Pitts	11.75
1,000	Bessemer, Sept., Oct., Pitts	11.75
1,000	Gray Forge, Sept., Pitts	10.15
1,000	Bessemer, Sept., Valley	10 65
500	Gray Forge, Sept., Pitts	9.75
500	Gray Forge, Sept., Pitts	10.00
500	Open Mill, Sept., Pitts	10.15
500	No. 3 Foundry, Sept., Pitts	10.50
300	No. 3 Foundry, Sept., Pitts	10.50
200	Foundry Mill, Sept., Pitts	10.00
200	No. 2 Foundry, Sept., Pitts	11.50
200	No. 1 Foundry, Sept., Oct., Pitts	12.25
150	Gray Forge, spot, Pitts	10.00

CHARCOAL.

250	Warm Blast, Pitts	$15.00
200	Warm Blast, Pitts	15.00
50	Cold Blast, Pitts	22.50
50	No. 2 Foundry, Pitts	15.80
50	Charcoal, Pitts	15.00
25	No. 2 Foundry, Pitts	16.00

BLOOMS, BILLETS AND SLABS AT MILL.

Tons.		Cash.
3,000	Billets, Sept. and Oct., at mill	$20.25
1,000	Billets, Sept. and Oct., at mill	20.25
500	Billets, Sept., at mill	20.00
300	Billets, Sept., at mill	19.50
200	Billets, Sept., at mill	19.00
200	Blooms, Sept. and Oct., at mill	20.75

BLOOMS AND BILLET ENDS.

10,000	Billet ends, Sept. and Oct., Pitts	$11.00
3,000	Billet ends, Sept. and Oct., Pitts	11.00
2,000	Billet ends, Sept. Oct., Pitts	11.00
500	Blooms and billet ends, Pitts	11 50
500	Bloom ends, Pitts.	11.25

SKELP IRON.

800	Wide groov'd, Pitts	$1.35 4 m.
360	Narrow grooved, Pitts	1.15 4 m.
300	Sheared, Pitts.	1.15 4 m.

SKELP STEEL.

500	Sheared, Pitts.	$1.25 4 m.
380	Wide grooved, Pitts	1.00 4 m.
300	Narrow grooved. Pitts	1.00 4 m

MUCK BAR.

500	Neutral, delivered, Pitts	$20.00

SHEET BARS

1,000	Delivered, Pitts	$22 75
200	Delivered, Pitts	22.50

STEEL WIRE RODS.

1,000	5-gauge, delivered, Pitts	$21.00

FERRO-MANGANESE.

100	80%, delivered Pitts	$49.50

SCRAP MATERIAL.

150	No. 1, wrought, net, Pitts	$11.00
100	No. 1, wrought, net, Pitts	11.50
100	Cast bearings, net, Pitts.	6.00
100	Wrought turnings, net, Pitts.	7.00

METAL MARKET.

NEW YORK, Friday Evening, September 25, 1896.

Gold and Silver.

Prices of Silver per Ounce Troy.

September	St. Ex.	London Pence.	N. Y. Cts.	Value of $1.	September	St. Ex.	London Pence.	N. Y. Cts.	Value of $1.
19	4·83¼	30¼	65⅛	.507	23	4·83¼	30¼	65⅛	.507
21	4·83¼	30 1/16	65¼	.505	24	4·83¼	30 1/16	65⅝	.508
22	4·83¼	30 1/16	65⅜	.506	2	4·83¼	30 1/16	65⅝	.508

Silver has been in fair request from the East, and all parcels offered at current rates have been placed. There is nothing to indicate any marked improvement in silver values, and business to be transacted must accept the figures that buyers can afford.

The United States Assay Office in New York reports the total receipts of silver at 73,000 oz. for the week.

Gold and Silver Exports and Imports.

At all United States ports, August, 1896, and years from January 1st, 1896 and 1895:

	Coin and bullion.		In ores.		Total excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
GOLD					
Aug..	$1,972,544	$4,045,885	.....	$231,227	I. $2,304,568
1896..	55,511,811	30,718,510	$79,256	1,171,201	E. 23,701,356
1895..	55,766,217	28,090,483	320,769	1,132,177	E. 26,864,326
SILV.					
Aug..	5,301,434	929,422	.....	1,350,066	E. 3,021,946
1896..	40,932,418	7,712,959	370 575	12,003,963	E. 21,586,071
1895..	33,265,216	6,199,471	61,920	8,145,486	E. 18,982,179

This statement includes the exports and imports at 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 September 25th, 1896, and for years from January 1st, 1896, 1895, 1894, 1893 and 1892:

	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$7,600	$6,430,674	$918,933	$73 490	I. $5,547,631
1896	40,386,848	45,995,076	28.982.562	2,106,922	E. 21,266,412
1895.	57,665,863	25,904,339	29.869,949	1,379,817	E. 60,191,656
1894..	82,434,600	14.429,089	26,804,369	1,265,322	E. 93,544,558
1893	69 807,443	57,719,163	24,269,467	2,030,135	E. 34,327,612
1892.	58,727,639	6,560 722	16,634,294	1,969,462	E. 66,831,749

The gold exported for the week went to London; of the silver $4,583 went to South America and the remainder to London. The gold imported came chiefly from Europe, the silver from London and South America.

Average Monthly Prices of Silver

in New York and London, per ounce Troy, from January 1st, 1896, and for corresponding months, 1895 and 1894.

Month.	1896.		1895.		1894.	
	London. Pence.	New York. Cents.	London. Pence.	New York. Cents.	London. Pence.	New York. Cents.
January .	30 69	67·13	27·36	59·69	30·81	66·63
February..	31·01	67·67	27·47	59·90	29·18	63·43
March	31·34	68·40	28·33	61·98	27·28	59·49
April.....	31·10	67·92	30·39	66·61	28·95	62 92
May.....	31·08	67·88	30·61	66·75	28·69	62·96
June	31·46	68·69	30·47	66·64	28·68	62·59
July.. .. .	31·45	68·75	30·48	66·75	29·82	62·45
August....	30 93	67 34	30 40	66 61	28·29	61 83

FINANCIAL NOTES OF THE WEEK.

The main point to be noted this week is a somewhat better feeling and a gradual increase of confidence, which is to some extent a repetition of last week's report. There is still room for improvement, however, and a disposition to hold back until after election is still manifest everywhere, notwithstanding the easier feeling.

Gold imports continue on a large scale and a total of about $40,000,000 is reported taken abroad for shipment to the United States. Of this about $10,000,000 is still to arrive. Most of the receipts have been at New York, but an arrival of $2,500,000 from Australia is reported at San Francisco this week.

The New York banks increased their gold by $1,473,500 only this week, but the United States Treasury statement shows that the gold reserve has increased during the week $5,059,476, to a total of $119,665,124. In addition to this there is some $4,060,000 in the assay office in New York for test and counting.

The statement of the United States Treasury on Thursday, September 24th shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date last week:

	Sept. 17.	Sept. 24.	Changes.
Gold	$114,605,648	$119.665,124	I. $5,059,476
Silver	17,621,827	16,929,111	D. 692,116
Legal tenders	73,189,727	66,981,233	D. 6,205,494
Treasury notes, etc..	34,839,461	35,132 143	I. 292,682
Totals	$240,256,666	$238,710,911	D. $1,545,755

Treasury deposits with national banks amounted to $16,330,918, showing a decrease of $30,563 during the week.

Total United States Treasury notes issued under act of July 14th, 1890, in general circulation and in the Treasury, $125,328,280. Against these are held in the Treasury 10,367,762 coined standard silver dollars, and silver bullion purchased at a cost of $114,960,518, making a total of $125,328,280.

Imports of specie by water at San Francisco for

the eight months ending August 31st were as follows:

	Coin.	Bullion.	Total.
Gold	$63,747	$553,812	$617,559
Silver	258,840	1,093,267	1,352,107
Totals	$322,587	$1,647,079	$1,969,666
Totals, 1895			2,246,510

The imports this year were from the following countries: Mexico, $1,713,749; British Columbia, $189,939; Central America, $59,133: other countries, $6,845.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending September 19th, gives the following totals, comparisons being made with the corresponding weeks in 1895 and 1894:

	1894.	1895.	1896.
Loans and discounts	$497,919,400	$517 242,900	$451,889,300
Deposits	587,928,100	558,461,400	445,976,100
Circulation	10,440,500	13 800,500	19,221,100
Reserve:			
Specie	91,862,400	61,970,600	53,135,300
Legal tenders	115,094,300	100,089,000	68,513,100
Total reserve	$206,956,700	$162,059 600	$121,948,400
Legal requirement	146,982,025	137,116,100	111,494,025
Surplus reserve	$59.974.675	$24.943,500	$10.454.375

Changes for the week this year were increases of $321,800 in deposits, $509,400 in circulation, $1,473,500 in specie, $293,500 in legal tender, and $1,686,550 in in surplus reserve; decreases were $809,500 in loans.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars and comparison is made with the holdings at the corresponding dates last year:

	Gold.	Silver.	Total.
Asso. Banks of New York			$53,435,300
1895			61,970,600
Bank of England	$205,777,345		205,777,345
1895	218,716,250		218,716,250
Bank of France	398,801,400	$249,051,000	647,852,400
1895	404,700,500	250,165,115	654,865,615
Imp. Bank of Germany			221,760,000
1895			244,200,000
Austro-Hungarian Bank	145,336,000	64,036,000	209,366,000
1895	109,960,000	65,830,000	175,790,000
Netherlands Bank	13,169,000	34,199,000	47,368,000
1895	21,371,000	34,392,000	55,763,000
Belgian National Bank			26.533,000
1895			21,734,000
Bank of Spain	42,641,000	52,551,000	95,192,000
1895	40,022,000	59 575,000	99,597,000
Bank of Italy	61,440,000	11.125,000	72,565,000
1895	60,615,000	10,960,000	71,575,000
Imp. Bank of Russia	475,300,000		475,300,000
1895	327,270,000		327,270,000

The return for the Associated Banks of New York is of date September 19th; all the others are of September 24th, except the Bank of Italy, August 30th, and the Bank of Russia, August 1st-13th. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England and the Bank of Russia report gold only. The Imperial Bank of Germany and the Belgian National Bank do not report gold and silver separately, but their reserves are mainly gold, the silver being chiefly subsidiary coin.

Shipments of silver from London to the East for the year up to September 10th are reported by Messrs. Pixley & Abell's circular as below:

	1895.	1896.	Changes.
India	£2,617,480	£2,772,278	I. £144,798
China	1,403,206	574,413	D. 828,793
The Straits	582,103	545,686	D. 36,417
Totals	£4 602,789	£3,882,377	D. £720,412

Arrivals for the week this year were £142,000 in bar silver from New York, and £53,000 from Chile; also £10,000 in Mexican dollars from Mexico; a total of £205,000. Shipments for the week were £63,000 in bar silver to Bombay, and £27,000 to Calcutta; a total of £95,000.

Indian exchange continues to fluctuate slightly, but the demand and prices continue good. The 40 lakhs of Council bills, offered in London, were all taken at an average price of 14·16d. per rupee. The exports from India continue good, and the demand for bills on Chinese account is also maintained.

The foreign merchandise trade of Great Britain for the eight months ending August 31st is given by the Board of Trade returns as below:

	1895.	1896.
Imports	£273,350,760	£283,286,815
Exports	188,369,504	199 051,838
Excess, imports	£84,981,256	£84.234,977

The increase in imports this year was 3·6%, and this was accompanied by a gain of 5·7% in exports.

The movement of gold and silver in Great Britain for the eight months ending August 31st is given by the Board of Trade returns as follows:

GOLD:	Imports.	Exports.	Excess.
1895	£21,455,571	£13,261,078	Imp. £8,194,493
1896	18,473,811	13,702,423	Imp. 4,771,388
SILVER:			
1895	7,084,480	6,754,299	Imp. 330,181
1896	9,577,855	9,411,623	Imp. 166,232

The gold imports decreased this year to £2,981,760, while the exports increased also £441,345. There was a large increase in both imports and exports of silver this year.

Domestic and Foreign Coins.

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

	Bid	Asked.
Mexican dollars	$0.50½	$0.52½
Peruvian sols and Chilean pesos	.46¼	.48
Victoria sovereigns	4.86	4.90
Twenty francs	3.85	3.90
Twenty marks	4.73	4.80
Spanish 25 pesetas	4.78	4.85

Other Metals.

Copper.—The market is dull and there is little desire on the part of consumers to act. Home consumption still leaves a great deal to be desired, and manufacturers complain of not having sufficient orders on their books to keep their mills running full time. Neither has the demand for export been brisk of late, and thus the market has become almost entirely nominal, and only retail lots have changed hands at somewhat irregular prices. Lake copper is still quoted at 10¾, but there are no buyers above 10½@10⅝, and at that only in small quantities. For electrolytic copper the demand has been very poor and we have to quote for cakes, wirebars or ingots 10¼@10⅝ and for cathodes 10@10⅛. Casting copper remains very scarce and is in quite an exceptional position. While large quantities could not be sold above 10⅛@10¼, the small lots offered command from 10·25@10·45, according to brand and quantity. No business is reported in Arizona pig copper. Furnace material continues to be freely offered at fairly low prices.

The foreign market has also been irregular, and g. m. b. copper shows a deline for the week of about 10s., the closing quotations being £47 10s.@47 12s. 6d. for spot and £47 12s. 6d.@£47 15s. for three months prompt. While fine copper appears not to have been directly influenced by the quotations of these speculative brands, the downward movement has kept buyers back and the transactions have been rather limited. We quote: English tough, £49@£50 5s.; best selected, £50@£50 15s.; strong sheets, £57 10s.@£58 10s.; India sheets, £53 15s.@£54 15s.; yellow metal, 4⅞d. The exports of copper for the present month are expected to be very large.

Tin is in good consumptive demand. Spot remains very scarce and still commands a premium. We have to quote for September 13⅛@13¼, while October and later months is obtainable at 12·95@13·05.

London opened on Monday at £58 2s. 6d., and with slight variations closes at the same price for spot and £58 15s.@£58 17s. 6d. for three months prompt, the transactions having been fairly large.

Lead has relapsed into dullness, and not much has been doing. We have to reduce the price to 2·77½@2 80. The St. Louis market also is somewhat easier, and has come down to 2·55@2·57½, with sellers over.

The foreign market has been rather strong, and Spanish lead is now quoted in London at £11 5s.@£11 6s. 3d.; English lead 5s. higher.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is dull and demand very light. Prices are again slowly declining; the latest sales of common reported are at 2·52½ and of argentiferous at 2·55@2·57½c.

Spelter remains dull. The demand is still poor and all orders are eagerly competed for. Prime Western spelter rules at 3·62½@3·65, delivered New York. Rather large quantities have been taken from producers' works for export, and thd stocks accumulated some time ago have now disappeared.

The market abroad has experienced exceptionally large fluctuations. At one time last week sales of spelter were made in London at £16, but the lower prices appear to have stimulated the demand, and to-day's quotations are £16 15s.@£17 for good ordinaries and 2s. 6d.@5s. more for specials.

Antimony remains very dull, at the previous figures quoted: Cookson's, 7c.; United States Star 6¾c. and Hallett's, 6¾c.

Nickel.—Demand is fairly steady and prices are unchanged and we continue to quote 35@36c. per lb. for ton lots and 37@39c. for smaller orders. London prices are 14d.@15d. for large orders and 15d.@16½d. forsmall lots. The New York price is on a parity with London, allowing for the United States duty of 6c. per lb. on the metal.

Platinum.—Demand is steady and prices are firm at $14.50@$15.50 per oz., New York. London quotations are 57s. 6d.@59s. per oz.

For chemical ware, best hammered metal, Messrs. Eimer & Amend, New York, furnish the following quotation, the prices given being respectively for orders of over 250 grams for orders of over 100 grams and less than 250 grams, and for orders of less than 100 grams: Crucibles and dishes, 50c., 51c. and 52c. per gram. Wire and foil are 47c., 48c. and 49c., per gram. The current retail price for crucibles is 60c. per gram.

Quicksilver.—The New York quotation has been advanced from $36 to $36.75 per flask. The London price remains £6 10s per flask with the same quotations from second hands.

The Minor Metals.—Quotations for these metals are given in the table below, the prices being for New York delivery:

Aluminum:	
No. 1, 98% pure rolling ingots, per lb	50@55c.
No. 1, " ingots for re-melting, per lb	48@53c.
No. 2, 94% pure, " " "	38@42c.
Ingots from scrap, per lb	35@40c.
Aluminum-nickel casting metal, per lb	40@45c.
Bismuth, per lb	$1.30@$1.75
Phosphorus, per lb	50@55c.
Platinum, per oz	$14.50@$15.50
Tungsten, pure, powder per lb	70c.
Tungstic acid, per lb	45c.
Ferro-tungsten, 60% in ton lots, per lb	60c.

Average Monthly Prices of Metals

In New York since January 1st, 1896, and for the corresponding periods in 1895, 1894, 1893 and 1892, in cents per pound.

Month.	1896.	1895.	1894	1893.	1892.
Copper:					
January	9·87	10·00	10·13	12·13	11·00
February	10·64	10·00	9·63	12·00	10·00
March	11 03	9·75	9·81	11·88	10·38
April	10·98	9·75	9·50	11·38	11·50
May	11·15	10·25	9·80	11·00	11·63
June	11·67	10·63	8·91	11·00	11·86
July	11·40	11·25	9·00	10·88	11·50
August	10·98	12·00	9·13	10·00	11·50
Tin:					
January	13·02	13·25	20·16	19·99	20·50
February	13·44	13·35	19·60	20·30	20·00
March	13·30	13·20	19·09	20·71	20·25
April	13·34	14·00	19·75	20·81	20·50
May	13·54	14·65	20·21	19 96	20·80
June	13·59	14·15	19·75	19·76	22·00
July	13·63	14·40	19·22	19·15	21·00
August	13·49	14·35	19.22	18 81	20·50
Lead:					
January	3·08	3.10	3.19	3·87	4·20
February	3·19	3·12	3·31	4·22	4·12
March	3·14	3·12	3·37	3·96	4·21
April	3·07	3·08	3·43	4·08	4·15
May	3·03	3·16	3·39	3·89	4·22
June	3·03	3·25	2·31	3·77	4·16
July	2·96	3·25	3·50	3·58	4·13
August	2·73	3·50	3·41	3.41	4·11
Spelter:					
January	3·75	3·28	3·56	4·39	4·69
February	4·03	3·20	3·85	4·39	4·69
March	4·20	3·23	3·89	4·28	4·89
April	4·19	3·30	3·62	4·38	4 68
May	3·98	3·50	3·47	4·41	4·79
June	4·10	3 65	3·40	4·27	4·71
July	3·97	3·75	3·43	4·13	4·78
August	3·76	4·15	3·38	3·89	4·69

Imports and Exports of Metals.

New York.*	Week, Sept. 17 Expts.	Impts.	Year, 1896. Expts.	Impts.
Aluminum lbs.			10 000	2,010
Antimony ore....short tons		129	10,000	2,472
" regulus. . casks				1,521
Brass, old.....short tons.	22		215	
Copper, fine .....long tons	†990		51,096	2,586
" matte .... " "	†440		12,214	1,281
" ore..... " "				4,592
" sulphate.. " "			1,431	
Iron ore..... " "				2,769
" pigs, bars, rods..... " "	5		1,279	50,432
Iron pyrites..... " "				4,060
" sulphate..... " "				610
Ferro-mangan'se " "		20		670
Ferro-silicon..... " "				70
Manganese ore.. " "				5,525
Spiegeleisen..... " "		530		21,769
Lead ore..... " "				
" pigs and bars " "	11,232	615	10,580	29,949
Magnolia metal.. " "	25		67	
Nickel..... " "			624	30
Steel, billets, rods. " "		400		19,779
Tin..... " "		†25	511	10,553
Tin and black plates, boxes.		14,671		650,211
Zinc (spelter).....long tons	†200	20	1,459	52

* Metal Exchange Reports. † Week ending Sept. 24.

Baltimore.**	Week, Sept. 24. Exp.	Imp.	Year, 1896. Exp.	Imp.
Bismuth metal, cases				52
Chrome ore..... long tons				4,801
Copper, fine..... " "	†876		25,323	
" matte..... " "			500	
" sulphate.. " "	10		2,1 9	
Iron ore..... " "		9,711		303,953
" pigs, bars, ingots, blooms. " "		545		2,621
Iron oxide.....bags				300
" pyrites.....long tons			150	
Ferro-manganese " "	40		251	1,458
Ferro-silicon..... " "				70
Lead..... " "	†100		3,833	
Limestone.....short "			21	2,743
Manganese metal.long "		3,000		9,648
Spiegeleisen..... " "				440
Steel..... " "			21	
Steel wire, bundles				7,836
Tin, long tons		30	257	2,484
Tin and black plates, boxes		2,216		129,553
Zinc (spelter) long tons	†100		388	

**From our special correspondent.

Philadelphia.††	Imports. Week, Sept. 19.	Year, 1896.
Antimony, casks		102
Copper ore, long tons		13,900
Ferro-manganese, long tons		575
Ferro-silicon		485
Iron ore, long tons	6,000	208,482
" pig " "		600
" and steel scrap, long tons		618
Manganese ore, long tons		4,564
Spiegeleisen " "		134
Tin " "	25	416
Tin and black plates, boxes	1,925	40,011

†† From New York Metal Exchange Reports.

CHEMICALS AND MINERALS.

NEW YORK, Friday Evening, Sept. 25.

Heavy Chemicals.—This market continues in the same condition as previously reported, with a tendency to improve slightly in the near future. A firmer feeling seems to prevail which has resulted in the making of more contracts for future delivery than for some time past. Prices are unchanged, but remain firm at the following quotations; Caustic soda, 60%, $2.22½@$2.42½; 70, 74@76%, $2.12½@$2.37½ per 100 lbs. Alkali, 58%, 82½@90c. for 50-ton lots and over, and 90c.@$1 for smaller quantities; 48%, $1.20@$1.40 for jobbing lots. Bleaching powder, prime brands, $1.75@$1.87½; Continental, $1.65@$1.75 per 100 lbs. Bicarb. soda, English, 1·60c. @2c.; American, bulk, $1.50@$3.50 per 100 lbs. Sal-soda, English, 70@72½c.; American, 65c. (in barrels), 80c. (in kegs) per 100 lbs.

Acids.—The acid market remains firm, with no new developments during the past week. Sales continue in about the same volume as for the last fortnight, with new inquiries still coming in. Prices are firmly held, and show no change from those previously reported. We quote: Acetic acid (in barrels or carboys), $1.25 @$1 40; muriatic acid, 18°, 75c.; 20°, 75@85c.; 22°, $1.10@$1.25, according to make and quantity. Nitric acid, 36°, $3.25 @$4.36; 40°, $4@$4.50; 42°, $4.50 @$5.50. Oxalic acid, $7.25 ex-dock and $7.50 ex-store. Mixed acids, according to mixture. Sulphuric acid, 66°, 75@95c., 10@15c. higher for small quantities. Cnamber acid, $6@$6.50 per ton at factory. Blue vitriol, $4@$4.25, according to grade and order.

Brimstone.—While the market appears to be as firm as it has been for the last six weeks, the upward tendency of prices now seems to be at an end. Sales of best unmixed seconds are reported to have been made during week at $23 per ton, a decrease of 50c. per ton from spot sales of the week previous. Quotations for futures are, however, much the same as before. To arrive (now on the way) quotations are $22@$22.50 for best unmixed seconds, and $20.50 for November delivery.

Fertilizing Chemicals.—This market is still dull and quiet, and practically without feature. A few inquiries continue to be received from the South, but otherwise there is no change. Prices are as previously noted, and are as follows: Sulphate of ammonia, gas liquor, $2.15@$2.17½; bone, $2.05@$2.10 per 100 lbs. Dried blood, high grade, $1.60 per unit, New York; low grade, fine ground, $1.35 f.o.b. Chicago. Azotine, $1.60 basis New York. Concentrated phosphate (30% available phosphoric acid), 57½c. per unit. Acid phosphate, 13% @15%, av. P_2O_5, 54@65c. per unit at seller's works in bulk. Dissolved bone black, 17% to 18%, P_2O_5, 85c. per unit. Acidulated fish scrap, $8.50@$9, and dried scrap $16.50@$17 f. o. b. fish factory. Tankage, high grade, $18@$18½; low grade, $17½@$18. Bone tankage, $21; ground bone, $22@$22.50. Bonemeal, $19.50@$23.

Sulphate of Potash: 90-95%, New York and Boston, $1.96½; Philadelphia, Baltimore and Norfolk, $1.98; Southern ports, $2.

Double Manure Salts: 48-53%, New York and Boston, $1.01; Philadelphia, Baltimore and Norfolk $1.02; Southern ports, $1.03½.

Muriate of potash: The new prices are 1·78c. at New York and Boston; 1·79½c. at Philadelphia, Baltimore and Norfolk, and 1·81½c. at New Orleans for 80@85% (basis of 80%), in lots of 50 tons and upward.

Kainit.—Quotations for 1896 are as follows: New York, Boston, Philadelphia and Baltimore, $8.80 per ton; Norfolk, $9.15, and New Orleans, $9.30 per ton, for 25 tons and upward. Sylvinit at the same ports is quoted at 36½c., 37½c. and 38c., respectively.

Nitrate of Soda.—The prices quoted are 1·77½@ 1·80c. for spot, according to quantity; 1·80c. to arrive, and 1·82½@1·85c. for futures.

NOTES OF THE WEEK.

The Marico (Transvaal) Saltpetre Company, Limited, has been incorporated in London with a capital of $600,000. The new company proposes to acquire mines, mining rights and metalliferous deposits in the Marico district, South African Republic or elsewhere, and to prepare for market nitrate of potasium, or other mineral substances.

Charleston, S. C.

(From Our Special Correspondent.)

The shipments of phosphate rock from this port for the month of August, 1896, were as follows, comparison being made with the corresponding period one year and two years ago:

	1894.	1895.	1896.
Crude rock (2,240 lbs.)	15,501	16,894	12,121
Ground rock (2 000 lbs.)	105	543	....
	15,606	17,437	12,121

The decrease this year was 5,313 tons, as compared with 1895, and 3,482 tons as compared with 1894.

Liverpool. Sept. 15.

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

The chemical market continues dull and featureless, with no indications to warrant any immediate improvement.

Soda ash is quiet and unchanged. The nearest spot range for tierces, as to market, being about as follows: Leblanc ash, 48%, £4@£4 5s.; 58%, £4 5s.@£4 10s., net cash; ammonia ash, 48%, £3 5s.@£3 10s.; 58%, £3 10s.@£3 15s. per ton, net cash; bags are 5s. per ton underprice for tierces. Soda crystals are in fair demand, at £2 7s. 6d per ton, less 5% for barrels, and 7s. less for bags. Caustic soda is rather slow to move, but quotations are fairly well maintained for spot, while sellers are prepared to make concessions for forward contracts. Nearest spot range, as to market, we quote: 60%, £6 5s.@£6 7s. 6d.; 70%, £7 5s.@£7 7s. 6d.; 74%, £8 5s.@£8 7s. 6d.; 76%, £9@£9 5s. per ton, net cash.

Bleaching powder continues to drag, and hardwood ranges from £6 12s. 6d.@£7 per ton, net cash, according to destination.

Chlorate of potash is not wanted, and is offered by resellers at 4¼d. without attracting buyers.

Bicarb. soda is still held for £6 15s. per ton, less 2½%, for the finest quality in 1-cwt. kegs, with usual allowances for larger packages.

Sulphate of ammonia is flat, at about £7 17s. 6d. @£8 per ton, less 2½% for good gray, 24% and 25% in double bags f. o. b. here, as to quality.

Nitrate of soda is in limited request at £8 2s. 6d. @£8 5s. per ton, less 2½% for double bags f. o. b. here, as to quality.

Carb. ammonia, lump, 3d. per lb.; powdered, 3¼d. per lb., net cash.

Valparaiso, Chile. Aug. 14.

(Special Report of Jackson Brothers.)

Nitrate of Soda.—In a postscript to our last circular we advised the official declaration on the part of the combination committee that the exports of this article from April 1st, 1896, to March 31st, 1897, would not exceed 20,300,000 quintals; this quantity may be surpassed at most by 2½% or, say, 507,500 quintals, should the producers avail themselves of the margin given them as per Article 9 of the agreement, in which case their next year's quota would be reduced by an equivalent amount. Contrary to all expectations, the above declaration has not influenced prices in any way, and although some sellers immediately raised their pretensions, buyers remained aloof, and the article is now being offered at former prices without eliciting any responses. The small business transacted during the past fortnight is again principally among producers or speculators and almost all in currency, which, owing to the lower rates of exchange ruling for forward mails, resulted in comparatively lower prices than those exacted in sterling. We quote 95%, August-September, 5s. 11½d; October-December, 6s., and 96%, September, 6s. 1d., all sellers. The price of 5s. 11½d., with 20s. all round freight, stands in 7s. 7¾d. per cwt. net cost and freight without purchasing commission.

MINING STOCKS.

Complete quotations will be found on pages 310 and 311 of mining stocks listed and dealt in at:

New York.	Aspen, Colo.	St. Louis.
Boston.	Colorado Springs.	Paris, France.
Philadelphia.	Duluth, Minn.	Mexico.
Baltimore.	Helena, Mont.	Shanghai, China.
Pittsburg.	Salt Lake, Utah.	Valparaiso, Chile.
Denver, Colo.	San Francisco.	London, England.

Chicago, Cleveland, page 308.

NEW YORK, Friday Evening, Sept. 25.

The market shows no improvement over last week. To-day was probably the best for speculation, as is shown in our tables. Sales for the week, as reported by the Consolidated Stock and Petroleum Exchange and the New York Stock Exchange, aggregated 12,420 shares, as compared with 25,690 last week.

The Comstocks were quiet. The Colorados were the most active of the stocks traded in, and have made up the greater part of the reported sales.

By courtesy of the New York office of the Victor Gold Mining Company, of Cripple Creek, Colo., we are enabled to publish the following statement for August, 1896: Receipts, Balance cash, August 1, 1896, $48,213; ore sales, $37,142; insurance account, $267; total, $85,622. Disbursements, operating expenses, $16,935; dividend paid, $20,000; balance cash, September 1st, $48,686; total, $85,622. The ore statement is as follows: Smelter ore, 319 tons; mill ore, 1,201 tons; silver from smelter ore, 507 oz.; gold from smelter ore, 1,491 oz.; gold from mill ore, 1,173 oz. The average assay per ton of smelter ore was silver, 1.58 oz.; gold, 4.68 oz. The gold taken from mill ore averaged when assayed ·976 fine. The average net value per ton of smelter ore was $80.03; and of the mill ore, $9.68. Victor shows dealings of 20 shares this week at $7.

Brunswick Consolidated is the only California stock, and shows transactions of 500 shares at 23c. The Brunswick Consolidated mining reports its earnings for the month of August, this year, at $10,116; the expenses at $6,824, and the net profit at $3,292. August shows a decrease of $3,153 in the company's earnings, and a decrease of $2,937 in the net profit as compared with the preceding month.

The Montana stock, Bedford Consolidated, was dealt in to the extent of 200 shares at $7.38.

It is apparent that there are still some "capitalists" who are bent on establishing a permanent mining exchange and of "educating" the New York speculating public to invest in this class of stocks.

The unsuccessful operations of its predecessors and their untimely end, coupled with the unfavorable condition of the mining stock market for years past, would, we think, be sufficient evidence that New Yorkers have lost all interest in these stocks. The brokerage element is also discouraged.

Yet there is again on foot a new mining exchange, the organizers of which held a meeting this week at which W. C. Dornin was declared president, Floyd B. Wilson vice-president, Dr. William Brandreth treasurer, and M. E. Wooster secretary. A committee on by-laws was appointed, consisting of the executive officers and Horace Granfield. It is said that $250 will be asked for seats—how much will be paid is another question.

Boston. Sept. 24.

(From Our Special Correspondent.)

There has been quite a marked revival of business in mining stocks the past week, and improved prices are noted in all the list. Boston & Montana, as usual, leads the list both in activity and in the advance. Early in the week the stock sold at $81—to-day it touched $85, the highest for the week, and closed at $84¼. The prospect of an extra dividend has stimulated buyers and a great deal of stock has been bought for investment. The improved outlook in the affairs of Butte & Boston has brought in many purchasers and the stock sold up to $3¼, against $1½ last week, closing at $3⅛, and in good demand. Old Dominion has steadily held its own this week and shows an advance of $⅜, closing at $16⅞.

Calumet & Hecla advanced to $310 on good buying for investment, but dealings are light and the lots small. Quincy advanced $1 to $108 on moderate sales. The scrip sold at $80. Tamarack advanced $18 to $90, with last sale at $88. The advance is due to the better reports from the mine and to orders from the Lake for small lots. It was also reported that an increase in the dividend was probable, but well-informed people do not believe the rate will be increased beyond $6 per annum.

Both Kearsarge and Osceola were active to-day, the former advancing from $10¾ to $13½, closing only $¼ off. Osceola sold up to $28, an advance of $4 from last week, closing only $½ below the highest figure. Franklin also jumped up to $10 on small sales, a gain of $2 for the week. Atlantic advanced to $18½, a gain of $2¼. Tamarack, Jr., sold at $12½ to-day, against previous sale of $9. Tecumseh showed up at $2 and advanced to $3¼, closing at $3. Wolverine advanced from $6⅞ to $7½, closing $⅛ less. Arnold sold at $1 and advanced to $1⅛.

In gold stocks Pioneer was the leader and advanced on the good reports from the mine from $5 to $6½, and closed in demand at $6⅝; over 4,000 shares changed hands. Santa Ysabel sold at $9½, same as last week. Merced advanced to $8½, and Gold Coins sold at $2½.

Napa Quicksilver declined $8¼ to $6½.

The market closed strong.

Chicago. Sept. 23.

(From Our Special Correspondent.)

The Chicago Mineral and Mining Board has closed temporarily. Lack of business in mining stocks was the cause. This exchange was opened early in 1896 and for eight months has endeavored to supply Chicago with a place wherein mining stocks could be bought and sold. The Exchange, though run on a legitimate basis, has so far proven a failure, though a great many of the brokers declare that the hard times are to blame, and that in good times a mining exchange in Chicago properly run would be a paying investment to all concerned. The stocks dealt in by the Board, though not of the highest class, were on the whole good propositions, a few of them being exceedingly good investments. During the boom of Cripple Creek stocks the Exchange did a good business and the brokers made money, but since then trade has been gradually dying out and from nearly a hundred active brokers at the opening the number was reduced during the past few weeks to a mere dozen.

The Exchange is not closed for good, so the directors say. After election it will open up again and endeavor to gather in business. The rooms of the board are in the New York Life Insurance Building and nothing is lacking to make it an ideal exchange. The rent of the rooms is paid up to May, 1897, and there is said to be a fund of $12,000 invested in good securities, this sum representing membership fees, fees for listing properties, dues, etc. Chicago has had a number of mining exchanges, but it remained for this one to offer to the public a satisfactory opportunity to deal in mining stocks whether they were newly listed prospects, or mines or dividend-paying mines. It is to be trusted that the directors will see their way clear to re-open at the proper time.

Cleveland. Sept. 23.

(From Our Special Correspondent.)

The mining stock market has been very dull during the past week, and so little has been done that there is absolutely no change in the quotations. The brokers say that the investors of this section,

always conservative, are not purchasing securities at the present time, presumably on account of the financial agitation. Following are the quotations:

Name of Company.	Par val.	Sept. 16. Bid.	Ask.
Aurora	$25	$6.00	$8.00
Biwabik	100	32.00	34.00
Champion Iron Company	100	10.00	30.00
Chandler	25	34.00	35.00
Cincinnati Iron	25	10.00	13.50
Cleveland-Cliffs Iron Company	100	45.00	.....
Jackson Iron Company	25	70.00	75.00
Lake Superior Iron Company	25	30.00	34.00
Lake Superior Consolidated	100	20 00	21.00
Minnesota	100	43.00	44.00
Pittsburg & Lake Angeline	25	.....	75.00
Republic Iron Company	25	18.00	.....

Salt Lake City. Sept. 19.

(Special Report of James A. Pollock.)

The market was narrow, being confined to professional trading, and consequently unsatisfactory. A weak short interest is apparently in control, but with a little outside buying there would be a general scramble to cover. It is quite likely that the milling ores of the Ajax will be treated at the mill of the Sioux, and should this be the case the earnings of the company should be increased. The stock continued slow, with quotations about unchanged. Alliance and Anchor both did comparatively nothing. There was a slight improvement for the latter stock toward the close. Bullion-Beck paid a dividend of 30 cents per share September 15th. Bogan did little. September dividend of $1 per share on Centennial-Eureka was paid on the usual date. There are few sellers of the stock in the field, with the demand more active. The management has just made the announcement that dividends will be suspended by the Dalton & Lark Company until there is an improvement in the prices of the metals. The stock was slightly shaded, with demand limited. Daly West was strong as usual, although toward the close there was a slight shading, due to an increase in sellers. Daly failed to show any great amount of strength. The company has just put out a $4,000 gold brick, its first production of a straight gold bar. Eagle, East Golden Gate and Four Aces were featureless again. Galena continued to maintain fair strength, as did also Geyser. Horn Silver showed little demand for the stock, although the sellers were not numerous. Mammoth was somewhat weaker at the opening, but closed with considerably increased strength. The work of the shorts was largely responsible for the break. While there was not a very large amount of stock out at prevailing figures, Mercur did not continue its advance of the previous week, but toward the close a change for the better came. Ontario sold considerably lower, for no apparent good reason. There was little change in Silver King, although the quotations were shaded a bit. Some increased inquiry for Sunshine had a slight but good effect upon the stock. Only a comparatively light number of sellers are in sight. Swansea was stronger and closed with an advance. South Swansea was materially higher, with trading brisk. Utah remained about stationary, with only light offerings. Tetro continues development work with a somewhat improved showing.

San Francisco. Sept. 19.

(From Our Special Correspondent.)

A very dull week has just closed, and the amount of business has been hardly worth recording. There have been the usual fluctuations, but no great fall in prices, on small dealings. Apparently the outside world has given up all interest in the market.

A few closing quotations are: Consolidated California & Virginia, $1.75@$1.80; Challar, $2.20@$2.25; Hale & Norcross, $1.50; Bodie Consolidated, 56c.; Mono, 19c.

Business on the Gold Mining Exchange has also been quiet, and there is nothing especial to note. Lockwood sold at 27@28c.; Savannah, 47@48c.

At the meeting of Mono stockholders this week they voted to accept the proposed consolidation of the property of the Standard Consolidated, Bodie Consolidated, Bulwer Consolidated and Mono mines, under the name of the Standard Exploration Company, of Bodie. Meetings of the stockholders of the Bodie Consolidated and Bulwer Consolidated companies will soon be called for the purpose of authorizing the sale of their property to the new company. Of the new stock the Bodie Consolidated holders are to receive one share for every two shares they hold, and the Bulwer Consolidated holders are to receive one share for every three shares. The Mono holders are to receive one share of the new stock for every six shares they hold. This consolidation has been expected ever since the stocks of all the Bodie companies passed into the hands of one party.

On Monday next the California Debris Commission will consider applications to mine by the hydraulic process from W. H. Leek in the Miocene mine, near Crescent Mills, Plumas County, to deposit tailings in Rush Creek; from Hugh Craig, in the Casajo mine, near West Point, Calaveras County, to deposit tailings in the middle fork of the Mokelumne River, and from John Faubel, in the Mad Mule mine, near Stella, Shasta County, to deposit tailings on the banks of Whisky Creek.

The Kentuck Consolidated stockholders have authorized their directors to dispose of a large quantity of stock in the company's treasury as they deem best.

British Columbia.

ROSSLAND, B. C., Sept. 17.

The rapidity with which new mining prospects in this camp are coming into notice is, perhaps, as marked a feature of the present outlook as the quick absorption of Trail Creek mining stocks in some of the eastern provinces of Canada. This is especially notable when we remember that the natural conservatism of the Eastern investor, which is often supported by considerable experience, is not readily overcome.

In the more deserted, and consequently the more influential, mining circles of this camp some important changes are hinted at, but particulars are wanting. The capitalists who represent the activities of the camp are evidently moving in concert.

London. Sept. 12.

(From Our Special Correspondent.)

The London mining stock market continues in a lethargic condition owing to the holiday, and several events which would usually have a considerable effect on the market have caused only a momentary ripple. This applies more particularly to the South African market, which has been particularly lifeless, though plenty of important news has been received. For instance, the Rand output for August was 212,429 oz., an increase of 8,556 oz. over that of July, which was the best previous record, but the announcement had very little effect. Then, again, the report of the Geldenhuis Deep Level for August was enough to cause a collapse in the shares of companies interested in deep levels, but as a matter of fact no signs of fright were visible. This report shows a loss on operations; the total expenses were £21,478 and the gold was valued at £17.522. Of course until detailed accounts are received it is impossible to ascertain the real cause of this state of things, but it is surprising that somebody did not attempt to stir up a panic over it. Land and exploration shares have been dull; little has been done in Chartered, which remain about £3 5s. From a reliable source I hear that some of the adventurous spirits are recommending prospecting in Rhodesia, in anticipation of an early termination of the Matabele revolt.

The West Australian market has been generally dull and no news of interest has come to hand. New Zealands have been bright and a good deal of business has been done, in fact this section of the market has been the only one to show any real life.

In the American section things are dull, but there is an undercurrent of activity among people who are preparing for a boom in British Columbians. Most of the leading promoters have properties ready to be floated, and the small fry are running about, making great efforts to secure something or anything before the boom actually commences. Further particulars have been obtained about the De Lamar properties in Nevada which is shortly to be placed on the London and Paris markets. As I anticipated, the companies formed are not to be floated publicly, but the stock is to be worked off in the usual manner pursued by the Barnato crowd. It is said that the ore in sight shows a total contents of $4,800,000 and that the present owners are making £25,000 per month profit with a milling capacity of 200 tons per day.

Paris. Sept. 13.

(From Our Special Correspondent.)

The excited movement in Turkish and other foreign securities has in great part subsided, and more attention has been paid to the mining market. Nevertheless it has not been very active, nor have there been any changes of importance.

The most notable movement has been in the copper stocks stimulated by active buying in Rio Tintos. There is evidently a strong speculation for the rise engineered chiefly from Berlin. I hear that a similar movement in Boleo is coming, but doubt somewhat its success, since the present price is quite as high as is warranted by the company's position.

We hear from London of an upward movement in the Transvaal gold stocks, which our very truthful British brethren say is stimulated by buying from Paris. It is news to us, for the general feeling here is the other way, and the general disposition is to sell, whenever it can be done without too great a loss.

It is said that the banks here which do business with the Bourse have agreed to demand hereafter a margin of at least 20% on gold shares hypothecated. The directing committee of the *Coulisse* has remonstrated, as this would seriously embarrass many of the smaller operators.

I have before referred to the trouble over the great amount of foreign bronze and nickel coins in circulation, and the government is taking action to prevent further importations, having ordered the seizure of parcels of such coins at the frontier stations. At present the banks are buying English small coins at 6% discount; Luxemburg, 8%, Italian, 15%; and Spanish, 30% discount. Argentine copper coins they will not touch at any price.

The next loan to be brought out here is the new Spanish quicksilver loan, which is to be for 100,000,000 francs, at 4%. Spanish credit is low now, and is getting lower all the time, but this is a special loan brought out by the Rothschilds and secured upon the lease of the Almaden quicksilver mines. It is said that the issue price will be between 90 and 95, which will make it about a 4¼% security.

There continues to be much interest in the gold exports to your side. So far they have gone chiefly from London, but a little has been taken here, and more is expected to go, though the Bank of France will do all it can to prevent large shipments, being reluctant to part with gold just now, for reasons which are well understood here, and doubtless by you also. We realize now that the movement is a real commercial one.

Permit me to congratulate you on the admirable appearance of the new volume of your *Mineral Industry*. I have heard more than one expression of surprise at the completion of so great a work so promptly and by private enterprise. We are so used here to dependence upon the government, that we can hardly realize how you have done it; and we must salute most respectfully the volume which represents such ability and industry. AZOTE.

MEETINGS.

Bullion Gold and Silver Mining Company, at the office of Devine & O'Brien, Anaconda, Mont., on October 1st, at 8 p. m.

Park Consolidated Mining Company, at Room 53, 175 Dearborn street, Chicago, Ill., on October 15th, at 3 p. m.

ASSESSMENTS.

Name of Co.	Loc'n.	No.	Dinq.	Sale.	Amt.
Alpha Con	Nev.	17	Sept. 7	Sept. 29	.10
Alta Silver	"	53	Oct. 12	Nov. 2	.10
Bay State	Cal.	33	Sept. 30	Oct. 20	.03
Belcher Silver	Nev.	53	" 10	Sept. 30	.25
Bullion	"	48	" 18	Oct. 8	.10
Bunker Hill	S. D.	8	" 21	" 21	.002½
Christmas	Utah.	3	Oct. 10	" 27	.002
Crown Point Gold and Silver	Nev.	68	Sept. 22	" 13	.20
De Soto Gold	Cal.	1	Oct. 17	Nov. 16	.07
Dutch Canyon	Utah.	...	" 6	Oct. 31	.01
*Gold Queen	"	.....	" 17		.30
Gould & Curry	Nev.	79	Oct. 5	" 27	.15
Leo	Mont.	.	Sept. 28	" 19	.00½
Occidental Con.	Nev.	24	Oct. 8	" 29	.10
Ophir Silver	"	69	" 7	" 27	.25
Original Empire	Cal.	2	Sept. 25	" 10	1.25
Providence	S. D.	4	" 12	" 12	.002
Sevier	Utah.	.....	" 9	" 9	.05
Sierra Nevada Silver	Nev.	111	" 11	" 1	.25
Transit	S. D.	8	" 26	" 17	.001
Union Con. Silv.	Nev.	53	" 28	" 22	.20
*Utah Con.	"	23	Oct. 13	Nov. 2	.05

* New assessment.

DIVIDENDS.

NAME OF COMPANY	Current Dividends. Date.	Amount.	Paid since Jan. 1, 1896.	Total to date.
Ætna Con	Sept. 10	$10,000	$30,000	$70,000
*Alaska-Mexican	.....	.....	52,200	155,031
*Alaska-Treadwell	.....	.....	275,000	2,950,000
Anaconda	.....	.....	750,000	750,000
Aurora Iron	.....	.....	50,000	700,000
Bangkok-Cora Bell	.....	.....	6,000	107,510
Big Six	.....	.....	2,500	2,500
*Boston & Mont	.....	.....	1,050,000	4,475,000
*Bullion-Beck & Ch.	Sept. 20	30,000	185,000	2,135,000
Calumet & Hecla	" 25	500,000	2,000,000	46,350,000
Cariboo	Sept. 18	16,000	48,000	111,000
*Centennial-Eureka	Sept. 15	30 000	300 000	1,833,000
C. O. D	.....	.....	5,000	25,000
*Dalton & Lark	.....	.....	87,500	87,500
*Daly	.....	.....	37,500	2,887,500
*Deadwood Terra	.....	.....	100,000	1,240,000
Dominion Coal	.....	.....	600,000	.....
*Elkton Con	Sept.—	5,000	35,000	80,000
Florence	.....	.....	54,390	89,348
*Galena	Sept. 10	5,000	31,000	51,000
*Gold Coin	.....	.....	65,000	80,000
Golden Eagle	Sept. 15	10,000	10,000	10,000
*Golden Fleece	.....	.....	132,000	533,179
Gold & Globe Hill	.....	.....	19,500	28 87
Hecla Con	.....	.....	30,000	2,130,000
*Helena & Frisco	.....	.....	50,000	475,000
Highland	.....	.....	25,000	3,159,918
*Homestake	Sept. 25	31,250	282,250	5,993,750
Hope	Oct. 1	10,000	30,000	622,252
Horn Silver	.....	.....	50,000	5,130,000
*Iowa	.....	.....	30,000	40,000
Iron Mountain	.....	.....	30,000	140,000
*Isabella	Sept. 25	22,500	180,000	2 2,500
Jackson	.....	.....	7,500	475,000
*Le Roi	.....	.....	125,000	200,000
*Mammoth	.....	.....	20,000	1,090,000
Mercur	Sept. 20	25,000	150,000	500,000
Minnesota Iron	.....	.....	495,000	3,240,000
Mont. Ore Pur. Co.	.....	.....	280,000	440,000
Moon-Anchor	.....	.....	24,000	24,000
Moose	.....	.....	6,000	186,000
Napa Con	Oct. 1	†20,000	70,000	810,000
New Elkhorn	Sept. 30	72,000	72,000	72,000
*Ontario	Sept. 30	15,000	150,000	13,325,000
Osceola Con	.....	.....	125,000	2,072,500
Ottaqueachy	.....	.....	1,000	1,000
*Portland	.....	.....	150,000	773,000
*Quincy	.....	.....	70,000	8,370,000
*Silver King	Sept. 7	37,500	337,500	787,500
*Sacramento	.....	.....	2,000	2,000
Slocan Star	Sept. 1	100,000	200,000	250,000
Small Hopes	.....	.....	25,000	3,275,000
Smuggler-Union	.....	.....	100,000	100,000
Swansea	Sept. 15	5,000	5,000	6,560
Tamarack	.....	.....	150,000	4,320,000
Union	.....	.....	23,500	73,000
*Utah	Sept. 10	2,000	19,000	151,500
Victor	.....	.....	140,000	605,000
Victor M. & L.	.....	.....	12,000	42,000
War Eagle	.....	.....	25,000	157,000
*Wasp	.....	.....	40,000	40,000
Totals	.....	$936,250	$9,077,340	$124,319,863

* August dividend paid. † Extra dividend of 10c. per share included.

STOCK QUOTATIONS.

BOSTON. MASS.*

NAME OF COMPANY.	Location.	Par val.	Sept. 18 H.	Sept. 18 L.	Sept. 19 H.	Sept. 19 L.	Sept. 21 H.	Sept. 21 L.	Sept. 22 H.	Sept. 22 L.	Sept. 23 H.	Sept. 23 L.	Sept. 24 H.	Sept. 24 L.	Sales.
Allouez	Mich.	25													
Arnold	"	25											1.38	.99	1,900
Atlantic	"	25	16.25								18.00		18.50		125
Bost. & C. C.	Colo..	1													
Bost. & Mont.	Mont.	25	82.88	81 00	82.88	81 88	84.00	82.50	84 25	83.00	84 75	82 50	85.00	84.00	16,667
Butte & Bost.	"	25	1.75	82	1.63		1.63	1.50	1 68		2.50	1.63			5,1 3
Cal. & Hecla	Mich.	25					306		307		310		310		33
Centennial	"	25													
Dominion Coal.	N. S...	100	8.38	8 00	8 13		8 25		8 38	8.25	8.50	8.00	8.38	8.25	1,681
" pref.	"	100					80.00								50
Franklin	Mich.	25							8.25	8.00			10.00	9.00	240
Gold Coin	Colo..	1							2 50		2.50		2.50		420
Illinois Steel	Ill.	100	37.50				38.00		39.50	39.00	42.00	39.50	43.00	42 50	1,112
Kearsarge	Mich.	25					10.75		11 50	10.88	11.75	11.00	13.50	11.75	2,925
Lake Sup. Iron.	"	25													
Merced	Cal.	15					8.00				8.25	8 00	8.50		360
Minnesota (Ir.).	Minn.	100													
Napa	Cal...	7							6 50						225
National	Mich.	25													
Old Dominion	Ariz	25	16.25	16.00	16.25	16.00	16.25	16.00	16 25	16.00	16.75	16.00	16.88	16.25	3,644
Osceola	Mich..	25									28.00		28.00	27 50	555
Pioneer	Cal...	10					5.38	5.24	5.13	5.00	5.63	5 25	6.50	5 75	4,450
Pontiac	Mich.	25													
Quincy	"	25	107						108	107	108	107	108		162
do. scrip	"		80.00						80.00				80.00		34
Santa Rosa	Cal...	10													
San. Ysabel (G.)	"	5									9.50				50
Tamarack	Mich	25	72.00				83.00	75.00			89.00	83.00	90.00	88.00	270
Tamarack, Jr.	"	25											12.50	10.00	100
Tecumseh	"	25	2.00		3 25	2.50	3.00								585
Westingh.E.&M	Pa.	50													
do. pref	"	50			51.00	50.75			51.25				†50		70
do. scrip	"														
Wolverine	Mich..	25					7.00	6.75	7.00				7.50	7 00	1,585

* Official quotations Boston Stock Exchange. † Ex-Dividend. Total sales, 42,246.

NEW YORK.*

NAME OF COMPANY.	Location.	Par val.	Sept. 19 H.	Sept. 19 L.	Sept. 21 H.	Sept. 21 L.	Sept. 22 H.	Sept. 22 L.	Sept. 23 H.	Sept. 23 L.	Sept. 24 H.	Sept. 24 L.	Sept. 25 H.	Sept. 25 L.	Sales
Adams	Colo	10													
Ajax	Utah..	10													
Alamo	Colo..	1													
Alice	"	1													
Alliance	Utah..	1													
Amer. Flag	Colo	10													
Anaconda	"	5											.60		500
Andes	Nev...	100													
Argentum-Jun.	Colo..	2													
Bedford Con	Mont.								7.38						200
Belcher	Nev...	100					.90								200
Best & Belcher	"	100													
Bodie Con	Cal	100													
Bullion Beck&C	Utah..	10													
Bulwer	Cal..	100													
Breece	Colo..	25													
Brunswick	Cal...	1							.23						500
Centennial Eur.	Utah.	50													
Chollar	Nev..	100													
Chrysolite	Colo..	50													
Comstock T.	Nev...	100					.07								200
do. bonds	"	100													
Con. Cal. & Va.	"	100													
Con. Imperial	"	100													
Creede & C. C.	Colo..	1			.08				.07				.09		1,300
Cripple C. Con.	"	1	.14		.15		.14								1,400
Crœsus	"	1					.01				.02		.02		1,300
Crown Point	Nev..	100													
Dalton	Utah..	25													
Daly	"	20													
Deadwood Ter.	S.Dak	100													
Eureka Con.	Nev	20													
Father de Smet.	S Dak	100													
Gold Coin	Colo..	1													
Golden Fleece	"	1													
Gould & Curry	Nev...	100													
Hale & Norcross	"	100		1.40											200
Homestake	S.Dak	100													
Horn Silver	Utah..	25													
Iron Silver	Colo..	20	.50												1,100
Isabella	"	1													
King & Pemb.	Ont	10													
Lacrosse	Colo..	10													
Leadville Con.	"	10													
Little Chief	"	50													
Mexican	Nev...	100	.55						.45						300
Mollie Gibson	Colo	5													
Mono	Cal..	100													
Mt. Rosa	Colo..	1	.18		.18										400
Occidental Con.	Nev	100													
Ophir	"	100													
Pharmacist	Colo	1	.10		.10		.10		.11		.10		.10		2,800
Phœnix	Ariz	1											.04		500
Portland	Colo..	1													
Potosi	Nev...	100									.90				300
Rover	Utah..	10													
Savage	Nev	100									.55				200
Sierra Nevada	"	100													
Silver King	Utah..	20													
Sm. Hopes Con.	Colo..	20													
Specimen	"	1													
Standard Con.	Cal.	10													
Tetro	Utah	1													
Union Con.	Nev...	100									.44		.35		600
Utah Con	"	100											7.00		20
Victor	Colo..	1													
Work	"	1													
Yellow Jacket	Nev..	100		.35									.30		400

* Official quotations N. Y. Stock and Con. Stock & Petroleum Exchanges. Total shares sold, 12,420.

INDUSTRIAL COAL AND COAL RAILROAD.*

NAME OF COMPANY.	Par value.	Sept. 19 H.	Sept. 19 L.	Sept. 21 H.	Sept. 21 L.	Sept. 22 H.	Sept. 22 L.	Sept. 23 H.	Sept. 23 L.	Sept. 24 H	Sept. 24 L.	Sept. 25 H.	Sept. 25 L.	Sales
Balt. & Ohio	100			14				14¼		14¼	14			450
Ches. & Ohio	100			13⅞		14		14⅝	14	14⅝	14¼	15⅛	14⅝	5,097
Col.C.& I.Dev	100													
Col. Fuel & I.	100			19	18⅛					19		20⅝	19	4,260
Col.,H.V.&Tol	100													
do. pref.	100													
Col. & H.Coal	100													
Del. & Hud. C	100	122		122	121⅛	122⅛	122⅛	123⅜		123		124		895
Del., L. & W.	50			154										100
General Elec.	100	27⅝	27¼	28⅛	27⅝	28		28⅝	27⅝	29	28⅝	29⅝	28⅛	10,772
Lake Erie&W	100													
do. pref.	100	65⅝	65¼			65¼		64⅛		65⅛		65⅛	65¼	789
Morris&Essex	100			153		158								5
Nat'l Lead	100			21⅛	21	21		22¼	21	22⅝	22⅛	22⅞	22⅜	2,570
do. pref	100					83	82½			84		85		227
N. J. Central	100	103⅛		103⅝		102⅝	102	103⅛	101⅞	102		103⅝	102⅝	1,808
N. Y.,L.E.&W	100													
do. pref	100													
N.Y.,Ont.&W.	100			13	12⅝	13⅛	13	13⅜	13	13⅛	13¼	13⅜	13½	4,610
N.Y.,Susq.&W	100			8⅛	8									200
do. pref	100	22	21⅛	22⅛	22	22⅛	22	22¼	22	22⅛	22¼	23	22½	2,850
Norfolk & W.	50	8⅝												50
do. pref	50													
Phila. & Read.	50	1 ⅜	15¼	16⅝	15⅝	18¼	16⅝	19⅝	17⅝	19	18	18⅝	17⅝	149194
Tenn. C. & I.	100	20⅝	20⅝	21⅛	20⅛	21¼	20½	21⅝	20⅞	22⅛	21¼	23½	22⅝	23 040
do. pref	100													
Wheel. & L. E	100	6⅝	6⅛	6⅝	6⅛	6⅝	6	6⅝	6	6⅛	6⅛	6⅝	6	24,000
do. pref	100	24¼		24⅝	24⅛					24⅝	24¼			550

* Official quotations N. Y. Stock Exchange. Total shares sold, 251,472.

COLORADO SPRINGS, COLO.†

NAME OF COMPANY.	Par val	Sept. 14 B.	Sept. 14 A.	Sept. 15 B.	Sept. 15 A.	Sept. 16 B.	Sept. 16 A.	Sept. 17 B.	Sept. 17 A.	Sept. 18 B.	Sept. 18 A.	Sept. 19 B.	Sept. 19 A.	Sales.†	Sales.*
*Ajax	$1														
Alamo	1	.04⅛	.05									.04⅝	.05	1,500	
*Am'ric'nC	1					.02	.02¼			.02⅛	.02⅜				27,000
Anaconda	5											.60	.63	400	
*Aola	1														
Arg'ntumJ	2	.45	.45⅛	.45¼	.46	.46				.46⅛		.47	.48	5,700	
Bangkok	1														
*Bankers	1														
Banner	1											.02	.04		
*Ben Hur	1														
*Blue Bell	1														
Bob Lee	1	.008⅛				.01		.01				.0	.01¼	13,000	
Bost. & C.C.	1														
*Bucknorn	1					.01⅞	.02⅛			.02¼	.02⅜				16,000
*Colo.C.&M	1									.03⅝	.04				1,000
Columbine	1														
Copper M	1									.07⅞	.08				
Cr. & C. C.	1	.08	.08⅛					.08		.08¼		.07⅛	.08⅜	73,000	4,000
C. C. Con.	1			.12		.12	.12⅛	.12¼	.13	.13⅛	.13¾	.14⅝	.14⅞	50,000	
Cr.Cr.Exp.	1									.12¼			.13	1,000	
Crœsus	1							.01		.009		.009⅛	.01	14,500	
*Dante	1														
Des Moines	1							.02⅝		.02⅛	.02⅝	.02¼	.02⅜	4,000	6,000
*Enterprise	1									.03⅜	.06				1,000
Fanny R.	1							.05¼				.05⅝	.06⅛	1,000	
Favorite	1			.05		.05		.05				.05⅝	.06	6,000	
Franklin	1							.007				.007½	.008⅛	5,000	
*Garfield-G	1														
*Gold. Age.	1														
*Gold.E'g'e	1														
Gold Fl'ce.	1	1.05		1.05		1.05						1.01	1.03	900	
Gold & Gl.	1														
Gold King	1														
*GoldStand	1														
*Gould	1														
Grotte	1														
Henrietta	1														
*Humboldt	1														
Ida May	1														
Ingham,C.	⅛			.05								.05⅛	.06½	25,000	
*Iron Clad.	1														
Isabella	1	.43	.43⅛	.44	.44⅛	.43⅝	.41	.42¼	.41¼	.44	.44⅛	.44¼	.44⅜	71,400	1,200
do.stamp.	1	.42	.42¼			.42⅛	.42⅜	.42⅞	.43	.43⅛		.43⅛	.43¼	32,000	
Jack Pot	1	.05	.05¼	.05⅛		.05½	.05⅝	.05⅛	.05⅛			.05⅝	.05⅛	48,950	4,000
Jefferson	1														
*Keystone	1														
Ladessa	1														
L'nc'lnB'y	1														
LottieGib	1														
Marion	1	.005										.007		101,500	
Matoa	1			.10		.10⅛						.11⅞	.12	9,000	
Mollie G	5			.44	.45							.45		400	
Monarch	1														
Mt. Rosa	1	.15⅛	.16⅛	.16¼	.17¼	.16¼	.17	.16⅝	.17	.17		.16⅞	.17½	26,050	5,000
Mutual	1														
Nugget	1														
*Ophir	1														
Oriole	1	.02⅝	.03					.03				.03⅞	.05	44,000	
*Orphan B.	1														
*Pappoose	1														
Pharmacist	1	.09	.09⅜	.09⅛	.09⅞	.09⅜	.09⅛	.09⅛		.09⅞	.10⅛	.10	.10⅛	87,500	3,500
Portland	1	1.33	1.35	1.34				1.30		1.31⅛		1.32	1.33⅛	3,900	
*Princess	1														
*Reno	1														
*Sacram'to	1														
Silver St.	1									.01⅜	.01⅛				19,000
Specimen	1	.08										.08	.08¼	4,900	
*Sq'wMt.T.	1					.02	.02⅛			.02⅛	.02⅛				3,000
*Temonj	1														
Trachyte	1					.02⅞						.02⅞		1,000	
Union	1	.27⅛	.30	.29	.29¼	.29⅛	.29⅛	.29	.29⅛	.29⅛		.32⅞	.33	47,000	3 200
Virginia M.	1									.02⅛	.02⅝				1,000
Work	1					.08	.08⅛			.08⅛		.09	.09⅛	12,500	2,900
Total shares sold: Listed														690,250	96,900
" " Unlisted														968,675	39,300

† Official quotations and sales Colo. Springs Mg. Stock Assoc. * Board of Trade Exchange.

ST. LOUIS, MO. Week ending Aug. 18.

NAME OF COMPANY.	Company's Office.	Par Value.	Bid.	Asked.	Last Dividend.
Central Lead	St. Louis, Mo	$100	$50	$60	
Con. Coal	" "	100	19	21	March, '96, 1 p. c.
Doe Run Lead	" "	100	.90	.95	June, '92, 2 "
Granite Mtn		25	1 50	1.75	
St. Joe Lead	New York	100	8.50	9 25	July, '96, 1½ p. c.

SAN FRANCISCO, CAL.*

NAME OF COMPANY.	Location.	Par. value.	Sept. 19.	Sept. 21.	Sept. 22.	Sept. 23.	Sept. 24.	Sept 25.
Alta	Nev.	100	.07	.06	.05	.05	.07	
Belcher		100	.51	.51	.48	.51	.55	
Best & Belcher	"	100	.94	.92	.90	.94	.93	.92
Bodie Con	Cal.	100	.5	.60		.65	.64	.60
Bulwer	"	100		.42	.44	.42	.42	.40
Chollar	Nev.	100	2.20	2.15	2.15	2.15	2.15	2.15
Con. Cal. & Va.	"	100	1.75	1.75	1 65	1.75	1.70	1.75
Crown Point	"	100	.48	.45	.46	.48	.53	.50
Gould & Curry	"	100	.52	.42	.50	.50		.51
Hale & Norcross	"	100	1.50	1.40	1.40	1 40	1.45	1.50
Mexican	"	100	.56	.48	.45	.45	.50	50
Mono	Cal.	100		1 06		.22	.20	.20
Ophir	Nev.	100	.96	.90	.90	.90	.95	.94
Potosi	"	100	.94	.87	.87	.89	.86	.85
Savage	"	100	.64	.58	.57	.59	.58	.58
Sierra Nevada	"	100	.73	.66	.67	.67	.70	.71
Union Con.	"	100	.40	.36	.33	.40	.36	.57
Utah	"	100	.08	.08	.08	.07	.08	
Yellow Jacket	"	100	.80	.28	.27	.29	.81	.33

* Official telegraphic quotations, San Francisco Stock Exchange.

BALTIMORE, MD.* Week ending Sept. 24.

NAME OF COMPANY.	Location.	Par value	Bid.	Ask.	NAME OF COMPANY.	Location.	Par value	Bid.	Ask.
Balt. M. & S.	N. C.	5			Howard C.&C	Md.	5		
Conrad Hill.	"	10			Lake Chrome	"	5		
Con. Coal	Md.	100	32	35	Ore Knob	"	10		
G. Cr'k Coal.	"	100	10)		Silver Valley.	N. C.	5		75

* Official quotations Baltimore Stock Exchange.

BRITISH COLUMBIA.* Week ending Sept. 19.

NAME.	Selling price.	NAME.	Selling price.	NAME.	Selling price.
Bound'y Creek:		**Trail C'k** (con.):		**Trail C'k** (con.):	
Old Iron. Leas.	$0.15	Deer Park	$0.19	Lily May	$0.15
Camp McKenney	.35	Dewdney		Little Darling	.12
Nelson:		Enterprise	.20	Mabel	.15
Hall Mines	12 50	Evening Star		Mayflower	.15
Slocan:		Eureka Con	.05	Monte Cristo	.20
Alamo		Georgia	.35	Mug Wump	.15
Cumberland		Gertrude	.15	Nest Egg	.15
Gray Eagle	1.00	Good Hope	.03	O. K	.32½
Minnesota		Great Western	.15	Palo Alto	.09
Noble Five	.30	Green Crown		Phœnix	.10
Rambler		Helen	.12½	Poorman	.11
Slocan Star	2.50	High Ore	.07½	Red Mt. View	.20
Wonderful	.15	Hill Top	.06½	Rossland Red Mt.	.20
Trail Creek:		Homestake	.20	St. Elmo	.13½
Black E. G. M'gCo.		Imperial	.05	Silverine	.12½
ButteGoldLeasing	.07½	Iron Mask	.75	South Cross	.15
Caledonia Con	1.06	Ivanhoe	.10	Virginia	.28
California		Josie	60	War Eagle	1.65
Camp Bird		Josie Mac	.05	West Le Roi	.15
Center Star		Jumbo	1 20	White Bear	.15
Commander	.25	Knight Templar		Yale	
Crown Point	.52	Le Roi	8.00	Young America	.10

Par val.: Hall Mines, Jumbo and Le Roi, $5; Slocan Star, 50c., other stocks, $1.

LONDON. Sept. 11.

Name of Company.	Country.	Product.	Capital stock.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers.
				£ s. d.	s.d.		£ s. d.	£ s.d.
N'th Americans:								
Alaska-Mexican	Alaska	Gold	£200,000	1 0 0	0 4.8	July 1896	1 12 6	1 15 0
Alaska-Treadwell	"	"	1,000,000	5 0 0	1 6	" "	5 2 6	5 5 0
De Lamar	Idaho	Gold& silver	400,000	1 0 0	1 0	May, 1896	12 6	13 6
Golden Leaf	Montana	Gold	350,000	1 0 0	......	....	9	1 3
Holcomb Valley	California	Silver	135,000	5 0	..		9	1 3
Idaho	Idaho	Gold&silver	50,000	5 0	0 6	Jan., 1893	4 9	5 3
Jay Hawk	Montana	Silver	285 000	1 0 0	0 6	Dec., 1892	3	9
Montana	"	Gold&silver	660,000	1 0 0	0 3	June, 1896	3 9	4 3
Palmarejo	Mexico	" "	800,000	1 0 0	.....	....	2 0	2 6
Pinos Altos	"	" "	100,000	1 0 0	.....		2 6	3 9
Plumas-Eureka	Colorado	Gold	281,250	2 0 0	0 9	Apr., 1896	5 0	10 0
Richmond	Nevada	G'ld,sil.,le'd	270,000	5 0 0	1 0	Dec., "	1 0 0	1 5 0
Sierra Buttes	California	Gold	245,000	2 0 0	0 6	Apr., 1896	2 6	7 6
Springdale	Colorado	"	200,000	4 0	0 2	Sept., 1894	9	1 3
S'th Americans:								
Colomb. Hydra'lic	Colombia	Gold	75,000	1 0 0	1 0	July, 1895	6 3	8 9
Frontino & Bolivia	"	"	140,000	1 0 0	0 9	July, 1896	18 9	1 1 3
St. John del Rey	Brazil	"	562,000	1 0 0	xn	Jan., 1895	15 0	17 6
Copper:								
Anaconda	Montana	Cop. & Sil.	6,000,000	5 0 0	2 6⅛	May, 1896	6 12 6	6 17 6
Cape Copper	So. Africa	Copper	600,000	2 0 0	2 0	June "	2 5 0	2 10 0
Copiapo	Chile	"	200,000	2 0 0	2 0	May, "	2 5 0	2 10 0
Hall Mines	BritishCol	Cop.&Silver	250,000	1 0 0	.....	....	1 17 6	2 2 6
Mason & Barry	Portugal	Cop.& sulph	1,050,000	4 0 0	2 6	May, "	2 17 6	3 2 6
Rio Tinto	Spain	Copper	3,250,000	10 0 0	12 0	" "	23 12 6	23 17 6
Tharsis	"	Sulpr &cop'r	1,250,000	2 0 0	4 0	April, "	5 15 0	6 0 0
Australians:								
Bayley's Reward	W.Au't'lia	Gold	480,000	1 0 0	0 4	Dec., 1894	5 0	6 0
*Broken Hill Prop.	N.S.Wales	Silver	384,000	8 0	1 0	Aug., 1896	2 5 0	2 10 0
*Mt. Morgan Gold	Qu'nsland	Gold	875,000	17 6	0 6	" "	3 8 9	3 11 3
South Africans:								
British S.Africa Co	So. Africa	Lands &Ex.	2,500,000	1 0 0	xrts.	July, 1895	3 3 9	3 6 3
City & Suburban	Transvaal	Gold	85,000	4 0 0	10 0	" "	5 1 3	5 3 9
Crown Reef	"	"	120,000	1 0 0	10 0	Apr., 1896	11 2 6	11 7 6
De Beers	CapeCol'y	Diamonds	3,950,000	5 0 0	22 0	July, "	29 17 6	30 0 0
Ferreira	Transvaal	Gold	90,000	1 0 0	13 0	Mar. "	19 10 0	20 10 0
†Geldenhuis Estate	"	"	200,000	1 0 0	6 0	July, 1895	3 17 6	4 2 6
Jagersfontein	OrangeF.S	Diamonds	1,000,000	5 0 0	10 0	Apr., 1896	10 1 3	10 3 9
Langlaagte Estate	Transvaal	Gold	500,000	1 0 0	3 0	July, "	5 5 0	5 10 0
Modderfontein	"	"	1,000,000	4 0 0	rgts.	May, 1895	6 15 0	7 0 0
Primrose (New)	"	"	280,000	1 0 0	5 0	Feb., 1896	5 15 0	6 0 0
Robinson	"	"	2,750,000	5 0 0	5 0	July, "	8 17 6	9 2 6

* Dividend pending. † Reconstruction or increase of capital pending.

PARIS. Week ending Sept. 4.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Divs. last year.	Prices. Op'ning.	Prices. Closing.
			Francs.	Fr.	Fr	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs.	27,000,000	2,000	100.00	2,000.00	2,000.00
" " Firminy	"	" "	3,000,000	500	85.00	1,610.00	1,625.00
" " Fives-Lille	"	" "	12,000,000	500	35.00	745.00	740.00
" " la Marine	"	" "	20,000,000	500	37.50	955.00	990.00
" " Longwy	"	" "	......	500	35.00	828.00	840.00
Aguas Tenidas	Spain	Iron pyrites	10,000,000	500	25.00	180.0	190.00
Anzin	France	Coal	....	....	160.00	4,720.00	4,700.00
Boleo	Lower Cal.	Copper	....	500	65.00	1,400.00	1,395.00
Briansk	Russia	Coal & Iron	....	....	....	1,365.00	1,365.00
Bruay	France	Coal	3,000,000	400	700.00	22,550.00	22,995.00
Callao	Venezuela	Gold	32,200,000	125	...	8 00	7.75
Cape Copper	S. Africa	Copper	....	50	1.50	58.75	62.00
Champ d'Or	"	Gold	....	25	....	55.00	52 00
Courrieres	France	Coal	600,000	300	160.00	4,620.00	4,600.00
De Beers Consolidated	S. Africa	Diamonds	98,750,000	125	15.63	756.00	777.00
Dombrowa	Russia	Coal	....	500	....	570.00	589.00
Dynamite Centrale	France	Explosives	....	500	25.00	500.00	523.00
Fraser River	Brit. Col'mb	Gold	....	....	....	43.50	43.00
Huanchaca	Bolivia	Silver	....	125	5.00	83.50	82.50
Huta-Bankowa	Russia	Iron & steel	....	....	....	2,880.00	2,850.00
Langlaagte Estates	S. Africa	Gold	11,750,000	25	11.25	141.00	138.00
Laurium	Greece	Zinc & lead.	16,300,000	500	40.00	642.00	640.00
Lautaro	Chile	Nitrates	....	125	....	154 50	145.00
Malfidano	Italy	Zinc	12,500,000	500	44 00	1,00 .00	1,045.00
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	37.50	535.00	545.00
Mines d'Or de la Russie	Russia	Gold	.....	....	....	1,005.00	1,005.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	40.00	765.00	780.00
Nickel	N.Caled'nia	Nickel	12,720,000	500	30.00	141.00	135.00
Paccha-Jazpampa	Chile	Nitrates	......	....	....	25.00	22.00
Penarroya	Spain	Coal, etc.	....	500	52.50	1,450.00	1,500.00
Rebecca	Colo'do,U.S.	Gold	....	....	....	21.00	17.00
Rio Tinto	Spain	Copper	81,250,000	250	10.05	562.00	602.00
Robinson	S. Africa	Gold	....	125	12.50	234.00	238.50
Saint Elie	Fr. Guiana	"	4,000,000	25		19.00	19 00
Salines de l'Est	France	Salt	....	500	27.00	300.50	315.00
Sels Gem. de la Rus. Mer	Russia	" etc	....	....	....	602.50	617.00
Tharsis	Spain	Copper	....	50	8.75	141 00	142.00
Vieille Montagne	Belgium	Zinc	9,000,000	80	30.00	506.25	506.50

MEXICO. Week ending Sept. 10.

Name of Company.	State.	No. of shares.	Last dividend.	Last assessment.	Prices. Opening.	Prices. Closing.
Amistad y Concordia	Hidalgo	9,600	$0.59	....	$15	$14
Angustias	Guanajuato	2,400	10.00	....	5 5	600
Arevalo y Anexas	Hidalgo	....	10.00	....	280	300
Asturiana y Anexas	Zacatecas	2,500	10.00	....	410	400
Bartolome de Medina	Hidalgo	2,000	3.50	....	180	150
Carmen	"	1,100	7.75	....	400	450
Castellana y SanRam	Tepic	2,448	3.00	....	170	170
Cerro Colorado	Chihuahua	15,000	....	$1.00	10	10
Cinco Senores y An.	Guanajuato	2,000	15.00	....	1,100	1,050
Concepcion y Anexas	S. Luis Potosi	2,700	....	....	100	200
El Oro	Guanajuato	500	....	....	80	80
Guadalupe	"	10,000	2.00	....	100	180
Luz de Maravillas	Hidalgo	1,100	....	....	110	125
Pabellon	"	1,000	27.89	....	180	200
Purisima de los Com.	Zacatecas	2,400	....	....	10	15
Real del Monte	Hidalgo	2,554	10.00	....	850	800
Rosario y Anexas	Durango	4,800	....	....	70	60
San Francisco	Hidalgo	2,000	6.00	....	425	450
S. Ped. Chalchihuites	"	1,000	2.00	....	100	100
San Rafael y Anexas	"	1,200	20.00	....	500	600
do. free stock.	"	1,200	14.00	....	300	250
Sta. Maria de la Paz	S. Luis Potosi	2,400	.....	....	180	190
Soledad	Hidalgo	960	7.50	....	300	250
Sorpresa	"	960	5.00	....	250	200
Trinidad	Guanajuato	2,000	....	....	100	90
Tlauzingo	Puebla	2,400	....	....	30	40
Union	Hidalgo	2,000	8.00	....	425	425
Zaragoza	"	1,100	....	....	15	15
Zomelahuacan (gold)	Vera Cruz	5,000	....	....	100	100
Zona Min. de Pozos	Guanajuato	2,400	....	1.50	50	40

Note.– In most Mexican mining companies the shares have no fixed par value. The capital is formed of a certain number of shares, the total value not being named. Prices are in Mexican dollars.

VALPARAISO, CHILE.* Aug. 6.

Name of Company.	Capital.	Share value. Nominal	Share value. Paid up.	Last Dividend.	Prices. Bid.	Prices. Asked.	Prices. Last sale
Arturo Prat	$3,300,000	$100	$100	0⅛ per cent.	$33⅛	$34	$33
Caracoles	315,000	100	100	5 "	25	30	30
Descub. de Huantajaya	1,000,000	100	100	3 "	14	16	15
Huanchaca de Bolivia	8,000,000	25	25	4 "	48	48⅛	49
Oruro	800,000	200	200	....	500	505	500
S. Agustin de Huantajaya	1,500,000	100	100	2⅛ per cent.	30	35	35
Todos Santos	2,000,000	100	100	1 "	18	19	18½
Nitrate Cos:							
Agua Santa	3,000,000	50	50	4 "	163	164	163
Antofagasta	2,000,000	200	200	5 "	151	152	151
Union	3,000,000	200	500	....	45	46	47

* Special Report of Jackson Bros. Values are in Chilean pesos or dollars.

SHANGHAI, CHINA.* Aug. 7.

Name of Company.	Country.	No. of shares.	Value. Par.	Value. Paid up.	Last dividend. Date.	Last dividend. Amount.	Price.
Jelebu Mg. & Trad.	China	45,000	$5	$5	Oct., 1894	$0.25	Taels 2 19
Punjom Mg. Co., Ltd.	"	60,000	4	3.75	....	....	" 10.22
do. pref	"	30,000	1	1	....	....	" 2.85
RaubA'lian G.Mg. Co.	"	200,000	£1	13s. 10d.	Dec., 1893	0.21	" 3.83
Sheridan Con.Mg. Co.	Colorado,U.S	20,000	Taels 100	Taels 100	....	....	" 3.50

* Special Report of J. P. Bissett & Co. The prices quoted are in Shanghai taels.

DENVER, COLO.*

Name of Company.‡	Par val.	Sept. 14. B.	Sept. 14. A.	Sept. 15. B.	Sept. 15. A.	Sept. 16. B	Sept. 16. A.	Sept. 17. B.	Sept. 17. A.	Sept. 18. B.	Sept. 18. A.	Sept. 19. B.	Sept. 19. A.	Sales.
L'd Mines														
Anaconda	$5	.45	49	.45	.48	.46	.48	.40	.....	55	.60	65	.70	18,600
Bangkok	1	.03¼	03⅛	.03¼	.04⅛	.03	.03⅛	.....	......	.03¼	.04	.03¼	.03⅞	26,500
Bankers	1	.08⅛	.09	.08⅞	.09⅛	.09⅛	.09⅛	09¼	.09⅝	.12	.12⅛	.09½	.12½	17,200
Gar.-Grouse	1	.03⅛	.03¾	.03⅝	.03⅞	03⅝	.04	.03⅛	.03⅞	.03⅞	.04⅝	.03⅞	.04¼	52,900
Golden Fl	1	1.00	1.05	.98		1.00	1.06	......		1.02	1.05	1.00	1.08	2,500
Gold Stand.	1	03⅞	.04¼	.03⅞	.04⅛	.04¼	.04¾	.04	.04¼	.04	.04⅛	.04	.04⅛	68,500
Insley	1	.007½	.009	.007½	01¼	.007½	.009	.007½	.01⅛	008¼	.009	.012¾	.01⅛	14,000
Iowa	1	..	.55	.....	.54	.	.55	.....	.55		55	....	.55	3,300
Ironclad	1	.06⅛	.07	.06¾	.07¼	.07⅜	.07¾	.07	.08	.07⅛	.07⅝	.07⅛	.08½	41,500
Isabella	1	.42⅛	.44	.44	.45	.44	.44½	.43¼	.....	.44⅝	.44¾	.43⅝	.47	41,300
Jefferson	1	.10¼	.12	.11	.12⅛	.10½	12	.08¼	.....	12	.15⅛	.12⅛	.15¾	9,000
Mollie G.	5	.42⅛	......	.44	46	.44	.45	.43	....	.45	46⅞	45	50	7,500
Mt Rosa	1	.16	......	.16¾	.17¼	.16	.17	......	.....	.16⅛	.17	16	.19	13,000
People's	1	.01	.02½	.01⅛	.02⅛	.01½	.02⅛	.01	......	.02	03	.02¼	.02¾	5,500
List. Pr.														
Agate	1	001	.002	.001⅛	.002¼	.001	.002	...	......	.01⅝	02¼	.002	.002¼	95,000
Aola	1	.01¼	.01⅝	01¼	01⅝	.01⅛	.01⅝	.01⅛	.01⅝		.....	.01⅝	.02	32,000
Big Johnny	1	.002	.002½	.002¼	.002⅛	.002	.002½	002	.003	.002	.003	.002¼	.002¾	30,000
Blue Jay	1	.002	.002⅛	.002¼	.002⅛	.002¾	.003	.002⅛	.003¼	003⅛	.003¾	.004	.004¼	417,000
Cannon Ball	1	.004	.005⅛	.005	.005⅛	.005	.006⅛	..		.006	.01	.006½	.006¾	123,000
Champagne	1	003⅛	.005	.004¼	.006	.004¼	007	.004	......	.005¼	....	.006	.007⅛	5,000
C. C. Imp.	1	002¼	.002⅛	.002⅛	.....	002⅛	....	002	.002⅛	.002¾	......	.002½	.002¾	18 ,000
Defender	1	..	.008½	.006	.01	.005⅛	.009	.005¾	.009	.007¾	.008¾	.008¼	.009	91,000
Dictator	1	.002⅛	.004	.002⅛	.004	.002⅛	.....	.002⅛	006	.002⅛	.004	.004¼	.005	13,000
Dixie	1	.002	.002¼	.002¼	.002⅛	.002¼	......	.002¼	.002⅛	.002¼	.....	.002⅛	.003	224,000
Eclipse	1	....		......	......	...	...	.....		.....	......	.003¼	.003⅜	2,000
Finance	1	.006	.006¾	.006¾	007¼	.007¼	.007⅛	.007½	.008⅛	.007	008	.007	008	48,000
Geo. Wash.	1	.01⅜	02	.01⅛	.01⅝	.01⅛	.01⅜	.01⅛	.02	.01⅛	.02	.01⅛	.02	101,000
Gold Cryst'l	1	..	....	.....	...	...	...			.02	.02⅛	....	......	35,000
Gold Field	1	.002	.002⅛	.002½	.002⅛	.002¼	.002⅛	.002¼	.003	.002¾	.003	.003	.003⅛	49,000
Gold Queen	1	.0005	.001	.0005	.001	.0005	.001	.0005	.001	0008	.001½	.001	.002	15,000
Gregory	1	.003½	.003¾	.003¾	.004	.003¾	.004	.004	.004¼	.004	.004¼	.004⅛	.004¾	289,000
Henrietta	1	.006¾	.008	.006¾	.007	.007	.009	.005⅛	.008	.007½	.008½	007⅛	.008	100,000
Illinois	1	.004	005¼	.005¼	.006	.005	.005⅛	.004¾	.005	.004½	.005⅛	.004⅛	.004¾	29,000
Internat'l	1	.001¾	.002	001¾	.002	.001¾	.002	.001¾	.002½	.001¾	.002	.001¾	.002½	40,000
Justine	1	.004⅛	.005¼	.004¾	.005½	.004¾	.005¼	004	.005¼	.004¾	.005⅛	.004¾	.005⅛	21,000
Lincoln Boy	1	.001⅛	...	.001⅛	...	.002	.002⅛	.001⅛	.002⅛	.002	.002¾	.002¼	.003	162,000
Millionaire	1	.003		.002	.006	.003¼	.003	.003⅛	....	.004	.005	.004	.006	5,000
Pilgrim	1	.002¾	.003¼	.002¾	.003¼	.003¼	.003⅛	.003¼	.003⅛	.003⅛	.003¾	002¾	.004	165,000
Puritan	1	....	.....	.003	.003⅛	.003¼	.003⅛	.003¼	.004½	.003⅛	.004	.003¾	.004	251,000
Q'n Victoria	1	.005⅛	.006	.005¾	.006	.005¾	.006	.005	.005⅛	.005¾	.006	.006¼	006⅛	311,000
Reno	1	.02¼	.002⅛	.02⅜	.02⅝	.02⅛	.02⅝	.02¼	.03	02⅛	.02⅝	.02⅝	.03	40,000
Royal Age	1	.003	.004	.003¾	.004	003¾	.004	.003¾	.004	.004	.004¼	.004⅛	.005	50,000
Senator	1	.002¾	.003½	.003	.003⅛	.003	.003⅛	.003½	..	.002⅛	.003⅛	.003¼	.004	134,000
Sentinel	1	.003	006	.003	.003¾	.003	.007	.003	.007	003	.007	.004⅛	.009	18,000
Unity	1	....	...	002⅛	.004⅛	.003	.007	....	......	.003	.004⅛	.003	.005⅛	160,000
Unl. Act.														
Ætna	1	.003⅛	.004⅛	.004	.004⅛	.004	.004⅛	.004	.004⅛	.004	.004⅛	.004¼	.005⅛	17,000
Alamo	1	.04¼	....	.04⅜	.05⅛	.04½	.05¼	.05⅞		.04⅝	.05	.04⅝	.05¼	2,100
Arcadia	1	.08¾	.10¾	.08	.10	.08⅛	.09⅛	.08⅛	.09	.08⅛	.10	....	....	32,000
Argentum J	2	.46	.46⅛	.45⅛	.47	46	49	.45⅛	47⅛	.47	47⅛	.46⅛	.48	4,700
Ben Hur	1	...	....	.04¾	.05⅞	.04¾	.05¾	.05⅛	.06	.05⅛	.06	.05⅝	.	5,000
Bob Lee	1	.007¾	.009	007⅛	.....	.008⅛	.....	009¼	...	.009¾	.012	.01	.02	25,000
Chimborazo	1	.004¾	.005¼	.004¾	.005¼	.005	.	.005	.005⅛	.005¾	....	.005¼		16,000
C. K. & N.	1	.004½	.005⅛	.005	.005⅛	.004½	.006	.004	.006	.006¾	.007	.006¾	.007	32,000
Colo.C.& M.	1	.03⅛	.03⅝	.03¾	....	.03⅛	.03¾	.03⅛	.03⅝	.03⅝	.04	.03⅝	.04	4,000
Creede&C.C	1	.08	.08⅛	......		08	.09	.07	.08⅛	.07⅛	.08⅛	.07	.08⅛	2,000
Gold Stone	1	005¾		005¼		.005⅛	......	.005¾		.007	.007⅛	.007⅛	.008	20,000
Jack Pot	1	.04¾	.05⅛	.04⅛	05⅛	.05⅜	.06	.05⅜	.05⅝	.05¾	.06	.05¾	.07	5,500
Ladessa	1	.....	......	.004	.004¾	.005	.006	.005		.005	.007		...	6,000
Portland	1	1.15	1.37		.			1.28	1.34	1.25	1.35	1.28	1.35	9,900
S'cram'nto	1	.03¼	..	.03⅝	04	.03½	.04	.03⅝	.03¼	.03⅝	04	.03⅝	.04	15,000
Santa Fe	1	.02	002⅛	..	....		......	..			......	.02	.....	6,000
Va M.	1	01¼		.01⅛	....	01⅜	.02⅛	.02⅛	.02¾	.02⅛	..	.02⅜	.03⅛	5,000
Wh. of For.	1	.002⅛	003⅛	002¾	...	.002¾	.003	.002¾	.003	.003	.003¼	.003¼	.004	62,000
Work	1	.07½	.07⅞	.07⅝	.08⅛	.07⅞	08¼	.07⅛	.08	.08⅛	.08¾	.08¾	.09⅛	1,000

*Official quotations Colo. Mg. St'k Exch. Sales, listed, 3,536,300; unlisted, 271,700; total, 3,8 8,700.

SALT LAKE CITY, UTAH.* Week ending Sept. 19.

Stocks.†	Par value.	Bid.	Asked.	Actual selling price.	Stocks.†	Par value	Bid.	Asked.	Actual selling price.
Ajax	$10	$0.45	$0.65	$0.60	Horn Silver	$25	$1.40	$1.80	$1.50
Alliance	1	.15	.30	.25	Little Pittsburg	......	.01	.02	.02
Annie	..	.10	.5	......	Lucky Bill	......	.15	.20	.15
Am. Nat. Gas.	..	.02	.03	......	Malvern	......	.23	.25	......
Anchor	20	.90	1.25	1.20	Mammoth	25	2.05	2.15	2.10
Bogan	1	.10	.15	.12½	Mercur	25	5.90	6 25	6.[illegible]5
Brick Con	.....	60	.65	....	Morgan	125	.35	.40	......
Bullion Beck & C.	10	5.75	6 25	6.00	Ontario	100	9.50	10.50	10.00
Centen'l Eureka.	50	57.50	65.00	62.50	Overland	......	......	.40	......
Dalton	5	01⅛	.02	.01¾	Rover	10	.35	.45	......
Dalton & Lark	.....	20	.40	.35	Silver King	20	13.50	15.00	14.50
Daly	20	6.00	6.65	6.50	Sioux Con	10	90	1.15	1.00
Daly West	20	7.75	8.10	8.00	Sunshine	10	1.90	2.25	2.00
Eagle	10	.05	09	......	Swansea	......	1.85	2.00	1.90
East Golden Gate	......	.06	.07	......	So. Swansea	......	.70	.80	.75
Four Aces	.....	.12	20	.17½	Tetro	1	.05	.07	.06½
Galena	10	1.50	1.65	1.60	Utah	......	1.40	1.60	1.55
Geyser	......	.85	1.25	.90	Utah Con	1	.70	1.00	.90
Herschel	..	10	12½	......					

* Special Report of James A. Pollock. † All the companies are located in Utah.

PHILADELPHIA, PA.*

Name of Company.	L'ca-tion.	Par Val'e	Sept. 17. H.	Sept. 17. L.	Sept. 18. H.	Sept. 18. L.	Sept. 19. H.	Sept. 19. L.	Sept. 21. H.	Sept. 21. L.	Sept. 22. H.	Sept. 22. L.	Sept. 23 H.	Sept. 23 L.	Sales
Cambria Iron.	Pa.	50	**38	....	..	....	....	..	..	....	36 00	.	37.00	36.88	40
Choc.&Gif.Ctfs	I.T.	50	5.00	....	.....	.....	5 00	....	5.13	....	5.25	.....	6.00	5.75	327
Hunt & Br.Top.	Pa.	50	.	...	...	.....	....	.....	.....	.....	49.00	.....	.....	.....	....
" pref.	"	50	48.50	....	48.63	....	49 13	..	.		.....	.....	...	...	53
Lehigh C. & N.	"	50	41 0	40 00	39.25		40 00		41.00	40.00	41.00	40 00	41.00	40.00	75
Lehigh Valley.	"	50	30.00	29.50	29.50	29 00	29.50	29.00	29.50	29.00	29.63	29.13	30.00	29.00	954
Little Schuylk.	"	50	..	...	...	....	...		...		...	...	....	...	....
Penna. R. R.	"	50	50 75	50 63	51.00	50.75	51.50	50.88	51.88	51.75	52 00	51.75	51.75	51.50	2,653
Penna. Steel	"	....	25 00	...	.	...	....	...	.....	.....	28 88	25 00	..	....	70
" pref	"	.. ..	.....	.....	...	...	.....	.....	45.00	...	45 50	45.13	.	.....	25
UnitedGasImp	"	.. ..	64.75	64 50	65.00	....	65.25	....	66 00	.....	66 25	66.00	67.88	67.25	392
Welsb. of Can	Can.	.....	.....	.....	.....	.....	...	....	1.50	.....	...	...	1.75	.....	185
Welsbach Com	Pa.	.....	.....	.....	20.00	. ..	...	.. .	.....	..	25 00	....	.....	.....	182
" pref.	"	.....	....	...	.....	....	.....	.....	60.75	....	.	....	60 00	....	105
Welsb'h Light.	"		.	...	.	.....	.	....	.....	.....	41.75	...	41.00	.....	84
Westmoreland.	"	50	....	.....	....	....	.	....	.....	.....	.	.	48 00	....	3

* Official quotations Philadelphia Stock Exchange. Total sales, 5,148. **Ex. Dividend.

HELENA, MONT.* Week ending Sept. 19.

Name of Company.	Location.	Company's office	Par value.	Bid.	Asked	Shares sold.	Price.
Am.Dev.&M.Co.	Mont. & Idaho	Butte, Mont.	$1	$1.[illegible]0	$1.00	......	....
Bald Butte	L. & Clake Co.	Helena "	1	2 00	2 25	......	....
Bi-Metallic	Granite "	St. Louis, Mo.	5	......	.....	......	....
Combination	" "	" "	10	.35	45	......	....
Granite Mt	" "	" "	......	......	......	......	....
Helena & Victor	Missoula "	Helena, Mont.	5	20	.25	......	....
Helena & Frisco	Shoshone "	" "	......	......	......	......	....
Iron Mountain.	Missou'a "	" "	10	.40	.42½	2,300	.41 to .42½
Judge	Meagher "	" "	......	.07½	.10	......	....
Merrill (Gold)	Jefferson "	Butte "	1	...	......	......	....
Ontario	DeerLodge "	Helena "	1	......	......	......	....
Yellowstone	Meagher "	" "	5	15	17½	400	17

* Special Report of Samuel K. Davis. Total shares sold, 23,400

PITTSBURG, PA.* Week ending Sept. 21.

Name of Company.	Location.	Par val	Bid.	Ask.	Selling price.	Name of Company.	Location.	Par val	Bid.	Ask.	Selling price
Coal:						Nat. Gas:					
Mansfield	Pa.	50	.....	.....	......	Allegheny	Pa.	100	......	......	......
N.Y. & C. Gas C.	"	50	40	...	......	Chartiers Val.	"	100	5¾	6	......
Mining:						Manufacturers	"	100	......	......	......
Ent'prise	Colo.	5	.....	......	......	Peoples' Nat. Gas.	"	50	..	......	......
Lustre	Mex.	10	9	......	......	Peoples' Pipeage	"	25	14¼	14¾	......
Silverton	Colo.	10	.....	......	......	Pennsylvania	"	50	3	6	......
Miscellaneous:						Philadelphia	"	50	16⅞	17½	.....
Carborundum	Pa.	100	.....	......	......	Wheeling	W.V.	50	18	18⅛	.....

* Official quotations Pittsburg Stock Exchange.

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.			Dividends. Total Paid.	Dividends. Date and Amount of Last.		
1	Adams, s. l. c.	Colo.	$1,500,000	150,000	$10	*				$693,500	Oct.	1895	.04
2	Ætna Cons., q.	Cal.	500,000	100,000	5	*				70,000	Sept.	1896	.10
3	Alaska-Mexican, g.	Alask	1,000,000	200,000	5					155,031	Aug.	1896	.09
4	Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	*				2,950,000	Aug.	1896	.35
5	American Belle, g. s. c.	Colo.	2,000,000	400,000	5	*				50,000	April.	1891	.12
6	Anaconda Copper.	Mont.	30,000,000	1,200,000	25					750,000	May.	1896	.62½
7	Argentum Juniata, s. l. g	Colo.	2,600,000	1,300,000	2	*				156,000	Oct.	1895	.03
8	Aspen Mg. & S., s. l.	Colo.	2,000,000	200,000	10	*				900,000	July.	1894	.10
9	Atlantic, c.	Mich.	1,000,000	40,000	25					700,000	Feb.	1891	1.00
10	Aurora, i.	Mich.	2,500,000	100,000	25	*				700,000	April.	1896	.50
11	Bald Butte.	Mont.	250,000	250,000	1	*				437,500	Dec.	1895	.03
12	Bangkok-Cora Bell, s. l.	Colo.	600,000	600,000	1					107,510	July.	1896	.01
13	Bates Hunter, g. s.	Colo.	1,000,000	1,000,000	1	*				67,500	Dec.	1891	.00¾
14	Belcher, s. g.	Nev.	10,400,000	104,000	100	$8,312,420	Sept.	1896	.25	15,397,200	April.	1876	1.00
15	Belden, F. E., m.	N. H.	500,000	100,000	5	*				217,000	Jan.	1896	.04
16	Belle Isle.	Nev.	10,000,000	100,000	100	240,271	July.	1896	.10	300,000	Dec.	1879	.25
17	Big Six, g. s.	Colo.	500,000	500,000	1					2,500	May.	1896	.00½
18	Bi-Metallic, g. s.	Mont.	5,000,000	200,000	25	*				1,630,000	June.	1893	.10
19	Bodie Cons., g. s.	Cal.	10,000,000	100,000	100	714,990	July.	1893	.15	1,677,572	Dec.	1894	.25
20	Boston & M. Cons., g. s. c	Mont.	3,750,000	150,000	25	*				4,475,000	Aug.	1896	3.00
21	Brotherton, i.	Mich.	2,000,000	80,000	25	*				120,000	Mar.	1893	.50
22	Bunker Hill & S., s. l.	Idaho	3,000,000	300,000	10					150,000	Oct.	1888	.06
23	Calumet & Hecla, c.	Mich.	2,500,000	100,000	25					45,850,000	July.	1896	5.00
24	Centen'l-Eureka, g. s. l. c	Utah.	1,500,000	30,000	50	30,000	Mar.	1889	1.00	1,800,000	Aug.	1896	1.00
25	Central, c.	Mich.	500,000	20,000	25	100,000	Oct.	1861	.65	1,970,000	Feb.	1891	1.00
26	Charleston, p. r.	S. C.	1,000,000	10,000	100	*				140,000	Dec.	1893	2.50
27	Chrysolite, s. l.	Colo.	10,000,000	200,000	50	*				1,650,000	Dec.	1884	.25
28	Clay County, g. s. c.	Colo.	60,000	60,000	1	*				52,000	Nov.	1891	.02
29	C. O. D., g.	Colo.	500,000	500,000	1	*				25,000	Mar.	1896	.01
30	Cœur d'Alene, s. l.	Idaho	5,000,000	500,000	10					340,000	June.	1893	.06
31	Confidence, g. s.	Nev.	2,496,000	24,960	100	1,636,974	Sept.	1896	.30	277,680	April.	1889	1.00
32	‡Cons. Cal. & Va., g. s.	Nev.	21,600,000	216,000	100	441,800	April.	1896	.30	3,898,800	Feb.	1895	.25
33	Cons. New York, g. s.	Nev.	10,000,000	100,000	100	168,000	Jan.	1896	.05	10,000	Feb.	1893	.10
34	Coptas, g. s.	Nev.	10,000,000	100,000	100					77,000	Feb.	1895	.01
35	Cortez, Ltd., s. g.	Nev.	1,500,000	300,000	5					735,000	Feb.	1893	.15
36	Dalton & Lark, s. l.	Utah.	2,500,000	2,500,000	1					87,500	Aug.	1896	.00½
37	Daly, s. l.	Utah.	3,000,000	150,000	20					2,887,500	Aug.	1896	.25
38	†Deadwood-Terra, g.	S. D.	5,000,000	200,000	25	*				1,240,000	Aug.	1896	.50
39	De Lamar, g. s.	Idaho	2,000,000	400,000	5	*				2,094,100	April.	1896	.25
40	Derbec Blue Gravel, g.	Cal.	10,000,000	100,000	100	110,000	June.	1893	.10	280,000	Aug.	1891	.10
41	Dexter, g. s.	Nev.	1,000,000	100,000	10	8,000	June.	1892	.08	390,000	Aug.	1893	.33
42	Elkton, g.	Colo.	500,000	500,000	1					75,000	Aug.	1895	.02
43	Elkhorn, s.	Mont.	1,000,000	200,000	5					1,212,000	June.	1895	.06
44	Enterprise, g. s.	Colo.	2,500,000	500,000	5	*				825,000	May.	1893	.25
45	Eureka Cons., g. s. l.	Nev.	1,000,000	50,000	20	555,000	July.	1896	.10	5,112,500	Jan.	1892	.25
46	Evening Star, s. l.	Colo.	500,000	50,000	10	*				1,437,500	Dec.	1889	.25
47	Florence, s.	Mont.	2,500,000	500,000	5	*				89,348	May.	1896	.02
48	Franklin, c.	Mich.	1,000,000	40,000	25					1,240,000	Jan.	1894	2.00
49	Gold Coin, g. s.	Colo.	1,000,000	200,000	5	*				80,000	Aug.	1896	.10
50	Golden Fleece, g. s.	Colo.	600,000	600,000	1	*				533,179	Aug.	1896	.01
51	Gold & Globe, g.	Colo.	750,000	750,000	1					28,875	June.	1896	.00⅜
52	Gold Rock, g. s. c.	Colo.	500,000	500,000	1	*				28,750	Dec.	1891	.01
53	Granite Mountain, g. s.	Mont.	10,000,000	400,000	25	*				12,120,000	July.	1892	.20
54	Granite, s. l.	Idaho	500,000	200,000	2.50	*				83,400	Nov.	1890	.10
55	Gt. West'n Quicksilv., q.	Cal.	5,000,000	50,000	100					388,366	Nov.	1893	.10
56	Hale & Norcross, g. s.	Nev.	11,200,000	112,000	100	5,758,800	Aug.	1896	.15	1,822,000	Aug.	1888	.50
57	Harquahala, g.	Ariz.	1,500,000	300,000	5					126,000	Nov.	1894	.12
58	Hecla Cons., g. s. c. l.	Mont.	1,500,000	30,000	50	*				2,130,000	Feb.	1896	.50
59	Helena & Frisco, s. l.	Idaho	2,500,000	500,000	5	*				475,000	Aug.	1896	.04
60	Holmes, s.	Nev.	10,000,000	100,000	100	345,000	Mar.	1890	.25	75,000	April.	1892	.25
61	Homestake, g.	S. D.	12,500,000	125,000	100	200,000	July.	1878	1.00	5,962,500	Aug.	1896	.25
62	Hope, s.	Mont.	1,000,000	100,000	10	*				592,252	Jan.	1895	.10
63	Horn-Silver, g. s. c. sp. l.	Utah.	10,000,000	400,000	25	*				5,130,000	Jan.	1896	.12½
64	Iowa.	Colo.	1,000,000	1,000,000	1					40,000	Aug.	1896	.01
65	Iron Mountain, s. l.	Mont.	5,000,000	500,000	10	*				440,000	May.	1896	.01
66	Iron Silver, s. l.	Colo.	10,000,000	500,000	20	*				2,500,000	April.	1889	.20
67	Isabella, g.	Colo.	2,250,000	2,250,000	1					180,000	Aug.	1896	.01
68	Jack Rabbit, g.	Cal.	10,000,000	100,000	100	118,000	April.	1894	.02	1,260,000	April.	1891	.10
69	Jay Hawk, g.	Mont.	1,425,000	285,000	5					33,375	Dec.	1892	.12
70	Kearsarge, c.	Mich.	1,000,000	40,000	25	190,000	Oct.	1887	1.00	120,000	Dec.	1895	1.00
71	Kennedy, g.	Cal.	10,000,000	100,000	100					1,796,000	Aug.	1895	.48
72	Leadville Cons., s. l.	Colo.	4,000,000	400,000	10	*				316,000	Feb.	1893	.03
73	Little Chief, s. l. i-o.	Colo.	10,000,000	200,000	50	*				820,000	Dec.	1890	.05
74	Maid of Erin, g. s. c. l.	Colo.	3,000,000	600,000	5	*				740,000	Nov.	1895	.02
75	Mammoth, g. s. c.	Utah.	10,000,000	400,000	25	*				1,090,000	Aug.	1896	.05
76	Mayflower Gravel, g.	Cal.	1,200,000	60,000	20					166,897	Dec.	1895	.10
77	May-Mazeppa Con., l. s.	Colo.	1,000,000	1,000,000	1	*				170,000	Oct.	1891	.03¾
78	Mercur, g.	Utah.	5,000,000	200,000	25	*				475,000	July.	1896	.12½
79	Minnesota Iron, i.	Minn.	16,500,000	165,000	100	*				3,240,000	July.	1896	1.50
80	Mollie Gibson, s.	Colo.	5,000,000	1,000,000	5	20,000	Jan.	1891	.02	4,090,000	Jan.	1895	.05
81	Monitor, g.	S. D.	2,500,000	250,000	10					45,000	Oct.	1890	.03
82	Montana, Ltd., g. s.	Mont.	3,300,000	660,000	5	*				2,890 637	Oct.	1895	.06¼
83	Moose, g.	Colo.	600,000	600,000	1					186,000	Jan.	1896	.01
84	Morning Star Cons., s. l.	Colo.	1,000,000	100,000	10	*				1,025,000	Dec.	1891	.25
85	Mt. Diablo, s.	Nev.	5,000,000	50,000	100	140,000	July.	1896	.05	225,000	Aug.	1893	.25
86	Mt. McClellan, g. s. l.	Colo.	1,250,000	250,000	5	*				21,936	June.	1891	.03
87	Mt. Rosa, g.	Colo.	1,000,000	1,000,000	1					10,000	Jan.	1895	.00½
88	Napa, q.	Cal.	700,000	100,000	7	*				790,000	July.	1896	.20
89	New Guston, g. s. c.	Colo.	550,000	110,000	5	*				1,198,120	Oct.	1892	.25
90	New Hoover Hill, g.	N. C.	300,000	120,000	2.50	*				22,500	Dec.	1885	.20
91	North Banner, g. s.	Cal.	1,000,000	100,000	10	19,794	June.	1896	.03	20,000	July.	1891	.05
92	North Belle Isle, s.	Nev.	10,000,000	100,000	100	523,074	July.	1896	.10	230,000	May.	1888	.50
93	North Com'wealth, s.	Nev.	10,000,000	100,000	100	85,000	April.	1890	.25	25,000	June.	1891	.25
94	North Star, g.	Cal.	2,000,000	200,000	10	20,000	June.	1885	.02	450,000	June.	1893	.50
95	Nugget, g.	Colo.	1,000,000	1,000,000	1	*				10,000	Jan.	1895	.00½
96	Ontario, s. l.	Utah.	15,000,000	150,000	100					13,310,000	Aug.	1896	.10
97	Osceola, c.	Mich.	1,250,000	50,000	25	*				2,072 500	July.	1896	1.00
98	Pacific Coast Borax, b.	Cal.	2,000,000	20,000	100					422,500	July.	1893	1.00
99	Parrot, c.	Mont.	2,300,000	230,000	10	*				1,022,215	June.	1894	.05
100	Petro, s.	Utah.	1,000,000	10,000	100					17,500	July.	1891	.75
101	Pharmacist, g.	Colo.	1,200,000	1,200,000	1					80,000	Jan.	1893	.01
102	Portland, g.	Colo.	3,000,000	3,000,000	1	*				773,000	Aug.	1896	.03
103	Quicksilver, pref., q.	Cal.	4,300,000	43,000	100	*				1,823,911	June.	1891	1.25
104	" com., q.	Cal.	5,700,000	57,000	100	*				643,867	July.	1882	.40
105	Quincy, c.	Mich.	1,250,000	50,000	25	*				8,370,000	Aug.	1896	6.00
106	Reed National, s.	Colo.	500,000	500,000	1	*				45,000	Dec.	1890	.01
107	Robinson Cons., s. l.	Colo.	10,000,000	200,000	50	*				585,000	Mar.	1886	.05
108	Running Lode, g. s. l.	Colo.	1,000,000	1,000,000	1	*				27,000	June.	1893	.00 1/10
109	Savage, g. s.	Nev.	11,200,000	112,000	100	1,006,600	June.	1896	.20	4,460,000	June.	1869	3.00
110	St. Joseph, l.	Mo.	2,500,000	250,000	10					2,524,000	Dec.	1895	.25
111	Silent Friend, g. s. l.	Colo.	500,000	500,000	1	*				60,000	Aug.	1891	.25
112	Silver Cord Com., g. s. l.	Colo.	5,000,000	500,000	10	*				270,000	April.	1889	.10
113	Silver King, s.	Ariz.	10,000,000	100,000	100	222,858	June.	1896	.25	1,950,000	July.	1887	.25
114	Silver King, g. s. l.	Utah.	3,000,000	150,000	20					750,000	Aug.	1896	.25
115	Silver Mg. of L. V., s.	N. M.	500,000	500,000	1	*				300,137	Dec.	1891	.04
116	Small Hopes, s.	Colo.	5,000,000	250,000	20	*				3,275,000	Mar.	1896	.10
117	Smuggler Union.	Colo.	5,000,000	50,000	100					100,000	July.	1896	1.00
118	Standard Cons., g. s.	Cal.	10,000,000	100,000	100					3,771,160	June.	1895	.10
119	Swansea, g. s. l.	Colo.	600,000	60,000	10	*				39,000	Sept.	1892	.10
120	Tamarack, c.	Mich	1,250,000	50,000	25					4,320,000	June.	1896	3.00
121	Teal & Poe, s. l.	N. M.	150,000	150,000	1	*				9,000	Nov.	1891	.01½
122	Tom Boy, g.	Colo.	2,000,000	200,000	10	*				410,000	Mar.	1896	.20
123	Tombstone, g. s. l.	Ariz.	12,500,000	500,000	25	*				1,250,000	April.	1882	.10
124	Trinity River, g.	Cal.	500,000	500,000	1	*				15,000	July.	1893	.00½
125	United Verde, c.	Ariz.	3,000,000	300,000	10	*				562,500	Dec.	1893	.25
126	Union, g.	Colo.	1,250,000	1,250,000	1					73,000	June.	1896	.01
127	Union Leasing.	Colo.	500,000	500,000	1					340,000	July.	1895	.04
128	Victor, q.	Colo.	1,000,000	200,000	5	*				605,000	July.	1896	.10
129	Woodside.	Utah.	1,000,000	100,000	10					25,000	Oct.	1889	.25
130	Yankee Girl, s.	Colo.	1,300,000	260,000	5					520,000	July.	1891	.25

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.		
1	Ada Cons., s. l.	Utah.	$100,000	100,000	$1	$3,333	Nov.	1895	.01½
2	Ajax, g.	Colo.	1,000,000	1,000,000	1				
3	Alamo, g.	Colo.	1,000,000	1,000,000	1				
4	Alice, g. s. c.	Colo.	5,000,000	5,000,000	1	*			
5	Alliance, g. s. l.	Utah.	100,000	100,000	1	200,000	Dec.	1895	.10
6	Allonez, c.	Mich.	2,000,000	80,000	25	1,440,937	June.	1894	.20
7	Alpha Cons., g. s.	Nev.	10,500,000	105,000	100	257,500	Sept.	1896	.10
8	Alta, s.	Nev.	10,080,000	108,000	100	3,568,960	June.	1896	.10
9	American, c.	Idaho	5,000,000	500,000	10	*			
10	Anaconda, g.	Colo.	5,000,000	1,000,000	5				
11	Anchor, g. s. l.	Utah.	1,500,000	150,000	10	560,000	Aug.	1893	.20
12	Anchoria-Leland, g.	Colo.	600,000	600,000	1	*			
13	Aola, g.	Colo.	1,000,000	1,000,000	1	*			
14	Argonaut Cons., g. s.	Colo.	1,000,000	1,000,000	1	*			
15	Atlantic Cable Cons.	Colo.	1,500,000	1,500,000	1	*			
16	Bahama, g.	S. D.	1,250,000	250,000	5	3,125	Sept.	1893	.00¼
17	Bankers, g.	Colo.	1,250,000	1,250,000	1	*			
18	Ben Hur, g.	Colo.	900,000	900,000	1				
19	Blue Bell, g.	Colo.	500,000	500,000	1	*			
20	Blue Jay Cons., s. l.	Utah.	2,000,000	400,000	5	4,750	July.	1893	.004
21	Bob Lee, g.	Colo.	1,200,000	1,200,000	1	*			
22	Bullion, s. g.	Nev.	1,000,000	100,000	100	3,030,000	Sept.	1896	.10
23	Burlington, g. s.	Cal.	10,000,000	100,000	100	3,000	May.	1896	.08
24	Buskhorn, g.	Colo.	900,000	900,000	1				
25	Butte Queen, g.	Cal.	1,000,000	100,000	10	16,000	Feb.	1893	.10
26	Calumet, g.	Colo.	1,400,000	1,400,000	1	*			
27	Central Lead, l.	Mo.	400,000	4,000	100	*			
28	Central North Star, g.	Cal.	1,000,000	100,000	10	10,000	July.	1893	.10
29	Challenge, s. g.	Nev.	5,000,000	50,000	100	295 000	April.	1896	.05
30	Cholla r, g. s.	Nev.	11,200,000	112,000	100	2,021,600	July.	1896	.25
31	Cleveland Cliffs, l.	Mich.	5,000,000	50,000	100	*			
32	Columbine, g.	Colo.	1,000,000	1,000,000	1	*			
33	Cons. Imperial, g. s.	Nev.	5,000,000	50,000	100	2,082,000	Aug.	1896	.01
34	Copper Mountain, g.	Colo.	1,000,000	1,000,000	1	*			
35	Creede & C. C., g.	Colo.	800,000	800,000	1				
36	Cripple Creek Cons., g.	Colo.	2,000,000	2,000,000	1				
37	Dante, g.	Colo.	1,250,000	1,250,000	1	*			
38	Denver City, s.	Colo.	5,000,000	500,000	10	*			
39	Denver Gold, g.	Colo.	300,000	60,000	5				
40	Dickens-Custer, g. s.	Colo.	2,100,000	420,000	5				
41	Enterprise, g.	Colo.	800,000	800,000	1				
42	Eureka Con. Drift, g.	Colo.	500,000	500,000	1	90,000	Oct.	1892	.07
43	Exchequer, g. s.	Nev.	10,000,000	100,000	100	715,000	Nov.	1895	.05
44	Favorite, g.	Colo.	1,200,000	1,200,000	1	*			
45	Fortunatus, g. s.	Colo.	100,000	100,000	1	*			
46	Found Treasure, g. s.	Nev.	10,000,000	100,000	100	55,770	Jan.	1892	.50
47	Franklin Gold, g.	Colo.	1,000,000	1,000,000	1	*			
48	Free Coinage, g.	Colo.	1,000,000	1,000,000	1	*			
49	Galena, l. s.	Idaho	500,000	500,000	1				
50	Garden City, g.	S. D.	2,500,000	250,000	10	2,898	Sept.	1891	.00½
51	Garfield-Grounse, g.	Colo.	1,200,000	1,200,000	1	*			
52	Gem, g.	Cal.	10,000,000	100,000	100				
53	Gold Belt, g. s.	Utah.	500,000	500,000	1	3,012	July.	1896	.00½
54	Golden Age, g.	Colo.	1,000,000	1,000,000	1	*			
55	Golden Dale, g.	Colo.	2,000,000	2,000,000	1	*			
56	Golden Eagle, g.	Colo.	1,000,000	1,000,000	1	*			
57	Golden Fleece Grav. g	Cal.	130,000	130	1000	56,000	Aug.	1892	2.00
58	Gold Flat, g.	Cal.	1,000,000	100,000	10	13,000	Aug.	1893	.01
59	Gold King, g.	Colo.	1,000,000	1,000,000	1	*			
60	Gold Rock, g.	Colo.	1,000,000	1,000,000	1	*			
61	Gold Standard, g.	Colo.	1,000,000	1,000,000	1	*			
62	Gould & Curry.	Nev.	10,800,000	108,000	100	4,785,600	April.	1896	.15
63	Hartshorn, g. s.	S. D.	1,250,000	250,000	5	8,750	Sept.	1891	.00½
64	Head Cent. & Tr., g. s.	Ariz.	2,000,000	200,000	10	22,824	Mar.	1892	.01
65	Hidden Treas., g. s.	Cal.	20,000	20,000	1	1,000	Nov.	1893	.05
66	Himalaya, s. l.	Utah.	1,800,000	180,000	10	10,000	Oct.	1892	.01
67	Idaho Co., Ltd., g.	Idaho	100,000	1,000	100	*			
68	Idlewild, g.	Cal.	1,000,000	100,000	10	*			
69	Inez, s. l.	Idaho	1,000,000	1,000,000	1	*			
70	Jack Pot, g.	Colo.	1,250,000	1,250,000	1				
71	Jackson, l.	Mich.	300,000	12,000	25	*			
72	Justice, g. s. c.	Colo.	500,000	500,000	1	*			
73	Keystone, g.	Colo.	1,500,000	1,500,000	1	*			
74	Kingman Silver, g. s.	Ariz.	10,000,000	100,000	.00	5,000	Sept.	1891	.05
75	Lacrosse, g.	Colo.	1,000,000	100,000	10	*			
76	Lottie Gibson, g.	Colo.	1,000,000	1,000,000	1				
77	Matoa, g.	Colo.	5,000,000	1,000,000	5	*			
78	Mayflower, g.	Colo.	1,000,000	1,000,000	1				
79	Mexican, g. s.	Nev.	10,080,000	100,800	100	3,063,920	May.	1896	.20
80	Michigan Gold, g. s.	Mich.	2,500,000	100,000	25	40,000	Mar.	1892	.10
81	Milwaukee, s. l.	Idaho	500,000	500,000	1				
82	Modoc Chief, g. s. l.	Idaho	1,000,000	200,000	5	4,375	Jan.	1892	.00½
83	Monarch, g.	Colo.	1,000,000	1,000,000	1				
84	Mutual, g.	Colo.	500,000	500,000	1				
85	Neath, g.	Colo	1,000,000	100,000	10				
86	New Gold Hill.	N. C.	1,750,000	350,000	5				
87	New Viola, s. l.	Idaho	750,000	150,000	5	*			
88	Occidental Cons., g. s.	Nev.	10,000,000	100,000	100	428,652	July.	1896	.15
89	Original Keystone, s.	Nev.	10,000,000	100,000	100	250,000	Mar.	1892	.10
90	Oro Cache, g. s.	S. D.	1,250,000	250,000	5	6,250	July.	1893	.00½
91	Orphal Bell, g.	Colo.	1,000,000	1,000,000	1				
92	Overman Silver, g. s.	Nev.	1,152,000	115,200	100	4,177,040	June.	1896	.10
93	Pappoose, g.	Colo.	2,000,000	2,000,000	1	*			
94	Peer, s.	Ariz.	10,000,000	100,000	100	215,000	July.	1894	.05
95	Peerless, s.	Nev.	10,000,000	100,000	100	410,000	July.	1894	.05
96	Pine Hill, g.	Cal.	1,000,000	100,000	10	20,000	July.	1896	.05
97	Pioche Con., g. s. l.	Nev.	20,000,000	2,000,000	10	*			
98	Potosi, g. s.	Nev.	11,200,000	112,000	100	2,016,000	May.	1896	.20
99	Princess, g.	Colo.	1,000,000	1,000,000	1				
100	Puritan, g, s.	Colo.	1,500,000	150,000	10	*			
101	Quincy, c.	Colo.	3,000,000	300,000	10				
102	Red Mountain, s.	Colo.	300,000	60,000	5	22,500	Mar.	1891	.12½
103	Ruby & Dun., g. s. l.	Nev.	25,300	506	25	*			
104	St. Mary, c.	Mich.	1,000,000	40,000	25	4,000	July.	1895	.05
105	Seg. Belcher & M., g. s.	Nev.	10,000,000	100,000	100	330,000	Oct.	1895	.10
106	Silver Age, g. s. l.	Colo.	2,000,000	200,000	10	*			
107	Silver Hill, s.	Nev.	10,800,000	108,000	100	1,992,600	July.	1894	.05
108	Silver Queen, c.	Ariz.	5,000,000	200,000	25	*			
109	Silver State, g.	Colo.	700,000	700,000	1	*			
110	Siskiyou Con., s.	Cal.	2,000,000	200,000	10	44,000	June.	1896	.01
111	Specimen, g.	Colo.	1,200,000	1,200,000	1				
112	Temonj, g.	Colo.	1,000,000	1,000,000	1				
113	Tornado Con., g. s.	Nev.	100,000	100,000	1	*			
114	Union Con., g. s.	Nev.	10,000,000	100,000	100	2,545,000	Sept.	1896	.20
115	Utah Cons., s.	Nev.	10,000,000	100,000	100	410,722	May.	1896	.05
116	Victory, g. s.	S. D.	1,250,000	250,000	5	1,250	Nov.	1895	.05
117	Virginia M. Cons., g.	Colo.	1,000,000	1,000,000	1				
118	Waterloo, g.	Cal.	2,000,000	200,000	10	30,000	Aug.	1893	.15
119	West Granite Mt., s.	Mont.	500,000	100,000	5				
120	Whale, g. s. l.	Colo.	500,000	500,000	1	*			
121	Work, g.	Colo.	1,250,000	1,250,000	1				
122	World, g.	Colo.	1,500,000	1,500,000	1	*			

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.
NOTE.—Corrections to this table are made monthly. Correspondents are requested to forward changes or additions so as to reach us before the end of each month.

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(See Machinery.)

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1485 WANTED.—A CHEMIST TO TAKE charge of a small chlorination mill treating pyritic concentrates containing gold, silver and a little copper. Address OREGON, ENGINEERING AND MINING JOURNAL.

1486 WANTED.—A MAN TO TAKE ENtire charge of a mining property in Mexico; must be a first-class man and thoroughly conversant with the management of Huntington Mills and chlorination; one who speaks Spanish preferred; permanent engagement, with good prospects, given to first-class man. Address INDEPENDENCIA, ENGINEERING AND MINING JOURNAL.

1487 WANTED—FOR A SOUTH AMERican Copper-Silver Smelting Works, a thoroughly competent manager, to erect and superintend the same. While it is proposed to smelt only to a matte at first, the manager should be thoroughly conversant with all the processes used in the treatment of copper and silver ores; conditions—water power, cheap wood, dear coke, good climate, altitude 3,000 feet above sea. ARGENTINA, ENGINEERING AND MINING JOURNAL.

1488 WANTED — AN ENGINEER AND Assayer who has had experience in the mines of the Ouro Preto District, Brazil. Address with full particulars, F. F. F., ENGINEERING AND MINING JOURNAL.

1489 WANTED—A MAN ACQUAINTED with lead smelting, sweep smelting, cupolation and refining and desilverizing processes, to run a small blast furnace and refinery in South Africa. A technical graduate preferred, but practical experience absolutely necessary, as well as tact and ability to manage men. A man between 30 and 40 years of age preferred. A good salary will be paid to the right party, who will be expected to return it in a responsible position. Address TRANSVAAL, ENGINEERING AND MINING JOURNAL.

1491 WANTED—A FIRST-CLASS MILLman who thoroughly understands amalgamation and concentration of gold ores and assaying; state experience, age and wages expected; mine in one of the Southern States. Address THOROUGH, ENGINEERING AND MINING JOURNAL.

1492 WANTED—A YOUNG MAN WHO is competent as an analytical chemist, with some experience as an engineer, can find a situation at a moderate salary with a mining company in Virginia, by furnishing satisfactory testimonials of his character, ability and experience. Address MINING COMPANY, ENGINEERING AND MINING JOURNAL.

1493 WANTED—BY AN IRON COMPANY —A General Superintendent to take charge of a blast furnace plant, with coal mines and coke ovens. Applicant must be thoroughly qualified in modern blast furnace practice. Preference will be given to a man of technical education. Good position for a man of thorough experience and ability. Address IRON, ENGINEERING AND MINING JOURNAL

SITUATIONS WANTED.

Advertisements for SITUATIONS WANTED will be charged only 10 cents a line.

WANTED--POSITION. LONG AND varied experience in opening and working mines of coal, gold, silver, copper, lead and zinc ores; in concentration, smelting and milling; in planning and erecting works; in examination of mining lands. Address H. C,. ENGINEERING AND MINING JOURNAL. No. 17,489, Oct. 10.

MASTER MECHANIC WANTS SITUATION; experience of 10 years in mill work; 29 years of age, and strictly temperate; now employed at large silver reduction works in Mexico; unquestionable references; speaks a little Spanish; has first-class kit of tools and not afraid of hard work; correspondence solicited. Address M. M., ENGINEERING AND MINING JOURNAL. No.14,801, Oct. 3.

POSITION WANTED BY A PRACTICAL Metallurgist and Chemist; competent to run a smelter, cyanide or chlorine leaching work; best references. Address H. COLO., ENGINEERING AND MINING JOURNAL. No. 14,810, Oct. 10.

MINING ENGINEER OF OVER 20 YEARS' experience in Gold and Silver Exploration, Mining and Milling, desires to change location. No objection to foreign countries or the tropics; 10 years as superintendent and general manager; speaks Spanish; New York, Chicago and London references. Address ORO, ENGINEERING AND MINING JOURNAL. No. 14,812, Oct. 10.

POSITION WANTED BY ASSAYER AND Chemist, graduate of technical school; experienced with smelter and mine work; out of work on account of Leadville strike; best of reference. Address BOX 672, Lake Geneva, Wis. No. 14,811, Oct. 10.

POSITION WANTED BY YOUNG CHEMIST and assayer with cyanide chlorination company or sampling works; has smelter experience; good ore sampler and buyer; best of references. Address H. B., ENGINEERING AND MINING JOURNAL. No. 14,813, Oct. 10.

MINING AND MECHANICAL ENGINEER of executive ability and 20 years' experience is open for engagement with first-class company, as superintendent or resident manager; specialty, erection and treatment of low-grade ores; speaks German and Spanish; references the best. Address A. L., ENGINEERING AND MINING JOURNAL. No. 14,8 9, Nov 7.

WANTED—POSITION BY A YOUNG MAN with ten years' general mining experience; accustomed to handling men; knowledge of assaying and accounts; best of references. Address M. W. F. 824 Warren street, Hudson, New York. No. 14,814, Oct. 3

YOUNG C. E., SEVERAL YEARS' EXPErience in bridge shops and field erecting, wishes to make mine engineering a specialty, and would like to get position with company to learn the business. References furnished as to character and industry. Address LEHIGH, ENGINEERING AND MINING JOURNAL. No. 14,821, Oct. 3.

AMERICAN, 29, UNMARRIED, GRADUATE engineering and chemistry, seven years' experience as foreman and manager in chemical and milling work, wants position. Over five years with one concern, working up to salary of $2,400. All around man. Could act as salesman or New York representative. Address EXCELLENT RECORD, ENGINEERING AND MINING JOURNAL. No. 14,822, Oct. 3.

CHEMIST.—YOUNG MAN, GRADUATE OF technical school, desires position; has had practical experience in both blast furnace and foundry; best references. Address CIVIS, ENGINEERING AND MINING JOURNAL. No. 14,818, Oct. 10.

WANTED—A POSITION AS MANAGER or superintendent. Long and varied experience in California, Nevada and North Carolina in opening and working mines, both free-milling and sulphurets; also in placer mining. Can erect and run all machinery. Will go anywhere for a good company, at moderate salary, until company is convinced of my ability. Reference given, and bond, if necessary. Address J. D. S., ENGINEERING AND MINING JOURNAL. No. 14,816, Oct. 10.

WANTED — A SURVEYOR WANTS A situation as an assistant in a mine; fair draftsman. Industrious and sober. Wages $50 per month. Address Box 57, Oshawa, Ont., Can. No. 14,819, Oct. 10.

WANTED A COLLEGE GRADUATE possessing executive ability and business knowledge, with nine years' experience in the mining and smelting of copper, silver and lead ores, desires a position as superintendent or manager of a mine or smelter or both; first-class references; salary reasonable; correspondence solicited, etc. Address ABILITY, ENGINEERING AND MINING JOURNAL. No. 14,820, Oct. 3.

A GENTLEMAN, WITH 20 YEARS' WIDE and successful business experience, some 5 years as owner and manager of mines, is now out of business and desires position as business manager of working mines. If mutually agreeable would purchase some interest in company and become resident manager; references of highest order furnished. Address G. & C., ENGINEERING AND MINING JOURNAL. No. 14,817, Oct. 3.

MINE BLACKSMITH—A FIRST-RATE MEchanic, able to do well everything, from setting diamonds in a drill to the heaviest forging. An excellent, industrious, sober man, desires a permanent position, where he will get high wages—which he will earn—and have good educational advantages for his children. He has the very best references. Address BLACKSMITH, ENGINEERING AND MINING JOURNAL.

Contracts Open.

TREASURY DEPARTMENT, OFFICE SUPERvising Architect, Washington, D. C., September 25th, 1896.—Sealed proposals will be received at this office until 2 o'clock p. m. on the 28th day of October, 1896, and opened immediately thereafter, for all the labor and materials required for the interior finish of basement, first story, etc., of the U. S. Post Office, Washington, D. C., in accordance with drawings and specification, copies of which may be had at this office or the office of the superintendent at Washington, D. C. 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, if 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 enclosed in envelopes, sealed and marked "Proposal for the interior finish, etc., for the U. S. Post Office, Washington, D. C." and addressed to WM. MARTIN AIKEN, Supervising Architect. (Orig.)

TREASURY DEPARTMENT, OFFICE SUPERvising Architect, Washington, D.C., September 19th, 1896.—Sealed proposals will be received at this office until 2 o'clock p. m., on the 20th day of October, 1896, and opened immediately thereafter, for all the labor and materials required for the low-pressure, return circulation, steam heating and ventilating apparatus for the U. S. Post Office Building at Allegheny, Pa., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Allegheny, Pa. 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 enclosed in envelopes, sealed and marked, "Proposal for the Heating and Ventilating Apparatus for the U. S. Post Office Building at Allegheny, Pa.," and addressed to WM. MARTIN AIKEN, Supervising Architect. Orig.

TREASURY DEPARTMENT. Office Supervising Architect, Washington, D. C., September 28th, 1896.—Sealed proposals will be received at this office until 2 o'clock, p. m., on October 23d, 1896, and opened immediately thereafter, for all the labor and materials required for the low pressure, return circulation, steam heating and ventilating apparatus, for the U. S. Post Office, Court House and Custom House building at Newbern, N. C., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Newbern, N. C. 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 enclosed in envelopes sealed and marked, "Proposal for the Heating and Ventilating Apparatus for the U. S. Post Office, Court House and Custom House Building at Newbern, N. C.," and addressed to WM. MARTIN AIKEN, Supervising Architect. Orig.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., September 28th, 1896.—Sealed proposals will be received at this office until 2 o'clock p. m. on the 29th day of October, 1896, and opened immediately thereafter, for all the labor and materials required for the stone and brick work, roof covering and interior finish above second story (except plumbing, gas piping, heating apparatus, elevators and electric wiring) of the U. S. Appraiser's Warehouse at New York, N. Y., in accordance with the drawings and specification, copies of which may be had at this office or the office of the superintendent at New York, N. Y. 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 or 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 enclosed in envelopes, sealed and marked, "Proposal for Stone and Brickwork, Roof Covering and Interior Finish, etc., for the U. S. Appraiser's Warehouse at New York, N. Y.," and addressed to WM. MARTIN AIKEN, Supervising Architect. Orig.

SEVEN-INCH STEEL MORTAR FORGINGS.—Office of the Chief of Ordnance, U. S. Army, Washington. Sealed proposals in duplicate will be received at this office until October 5th, 1896, for 20 sets of steel forgings of American manufacture, for 7-in. siege steel mortars. Information can be had upon application to Brig.-Gen. D. W. FLAGLER, Chief of Ordnance.

LANDS AND MINES FOR SALE.

J. F. CROSETT,
Secretary, Gold Mining Exchange,
No. 628 Sacramento Street, San Francisco, Cal.

GOLD MINES FOR SALE.
On Pacific Coast. Correspondence solicited.

IMPORTANT.
To be sold, the Mineral Property called

"DIOS TE GUIE,"

producing Silver and Gold, situated in the Section of Yepachi, Municipality of Famosachic, in the District Guerrero, State of Chihuahua, Mexico, by the Rascon Hermanos Co., of Nuevo Leon, Rayon District, State of Chihuahua, Mexico.

For information as to price and conditions of sale apply to RASCON HERMANOS.

JUDICIAL SALE

OF A GOLD MINE.

Pursuant to the winding-up orders made in the matter of the Ophir Gold Mining Company there will be offered for sale by Public Auction, with the approbation of Neil McLean, Official Referee, by the William Dickson Company, at their Auction Rooms, No. 73 King Street East, in the City of Toronto, on Saturday, the 17th day of October, A. D. 1896, at 12 o'clock noon, the mining property known as "The Ophir Gold Mine," and described as the south half of the north half of Lot No. 12 in the Third Concession of the Township of Galbraith, in the District of Algoma, being parcel 283 in register for the District of Algoma, and the north half of the south half of Lot No. 12 in the Third Concession of the said Township of Galbraith, being parcel 303 in the register for the said District of Algoma.

This mining property is conveniently situate within 14 miles of Bruce's Mines, a station on the line of the Canadian Pacific Railway.

There are erected on the property a substantial frame stamp mill, well equipped with necessary and valuable machinery, an office, an assay building, a blacksmith shop, buildings for cooking and dining, two bunk houses, an ice house, a pump house, a dwelling house and a stable.

The mine has been developed and operated and given good results.

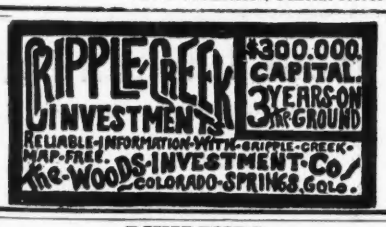
The property will be offered for sale subject to a reserved bid.

Terms—Ten per cent. of the purchase money is to be paid at the time of sale to the vendors or their solicitors, and the balance within thirty days thereafter, without interest, into Court to the credit of this matter. In all other respects the terms and conditions of sale will be the standing conditions of the Court.

Further particulars can be had from Clute, Macdonald, Macintosh & McCrimmon, of McKinnon Building, corner of Melinda and Jordan streets, Toronto, vendors' solicitors, and McCarthy, Osler, Hoskin & Creelman, Freehold Building, corner Victoria and Adelaide streets, or to Henry W. Barber, Liquidator, Wellington Street East, Toronto, and from Thomas Grigg, at the Mine.

Dated at Toronto, the 10th day of September, 1896.

NEIL McLEAN, Official Referee.



DIVIDENDS.

ISABELLA GOLD MINING COMPANY.
COLORADO SPRINGS, COLO., September 10th, 1896.
DIVIDEND NO. 9.

A dividend of ONE CENT PER SHARE ($22,500) has been declared, payable September 25th, 1896, to stockholders of record September 18th, 1896.

The stock transfer books will be closed September 18th, 1896, at 3 o'clock p. m., and will be re-opened on the morning of September 26th, 1896.

PERCY HAGERMAN,
Vice-President and Treasurer.

SMUGGLER-UNION MINING COMPANY.

DENVER, COLO., Sept. 16, 1896.

A dividend of ONE DOLLAR per share on the capital stock of the Company will be paid October 1st, 1896, to all shareholders of record.

The transfer books will be closed September 23d for ten days.

A. H. FOWLER, Treasurer.

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1010 Great Northern Building, Chicago, Ill.

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MINING ENGINEER.—Preliminary reports on mines to determine advisability of extended investigation; assists upon large examinations; intricate surveying and geological work for lawsuits; thorough experience; abundant references; Anglo-American code. Address JOHN H. MEANS, 1016 Pine street, San Francisco, Cal

AN IMPORTANT FIRM ABROAD WISHES the sole representation for Austria, Hungary, Upper Italy, West and South Russia and the Orient, of an English or American house manufacturing special machine and hand-tools. Address, Box 87, General Post-Office, Sheffield, Eng. No. 14,815, Oct. 3.

EXPORT TRADE.

Young man (32 years old), German by birth and education, with technical college training, having been connected with United States and South American industrial enterprises during the last 12 years and speaking the three languages (English, German and Spanish) fluently, desires to facilitate trade relations between the United States and South and Central America by periodical visits to the chief centers of trade in those countries and the establishment of branch agencies, *at his own expense*. Correspondence with firms desirous to extend their trade to foreign countries is solicited. Reference is made by permission to Dr. R. W. Raymond, 13 Burling Slip, New York City; and other first-class references will be given on request. Address EXPORT, ENGINEERING AND MINING JOURNAL.

MEXICAN BURIED TREASURE.

Particulars of above adventure were given in ENGINEERING AND MINING JOURNAL of August 29th. Fifteen shares remaining of the three hundred into which the pool is divided are now offered for subscription at $100 each. Each $100 share will receive in case of success about $200,000. Applications for shares must be accompanied with the money, and if too late money will be returned in full. Address GOSSET, ENGINEERING AND MINING JOURNAL.

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ENGINEERING AND MINING JOURNAL.

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